



Appropriate Assessment Screening Report

Pitch Floodlights
at Doughiska, Galway



DOCUMENT DETAILS

Client: Galway City Council

Project Title: Installation of 24 floodlights on 9 columns for the Doughiska Football pitches.

Address: Doughiska, Galway

Document Title: Appropriate Assessment Screening Report

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Date: 07th of May 2025

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1 Introduction

This Appropriate Assessment Screening Report has been prepared by John Curtin (B.Sc) on behalf of Galway City Council, who are applying for planning permission for the instillation of 24 floodlights on 9 columns for the Doughiska Football pitches. The site for the proposed development lies approximately approximately 1.31km from the Galway Bay Complex SAC and 1.49km from the Inner Galway Bay SPA, sites which have been designated under the EU Habitats Directive and the EU Birds Directive, and so it is necessary that the potential impacts of the proposed works be assessed by the competent authority, in accordance with Article 6 of the Habitats Directive. This report provides the information necessary for the competent authority to complete an Appropriate Assessment of the potential impacts of the proposed works on sites of European importance in the area.

1.1 Legislative Background

1.1.1 EU Nature Conservation Legislation and Natura 2000 Sites.

There are three main types of designation for nature conservation in Ireland: Special Areas of Conservation (SACs), Special Protection Areas (SPAs) and Natural Heritage Areas (NHAs). NHAs are designated under the Irish Wildlife Act 1976 (amended 2000). SACs and SPAs are designated under European legislation, the EU Habitats Directive 92/43/EEC (transposed into Irish law in the European Union (Natural Habitats) Regulations, 1997 as amended in 1998 and 2005) and the EU Birds Directive 79/409/EEC, respectively. These European designated sites (SACs and SPAs) are also known as Natura 2000 sites. This means that they are part of the Natura 2000 Network, a network of important ecological sites across the European Union.

Sites are designated on the basis of the presence of certain 'Qualifying Features', i.e. the habitats listed under Annex I and the species listed under Annex II of the EU Habitats Directive.

Once a site is designated as a SAC and publicly advertised it is legally protected and becomes a proposed candidate SAC (pcSAC). A three month period follows during which landowners may lodge an objection to the designation. Details of each proposed SAC are then given to the EU Commission, and thereafter the site is called a "candidate SAC". Once the sites are approved by the commission, they are formally designated by the Minister.

1.1.2 Appropriate Assessment of Plans and Projects Significantly Affecting Natura 2000 Sites

Due to the proximity of the proposed development site to a candidate Special Area of Conservation, also known as a Natura 2000 site, an Appropriate Assessment may be required under the Habitats Directive 92/43/EEC, Article 6(3) and (4), Assessment of Plans and Projects Significantly Affecting Natura 2000 Sites. Such assessments are required where it is identified that a proposed plan or project could have significant impact on a Natura 2000 site. Articles 6(3) and (4) of the Directive, state the following;

6.3 'Any plan or project not directly connected with or necessary to the management of the site but likely to have a significant effect thereon, either individually or in combination with other plans or projects, shall be subject to Appropriate Assessment of its implications for the site in view of the site's conservation objectives... the competent national authorities shall agree to the plan or project only after having ascertained that it will not adversely affect the integrity of the site concerned....'

6.4 'If, in spite of a negative assessment of the implications for the site and in the absence of alternative solutions, a plan or project must nevertheless be carried out for imperative reasons of overriding public interest... the Member State shall take all compensatory measures necessary to ensure that the overall coherence of Natura 2000 is protected...'

To determine whether an Appropriate Assessment is required, an initial screening assessment must be conducted and issued to the Department of the Environment, Heritage and Local Government (DoEHLG) Development Applications Unit (DAU).

1.2 Methodology

The screening exercise will be conducted in line with the recommendations and protocol set out in the Guidance from the Commission (EC, 2002) and in accordance with OPR Practice Note PN01 (March 2021). This protocol involves a four-stage process to complete an Appropriate Assessment. At each stage, the findings of certain issues and tests will determine whether the next stage in the process is required.

1.2.1 Appropriate Assessment Stages

The four stages in the Appropriate Assessment process are outlined below:

Stage 1: Screening

This step consists of examining the likely potential impacts of a project or plan, alone or in combination with other projects, upon a Natura 2000 site or sites, and considers whether these impacts may be considered significant. If no significant impacts are foreseen, then a 'finding of no significant effects' (FONSE) statement is issued to the appropriate authority, and the process is complete. If the effects are considered significant or their significance is unknown, then the process moves on to Stage 2.

Stage 2: Appropriate Assessment

Where the screening process has identified potential impacts which are considered significant or unknown, this process examines these potential impacts in detail, in relation to the conservation interests of the Natura 2000 site or sites. Mitigation measures may be suggested to reduce the likelihood or severity of these impacts. If the impacts are still considered to be significant or unknown after this stage is complete, then alternative solutions must be considered (Stage 3).

Stage 3: Assessment of Alternative Solutions

If the potential impacts are still considered to be significant or unknown after the Appropriate Assessment stage, then alternative ways of implementing the project are considered at this stage. If no alternative solutions are possible, then it is considered whether the project or plan may go ahead regardless, if imperative reasons of overriding public interest (IROPI) are found.

Stage 4: Imperative Reasons of Overriding Public Interest (IROPI)

If significant negative impacts on the Natura 2000 site are unavoidable, and no alternative solutions may be found, then this stage involves the consideration of whether the project or plan may go ahead despite these effects, for 'imperative reasons of overriding public interest' (IROPI).

The results of a Stage 1 (Screening) Exercise are detailed in **Section 2** of this report.

2 Stage 1: Screening for Appropriate Assessment

2.1 Description of the Plan or Project

It is proposed to install 24 floodlights on 9 columns for the Doughiska Football pitches. A Site Layout Plan is included as Appendix A to this report.

2.2 Description of the Existing Environment

2.2.1 Site Location in Relation to Natura 2000 Sites

The proposed site lies in the townland of Doughiska [53.283508, -8.985867]. The site for the proposed development lies approximately 1.31km from the Galway Bay Complex SAC (Site Code: 000268) and 1.49km from the Inner Galway Bay SPA (Site Code: 004031) (see Figure 2-1 below).

Natura 2000 sites within a 15km buffer of the proposed development are listed in Table 2-1 and Figure 2-2.

Doughiska Site Location

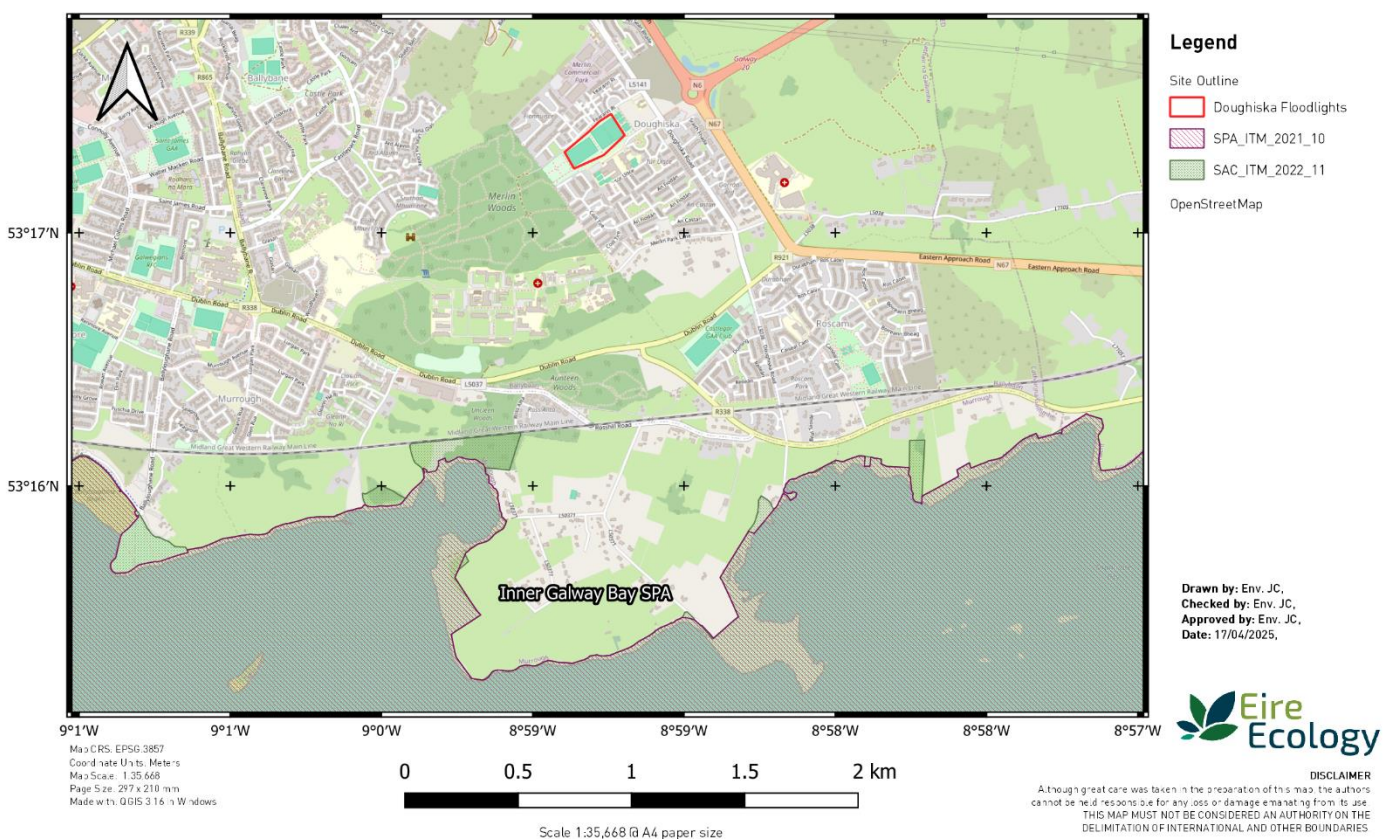


Figure 2-1 Site Location in Relation to the Galway Bay Natura Sites

Table 2-1 Protected habitats in the vicinity of the proposed development

Name of Site	Site Code	Distance	Number of Conservation Objectives (CO)	List of CO Priority Habitats with codes	Connections (Source-Pathway-Receptor)	Screening Status for further consideration
Galway Bay Complex SAC	000268	1.31km	17	5. Coastal Lagoons [1150] Turloughs [3180] Orchid-rich Calcareous Grassland [6210] Cladium Fens [7210] Limestone Pavement [8240]	Proximity	In
Inner Galway Bay SPA	004031	1.49km	21	N/A	Species associated with the SPA including gulls can utilise playing pitches for feeding and resting purposes.	In
Lough Corrib SAC	00297	4.2km	24	5. Active raised bogs [7110], Calcareous fens with Cladium mariscus and species of the Caricion davallianae [7210] Petrifying springs with tufa formation (Cratoneurion) [7220] Limestone pavements [8240] Bog woodland [91D0]	EPA AA mapviewer shows the SAC is located within a different sub-catchment hydrologically upstream from the site.	Out
Cregganna Marsh SPA	004142	4.77km	0	N/A	The SPA is designated for Greenland White-fronted Goose. These geese can travel between the SPA and Rahaseen turlough however are not associated with urban habitats such as Doughiska.	Out

Name of Site	Site Code	Distance	Number of Conservation Objectives (CO)	List of CO Priority Habitats with codes	Connections (Source-Pathway-Receptor)	Screening Status for further consideration
Lough Corrib SPA	004042	6.25km	0	N/A	Distance. SPA is hydrologically upstream of the site (in the case of wetlands).	Out
Lough Fingall Complex SAC	000606	11.68km	7	4. Limestone pavements [8240] Turloughs [3180], Semi-natural dry grasslands and scrubland facies on calcareous substrates (Festuco Brometalia) [6210], Cladium Fens [7210]	EPA AA mapviewer shows the turlough is located within a different sub-catchment from the site.	Out
Rahasane Turlough SPA	004089	13.85km	6	N/A	EPA AA mapviewer shows the turlough is located within a different sub-catchment from the site.	Out
Rahasane Turlough SAC	000322	13.92km	1	1. Turloughs [3180]		Out
Kiltiernan Turlough SAC	001285	14.38km	1	1 Turloughs [3180]		Out
Castletaylor Complex SAC	000242	14.56km	5	3 Turloughs [3180] Limestone pavements [8240] Orchid-rich Calcareous Grassland [6210]		Out

Table 2-2: Nationally Designated Site (excludes those that have the same boundary as Natura Sites)

Name	Site Code	Distance	Designated habitat / species	Connections (Source-Pathway-Receptor)	Screening Status for further consideration
Kiltullagh turlough pNHA	000287	3.7km	Turlough in the catchment of the Clare River	EPA AA mapviewer shows the turlough is located within a different sub-catchment hydrologically upstream from the site.	Out
Moycullen Bogs NHA	002364	7.4km	Blanket bog and other associated habitats & species.	Lacks connectivity. Located far side of Corrib river within different groundwater body	Out
Killarainy Lodge, Moycullen pNHA	002083	14.2km	Nursery roost of the Natterer's Bat (<i>Myotis nattereri</i>).	(BCT, 2016) states Natterers bats have a CSZ of 4km. The subject site lies well outside this zone.	Out

From the above table it can be seen that two Natura 2000 sites are screened in for further assessment; the Galway Bay Complex SAC (Site Code: 000268) and the Inner Galway Bay SPA (Site Code: 004031).

Doughiska 15km Buffer - Natura 2000 Sites

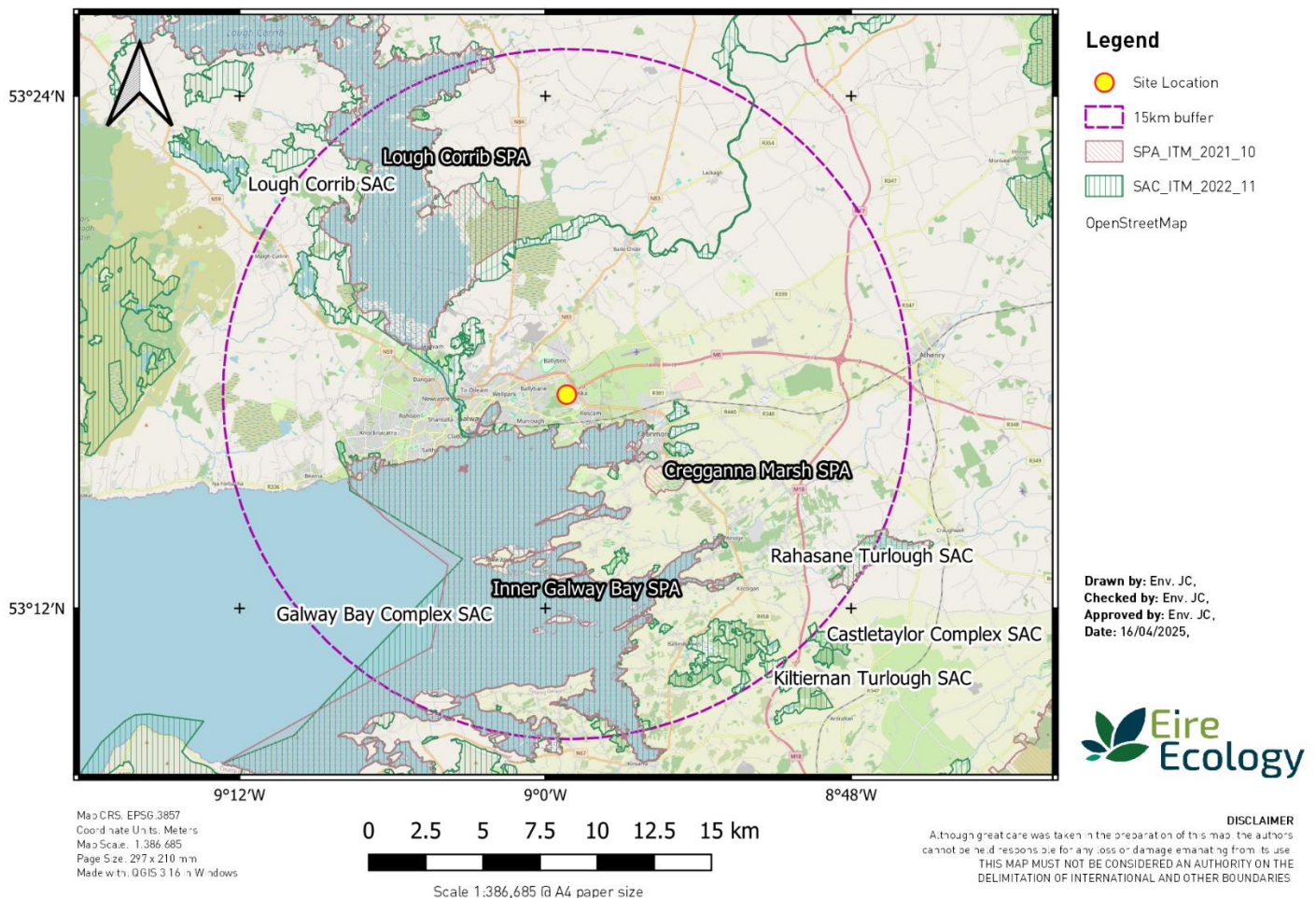


Figure 2-2 15km Buffer Surrounding Proposed Site.

2.2.2 Brief Description of the Natura 2000 Sites which may be affected

Qualifying Features

Natura 2000 sites are designated on the presence of certain habitats and species which are afforded protected under the Birds and Habitats Directives. These habitats and species are regarded as 'qualifying features' of the Natura 2000 sites. The following section provides details on the qualifying features of the Natura 2000 site in question - Galway Bay Natura 2000 sites. The NPWS site synopsis for the designated site is given as **Appendix B** to this report.

The qualifying habitats found in the Galway Bay Complex SAC are outlined in Table 2-3 below.

Table 2-3 Galway Bay Complex SAC Habitat Information

Habitat code	Habitat name (SAC Qualifying Feature)	Cover (ha.)	Representivity
1140	Mudflats and sandflats not covered by seawater at low	1008.63	A
1150	Coastal lagoons	144.09	A
1160	Large shallow inlets and bays	11671.3	A
1170	Reefs	288.18	A
1220	Perennial vegetation of stony banks	144.09	B
1310	Salicornia and other annuals colonizing mud and sand	144.09	C
1330	Atlantic salt meadows (Glauc-Puccinellietalia	144.09	A
1410	Mediterranean salt meadows (Juncetalia maritimi)	144.09	A
3180	Turloughs	144.09	B
5130	<i>Juniperus communis</i> formations on heaths or calcareous grasslands	144.09	B
6210	Semi-natural dry grasslands and scrubland facies on calcareous substrates (<i>Festuco-Brometalia</i>) (* important orchid sites)	144.09	B
7210	Calcareous fens with <i>Cladium mariscus</i> and species of the Caricion davallianae	144.09	B
7230	Alkaline fens	144.09	B

For species, a value is given for 'Population Significance'. This value is based on the relative density or size of the population of that species within the Natura 2000 site with that of the national population. Population Significance is ranked on a scale from A to D where A - 100>=p>15%, B - 15>=p>2%, C - 2>=p>0% and D - Non-significant population. The qualifying species found in the Galway Bay Complex SAC and Inner Galway Bay SPA site are outlined in Table 2-4 and 2-5 below.

Table 2-4 Galway Bay Complex SAC Species Information

Species Code	Latin Name	Common Name	Population Significance
1355	<i>Lutra lutra</i>	Eurasian otter	C
1365	<i>Phoca vitulina</i>	Common seal	B
A002	<i>Gavia arctica</i>	Black-throated Diver	A
A003	<i>Gavia immer</i>	Great Northern Diver	B
A140	<i>Pluvialis apricaria</i>	Golden Plover	C
A157	<i>Limosa lapponica</i>	Bar-tailed Godwit	C
A191	<i>Sterna sandvicensis</i>	Sandwich tern	B
A193	<i>Sterna hirundo</i>	Common Tern	B

Table 2-5 Inner Galway Bay SPA Annex I Species Information

Species Code	Latin Name	Common Name	Population Significance
A001	<i>Gavia stellata</i>	Red-throated diver	C
A002	<i>Gavia arctica</i>	Black-throated Diver	A
A003	<i>Gavia immer</i>	Great Northern Diver	B
A140	<i>Pluvialis apricaria</i>	Golden Plover	C
A157	<i>Limosa lapponica</i>	Bar-tailed Godwit	B
A191	<i>Sterna sandvicensis</i>	Sandwich tern	B
A193	<i>Sterna hirundo</i>	Common Tern	B

Potential Pressures and Threats to the Natura 2000 Sites

The European Nature Information System (EUNIS) website contains data on all Natura 2000 sites, including details of the main threats to and pressures on their qualifying features. Potential threats to and pressures on the qualifying features of the Galway Bay Complex SAC Natura 2000 Site are listed in **Table 2-6** with threats to the Inner Galway Bay SPA listed in 2-7 below.

Table 2-6 Potential Pressures and Threats to the Galway Bay Complex SAC

Activity	Location	Intensity	Influence
Grazing	Inside	Low	Negative
Nautical sports	Inside	Medium	Negative
Sand and gravel extraction	Inside	Low	Negative
Fertilisation	Inside	Medium	Negative
Grazing	Outside	Medium	Negative
Discharges	Inside	High	Negative
Walking, horseriding and non-motorised vehicles	Inside	High	Negative
Fertilisation	Outside	Medium	Negative
Reclamation of land from sea, estuary or marsh	Inside	Medium	Negative
Taking and removal of animals (terrestrial)	Inside	Medium	Negative
Industrial or commercial areas	Outside	Medium	Negative
Discharges	Outside	High	Negative
Leisure fishing	Inside	Medium	Negative
Urbanised areas, human habitation	Outside	High	Negative
Mowing / cutting of grassland	Inside	Low	Negative
Marine and Freshwater Aquaculture	Inside	Medium	Negative
Leisure fishing	Inside	Medium	Positive
Mowing / cutting of grassland	Inside	Low	Positive

Table 2-7 Potential Pressures and Threats to the Inner Galway Bay SPA

Activity	Location	Intensity	Influence
Discharge	Inside	High	Negative
Industrial or commercial areas	Outside	Medium	Negative
Dykes, embankments, artificial beaches,	Inside	Medium	Negative
Roads, motorways	Outside	Medium	Negative
Fertilisation	Outside	Medium	Negative
Marine and Freshwater Aquaculture	Inside	Medium	Negative
Hunting	Inside	Low	Negative
Urbanised areas, human habitation	Outside	High	Negative
Leisure fishing	Inside	Medium	Negative
Walking, horseriding and non-motorised vehicles	Inside	Medium	Negative
Grazing	Inside	Low	Negative
Reclamation of land from sea, estuary or	Inside	High	Negative
Nautical sports	Inside	Medium	Negative
Roads, motorway	Outside	Medium	Positive
Marine and Freshwater Aquaculture	Inside	Medium	Positive
Grazing	Inside	Low	Positive
Walking, horseriding and non-motorised	Inside	Medium	Positive
Hunting	Inside	Low	Positive
Leisure fishing	Inside	Medium	Positive

Conservation Objectives of the Natura 2000 Sites

Once a site has been designated as an SAC, a management plan should be put together for the site which sets out the Conservation Objectives for the site. Every effort should then be made to ensure that these objectives are fulfilled, in order to prevent potential impacts to the qualifying features of the site and maintain as far as possible their favourable conservation status.

European and national legislation places a collective obligation on Ireland and its citizens to maintain at favourable conservation status sites designated as Special Areas of Conservation and Special Protection Areas. The Government and its agencies are responsible for the implementation and enforcement of regulations that will ensure the ecological integrity of these sites.

Favourable conservation status of a habitat is achieved when:

- its natural range, and area it covers within that range, is stable or increasing, and
- the ecological factors that are necessary for its long-term maintenance exist and are likely to continue to exist for the foreseeable future, and

- the conservation status of its typical species is favourable.

The favourable conservation status of a species is achieved when:

- population data on the species concerned indicate that it is maintaining itself, and
- the natural range of the species is neither being reduced or likely to be reduced for the foreseeable future, and
- here is, and will probably continue to be, a sufficiently large habitat to maintain its populations on a long-term basis.

Management plans have been published for both the Galway Bay complex SAC and the Inner Galway Bay SPA. Qualifying interests and objectives (bulleted) are listed below:

Galway Bay complex SAC

(1140) Mudflats and sandflats not covered by seawater at low tide;

- Permanent habitat area and distribution stable or increasing, subject to natural processes
- Conserve: Intertidal sandy mud community complex; and Intertidal sand community complex in a natural condition

(1150) Coastal lagoons

- Habitat area and distribution stable, subject to natural variation
- Suitable water quality including salinity
- Maintain number and extant of plant and animal species subject to natural variation
- Keep negative indicator species absent or under control

(1160) Large shallow inlets and bays

- Permanent habitat area and distribution stable or increasing, subject to natural processes
- Maintain the extent and community structure of the *Zostera*-dominated community complex and the maërl-dominated community, subject to natural processes
- Conserve the following community types in a natural condition: Intertidal sandy mud community complex; Intertidal sand community complex; Fine to medium sand with bivalves community complex; Sandy mud to mixed sediment community complex; Mixed sediment dominated by *Mytilidae* community complex; Shingle; *Fucoid*-dominated community complex; *Laminaria*-dominated community complex; and Shallow sponge-dominated community complex

(1170) Reefs

- Permanent habitat area and distribution stable or increasing, subject to natural processes
- Maintain the extent and community structure density of the *Mytilus*-dominated reef community, subject to natural processes
- Conserve the following community types in a natural condition: *Fucoid*-dominated community complex; *Laminaria*-dominated community complex; and Shallow sponge-dominated community complex

(1220) Perennial vegetation of stony banks

- Permanent habitat area and distribution stable or increasing, subject to natural processes
- Maintain the natural circulation of sediment and organic matter, without any physical obstruction
- Maintain range of coastal habitats including transitional zones, subject to natural processes including erosion and succession
- Maintain the typical vegetated shingle flora including the range of sub-communities within the different zones. Typical species include sea sandwort (*Honckenya peploides*), sea beet (*Beta vulgaris ssp maritima*), rock samphire (*Crithmum maritimum*), sea mayweed (

- Tripleurospermum maritimum), yellow-horned poppy (Glaucium flavum) and sea campion (Silene uniflora)
- Negative indicator species (including non-natives) to represent less than 5% cover
- (1310) Salicornia and other annuals colonising mud and sand
- Permanent *habitat area and distribution stable or increasing*, subject to natural processes
 - Maintain/restore, *natural circulation of sediments and organic matter*, without any physical obstructions
 - Maintain, or where necessary restore *creek and pan structure*, subject to natural processes, including erosion and succession
 - Maintain natural tidal regime
 - Maintain the range of coastal habitats including transitional zones, subject to natural processes including erosion and succession.
 - Maintain structural variation within sward
 - Maintain more than 90% of area outside creeks vegetated
 - Maintain the range of species-poor communities with typical species listed in SMP (McCorry and Ryle, 2009)
 - Prevent the establishment of cordgrass
- (1330) Atlantic salt meadows (Glauco-Puccinellietalia maritimae)
- Permanent *habitat area increasing*, subject to natural processes
 - No decline or change in habitat distribution subject to natural processes
 - Maintain/restore natural circulation of sediments and organic matter, without any physical obstructions
 - subject to natural processes
 - Maintain natural tidal regime
 - Maintain range of coastal habitats including transitional zones, subject to natural processes including erosion and succession
 - Maintain structural variation within sward
 - Maintain more than 90% area outside creeks vegetated
 - Maintain range of sub- communities with typical species for habitat listed in saltmarsh monitoring program (McCorry and Ryle, 2009)
 - Prevent the establishment of cordgrass
- (1410) Mediterranean salt meadows (Juncetalia maritimi)
- Permanent *habitat area increasing*, subject to natural processes
 - No decline or change in habitat distribution subject to natural processes
 - Maintain/restore natural circulation of sediments and organic matter, without any physical obstructions
 - subject to natural processes
 - Maintain natural tidal regime
 - Maintain range of coastal habitats including transitional zones, subject to natural processes including erosion and succession
 - Maintain structural variation within sward
 - Maintain more than 90% area outside creeks vegetated
 - Maintain range of sub- communities with typical species for habitat listed in saltmarsh monitoring program (McCorry and Ryle, 2009)
 - Prevent the establishment of cordgrass
- (3180) Turloughs
- Habitat area and distribution *stable*, subject to natural variation
 - Appropriate natural hydrological regimes necessary to support the natural structure and functioning of the habitat

- Variety, area and extent of *soil types* necessary to support turlough vegetation and other biota
- *Nutrient status* appropriate to soil types
- Sufficient *wet bare ground*, as appropriate
- Appropriate *CaCO₃ deposition* rates and concentration in soil
- Appropriate *water quality* to support the natural structure and functioning of the habitat
- Active peat formation, where appropriate
- Maintain area of sensitive and high conservation value vegetation communities/units at each turlough
- Maintain vegetation zonation/mosaic characteristic of each turlough
- Sward heights appropriate to the vegetation unit, and a variety of sward heights across each turlough
- Maintain typical species within and across all turloughs
- Maintain marginal fringing habitats that support turlough vegetation, invertebrate, mammal and/or bird populations

(5130) *Juniperus communis* formations on heaths or calcareous grassland

- Area stable or increasing, subject to natural processes. At least 1.4ha in one location
- No decline in habitat distribution
- Well-developed structure with an open to closed cover of juniper up to or exceeding 0.5 m in height with associated species. 50 plants recorded
- At least 10% of plants bearing cones
- Not more than 10% of plants dead
- Vegetation structure with variety of typical native species with a minimum of 10 species present (excluding negative indicator species)
- Negative indicator species, particularly non-native invasive species, absent or under control

(6210) Semi-natural dry grasslands and scrubland facies on calcareous substrates (*Festuco Brometalia*) (*important orchid sites)

- Permanent *habitat area and distribution stable or increasing*, subject to natural processes
- Broadleaf herb component of vegetation between 40 and 90%
- At least 7 positive indicator species present, including 2 "high quality" species
- Negative indicator species collectively not more than 20% cover, with cover by an individual species not more than 10%. Non- native invasive species, absent or under control
- 30-70% of sward 5-40cm high
- Cover of bracken (*Pteridium aquilinum*) and woody species (except juniper (*Juniperus communis*)) not more than 5% cover
- Not more than 10% bare ground

(7210) Calcareous fens with *Cladium mariscus* and species of the *Caricion davallianae*

- Permanent *habitat area and distribution stable or increasing*, subject to natural processes
- Appropriate natural hydrological regime necessary to support the natural structure and functioning of the habitat
- Active peat formation, where appropriate
- Appropriate water quality to support the natural structure and functioning of the habitat
- Maintain vegetation cover of typical species including brown mosses and vascular plants
- Cover of scattered native trees and shrubs not more than 10%
- Cover of disturbed bare ground not more than 10%. Where tufa is present, disturbed bare ground not more than 1%
- Areas showing signs of drainage as a result of drainage ditches or heavy trampling not more than 10%

(7230) Alkaline fens

- Permanent *habitat area and distribution stable or increasing*, subject to natural processes

- Appropriate natural hydrological regime necessary to support the natural structure and functioning of the habitat
- Active peat formation, where appropriate
- Appropriate water quality to support the natural structure and functioning of the habitat
- Maintain vegetation cover of typical species including brown mosses and vascular plants
- Cover of scattered native trees and shrubs not more than 10%
- Cover of disturbed bare ground not more than 10%. Where tufa is present, disturbed bare ground not more than 1%
- Areas showing signs of drainage as a result of drainage ditches or heavy trampling not more than 10%

(1355) Otter *Lutra lutra*

- No decline in population
- No decline in extent of terrestrial habitat calculated as 262ha above high water mark (HWM); 14ha along river banks/around ponds
- No significant decline of marine habitat. Area mapped and calculated as 2040ha
- No significant decline of freshwater (river) habitat. Length mapped and calculated as 4km
- No significant decline lake/lagoon habitat. Area mapped and calculated as 21ha
- No significant decline of Couching sites and holts and fish biomass available
- No significant increase of barriers to connectivity – stretches of water

(1365) Harbour seal *Phoca vitulina*

- Species range within the site should not be restricted by artificial barriers to site use.
- Conserve breeding sites in a natural condition. See map 12
- Conserve moult haul-out sites in a natural condition.
- Conserve resting haul-out sites in a natural condition.
- Human activities should occur at levels that do not adversely affect the harbour seal population at the site

Inner Galway Bay SPA

A003 Great Northern Diver *Gavia immer*

- Long term population trend stable or increasing
- No significant decrease in the range, timing or intensity of use of areas by great northern diver, other than that occurring from natural patterns of variation

A017 Cormorant *Phalacrocorax carbo*

- No significant decline in (applies to breeding cormorant); Breeding population abundance: apparently occupied nests (AONs), Productivity rate, Distribution: breeding colonies, Prey biomass available, Barriers to connectivity, Disturbance at breeding site
- Long term population trend stable or increasing (non-breeding)
- No significant decrease in the numbers or range of areas used by cormorant, other than that occurring from natural patterns of variation (non-breeding)

For the following birds

A028 Grey Heron *Ardea cinerea*

A046 Brent Goose *Branta bernicla hrota*

A050 Wigeon *Anas penelope*

A052 Teal *Anas crecca*

A056 Shoveler *Anas clypeata*

A069 Red-breasted Merganser *Mergus serrator*

A137 Ringed Plover *Charadrius hiaticula*

A140 Golden Plover *Pluvialis apricaria*

A142 Lapwing *Vanellus vanellus*

A149 Dunlin *Calidris alpina alpina*

A157 Bar-tailed Godwit *Limosa lapponica*

A160 Curlew *Numenius arquata*
A162 Redshank *Tringa totanus*
A169 Turnstone *Arenaria interpres*
A179 Black-headed Gull *Chroicocephalus ridibundus*
A182 Common Gull *Larus canus*

- Long term population trend stable or increasing
- No significant decrease in the range, timing or intensity of use of areas by grey heron, other than that occurring from natural patterns of variation

A191 Sandwich Tern *Sterna sandvicensis*

- No significant decline in; Breeding population abundance: apparently occupied nests (AONs), Productivity rate: fledged young per breeding pair, Distribution: breeding colonies, Prey biomass available
- No significant increase to barriers to connectivity
- Human activities should occur at levels that do not adversely affect the breeding sandwich tern population

A193 Common Tern *Sterna hirundo*

- No significant decline in; Breeding population abundance: apparently occupied nests (AONs), Productivity rate: fledged young per breeding pair, Distribution: breeding colonies, Prey biomass available
- No significant increase to barriers to connectivity
- Human activities should occur at levels that do not adversely affect the breeding sandwich tern population

2.3 Soils, Geology & Hydrogeology

The Geological Survey of Ireland (GSI) website was consulted for available geological/hydrological information. The site is underlain by Dinantian Pure Bedded Limestones with deep well drained mineral topsoil and subsoil derived from limestone till.

The groundwater public viewer run by the GSI classifies the groundwater as having portions of site corresponding to rock near surface (X), Extreme (E) and High (H) vulnerability at this location. Vulnerability is a term used to represent the intrinsic geological and hydrogeological characteristics that determine the ease at which groundwater may be contaminated by human activities. The site lies within a Regionally Important Aquifer - Karstified (conduit)

The groundwater body to which the site resides; Carrowmoneash has an overall status as good (2013-2018) <https://gis.epa.ie/EPAMaps/AAGeoTool>

2.4 Other Plans and Projects in the Area

It is a requirement of the Appropriate Assessment process to consider the 'in combination' effects of the proposed development with other plans and projects in the area. **Table 2-8** below gives details of the other plans and projects in the area which may be affecting the Galway Bay Natura 2000 Sites.

Table 2-8 Other Plans and Projects Affecting the Galway Bay Natura 2000 Sites

Name of Plan or Project	Key policies/issues/objectives directly related to the relevant Natura 2000 sites	Potential cumulative or in-combination effects on the relevant Natura 2000 sites
Galway Development City Plan 2023-2029	Designated Sites, Habitats and Species Policies and Objectives, Natural Heritage and Biodiversity Policies and Objectives, Natural Water Systems Policies	Positive Impact
River Management Basin Plan 2022 - 2027	The Local Authority Waters Programme (LAWPRO) is a national shared service working on behalf of all 31 local authorities in Ireland. Objectives: Ensure that the status of waters supporting protected areas is protected and and achieve 'good' ecological status in water bodies (rivers, lakes, estuaries and coastal waters) by 2027 Measures: Implement 11 EU Directives, 9 other basic requirements.	Positive impact
NPWS Conservation Management Plans	Conservation Management Plans for the Galway Bay Complex SAC, and the Inner Galway Bay SPA have been published by the NPWS. (See section 2.2.2).	Positive impacts
Inland Fisheries Ireland (IFI) Corporate Plan 2021-2025	Goals: To improve the protection and conservation of the resource. To develop and improve wild fish populations. To increase the number of anglers. To generate a better return for Ireland from the resource	Positive impact
Planning Applications in the area	A search was carried out on Galway City Council's online planning query system. It was ascertained that there has been 10 no. other local planning application within the past year in the townland of Doughiska: 2460005 Retention of 1st floor space 2460039 Construction of extension 2460199 Construction of warehouse 2460215 Proposed alterations to development	Neutral Impact

	2460327 Construction of extension 2460371 Retention of an existing pigeon coup 2560001 Retention for the widening of the site entrance 2560033 Construction of extension 2560042 Construction of dwelling 2560073 Permission for retention of extension to Commercial Building	
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2.5 Screening Matrix for Appropriate Assessment in line with EU Commission Guidance

Having established the extent of the proposed project and the details of the Natura 2000 site, a screening assessment for possible impacts can be generated. This section follows the format of the Screening Matrix provided in Annex 2 of the following document;

“Assessment of plans and projects significantly affecting Natura 2000 sites- Methodology guidance on the provisions of Article 6(3) and (4) of the Habitats Directive 92/43/EEC, European Commission, 2001”.

The findings of the screening matrix are summarised in Table 2-9 below.

Table 2-9 Stage 1 - Screening Matrix for the Proposed Development

Brief Description of the Project or Plan
Location: The proposed site lies in the townland of Doughiska (53.283508, -8.985867). Distance from Designated Site: The proposed site lies in the townland of Doughiska (53.283508, -8.985867). The site for the proposed development lies approximately 1.31km from the Galway Bay Complex SAC (Site Code: 000268) and 1.49km from the Inner Galway Bay SPA (Site Code: 004031) Brief Description of the Project: Planning permission is being sought for the installation of 24 floodlights on 9 columns for the Doughiska Football pitches. A Site Layout Plan for the proposed development is included as Appendix A to this report.
Brief Description of the Natura 2000 Site
Site Designation Status: The Galway Bay Complex Special Area of Conservation (Site Code: 000268) is designated under EU Habitats Directive (92/43/EEC) and the Inner Galway Bay Special Protection Area (SPA Site Code: 004031) is designated under the EU Birds Directive (79/409/EEC). Qualifying Features The Galway Bay Complex SAC is of conservation significance due to the presence of 13 habitats listed under Annex I of the EU Habitats Directive and 2 species listed under Annex II of the same directive. Inner

Galway Bay SPA is designated for the presence of several bird species listed on Annex I of the EU Birds Directive (see below).

Qualifying Habitats

Mudflats and sandflats not covered by seawater at low tide [1140]
 Coastal lagoons* [1150]
 Large shallow inlets and bays [1160]
 Reefs [1170]
 Perennial vegetation of stony banks [1220]
 (*Salicornia*) and other annuals colonizing mud and sand [1310]
 Atlantic salt meadows (*Glauco-Puccinellietalia maritima*) [1330]
 Otter (*Lutra lutra*) [1355]
 Common seal (*Phoca vitulina*) [1365]
 Mediterranean salt meadows (*Juncetalia maritimi*) [1410]
 Turloughs* [3180]
 (*Juniperus communis*) formations on heaths or calcareous grasslands [5130]
 Semi-natural dry grasslands and scrubland facies on calcareous substrates (*Festuco Brometalia*)[*important orchid sites] [6210]
 Calcareous fens with (*Cladium mariscus*) and species of the Caricion *davallianae** [7210]
 Alkaline fens [7230]

Qualifying Species

Inner Galway Bay SPA

[A003] Great Northern Diver (*Gavia immer*)
 [A017] Cormorant (*Phalacrocorax carbo*)
 [A028] Grey Heron (*Ardea cinerea*)
 [A046] Light-bellied Brent Goose (*Branta bernicla hrota*)
 [A050] Wigeon (*Anas penelope*)
 [A052] Teal (*Anas crecca*)
 [A056] Shoveler (*Anas clypeata*)
 [A069] Red-breasted Merganser (*Mergus serrator*)
 [A137] Ringed Plover (*Charadrius hiaticula*)
 [A140] Golden Plover (*Pluvialis apricaria*)
 [A142] Lapwing (*Vanellus vanellus*)
 [A149] Dunlin (*Calidris alpina*)
 [A157] Bar-tailed Godwit (*Limosa lapponica*)
 [A160] Curlew (*Numenius arquata*)
 [A162] Redshank (*Tringa totanus*)
 [A169] Turnstone (*Arenaria interpres*)
 [A179] Black-headed Gull (*Chroicocephalus ridibundus*)
 [A182] Common Gull (*Larus canus*)
 [A191] Sandwich Tern (*Sterna sandvicensis*)
 [A193] Common Tern (*Sterna hirundo*)
 [A999] Wetlands & Waterbirds (EU Habitats Directive 92/43/EEC).

Galway Bay Complex SAC

[1355] Eurasian otter (*Lutra lutra*)
 [1365] Common seal (*Phoca vitulina*)
 [A002] Black-throated Diver (*Gavia arctica*)
 [A003] Great Northern Diver (*Gavia immer*)
 [A140] Golden Plover (*Pluvialis apricaria*)
 [A157] Bar-tailed Godwit (*Limosa lapponica*)

[A191] Sandwich tern (*Sterna sandvicensis*)
[A193] Common Tern (*Sterna hirundo*)

Habitats and Species of Interest

Several other habitats and species of conservation interest have been recorded from the Galway Bay Complex Natura 2000 site. Full details of the sites are found in the Site Synopses included as **Appendix B** to this report.

Unit Size:

Galway Bay Complex SAC; 14408.98ha.

Inner Galway Bay SPA; 12456.5ha

ASSESSMENT CRITERIA

Describe the individual elements of the project likely to give rise to impacts on the Natura 2000 site.

No impacts are expected on the Natura 2000 sites in question.

(a) Identify all potential direct and indirect impacts that may have an effect on the conservation objectives of a European site, taking into account the size and scale of the project under the following headings:

Impacts:	Impacts: Possible Significance of Impacts:
Construction phase e.g. • Vegetation clearance • Demolition • Surface water runoff from soil excavation/ infill/ landscaping (including borrow pits) • Dust, noise, vibration • Lighting disturbance • Impact on groundwater/dewatering • Storage of excavated/construction materials • Access to site • Pests	Construction phase works are minor, involving the instillation of 9 columns on highly modified habitats without connectivity to surrounding Natura 2000 sites. The site is not situated close to a hydrological feature where mitigation measures are required.
Operational phase e.g. • Direct emission to air and water • Surface water runoff containing contaminant or sediment • Lighting disturbance • Noise/vibration • Changes to water/groundwater due to drainage or abstraction • Presence of people, vehicles and activities • Physical presence of structures (e.g. collision risks) • Potential for accidents or incidents	The operational phase of the development will not result in an increase of air or water-based emissions. Lighting from the development is directional thus will not cause an impact on the Galway Bay Natura sites located at a minimum 1.3km from the site. Field surveys show the site is not utilised by bird species associated with the SPA thus it is not expected that emissions arising from the development will result in any significant adverse effects on the Natura 2000 sites.
In-combination/Other	Given the lack of impacts from the site there will be no in-combination impacts.

- **Size and Scale**
The development site comprises an overall area of 1.67Ha. At this size, and due to the fact that the works will be located entirely outside the designated area, it is not expected that the development will have any significant impact (direct, indirect or secondary in nature) on the Natura 2000 site in this regard.
- **Land-Take**
The proposed works will be entirely located outside the designated site and so there will be no impacts in this regard.
- **Distance from Natura 2000 site or key features of the site**
The site for the proposed development is located approximately 1.31km from the Galway Bay Complex SAC and 1.49km from the Inner Galway Bay SPA. At this distance, no impacts are expected on the Natura 2000 sites in this regard.
- **Resource Requirements**
It is not expected that the proposed development will have any significant impact (direct, indirect or secondary in nature) on the designated sites in this regard.
- **Excavation Requirements**
No impacts are expected on the Natura 2000 site in this regard.
- **Transportation Requirements**
During the construction phase of the proposed development, there will be a slight increase in the volume of traffic in the area for a short time. It is not expected that this slight increase will result in direct, indirect or secondary impacts on the Natura 2000 site.
- **Duration of construction, operation, decommissioning**
The construction phase of the proposed development will last approximately 1 month. It is expected that the lights will remain in use for at least 15 years. Neither the construction, operation nor the eventual decommissioning of the proposed development is likely to result in direct, indirect or secondary impacts on the Natura 2000 site.

Describe any likely changes to the site arising as a result of the following;

- **Reduction or fragmentation of habitat area**
There will be no changes in this respect.
- **Disturbance to QI Species**
There will be no changes in this respect. Three wintering bird surveys were conducted within the site with full details found within the accompanying EclA. The only qualify interest species of the SPA noted within the site was Mew gull. Two sightings were noted of birds overflying, not interacting with the site. The Inner Galway Bay SPA Supporting document provides a threshold of significance for Mew gull (Common gull) at 500. The principle supporting habitat within the SPA for this species is Intertidal mud and sand flats & sheltered & shallow subtidal.
- **Habitat or Species Fragmentation**
There will be no changes in this respect.
- **Reduction or fragmentation in species density**
There will be no changes in this respect.
- **Changes in key indicators of conservation status value (water or air quality etc.)**
There will be no changes in this respect.
- **Changes to areas of sensitivity or threats to QI**
There will be no changes in this respect.

- Interference with the key relationships that define the structure or ecological function of the site
There will be no changes in this respect.

Are 'mitigation' measures necessary to reach a conclusion that likely significant effects can be ruled out at screening?

☐ Yes ☒ No

Describe from the above those elements of the project or plan, or combination of elements, where the above impacts are likely to be significant or where the scale or magnitude of impacts is not known.

It is not considered that the proposed development will have any significant impacts on Galway Bay Natura 2000 sites, alone or in combination with the other plans or projects in the area (outlined in Section 2.3 of this report).

3 Conclusions

This report details the results of a screening exercise carried out for a proposed development in Doughiska, Galway. Planning is being sought for the installation of 24 floodlights on 9 columns for the Doughiska Football pitches. A Site Layout Plan for the proposed development is included as **Appendix A** to this report. The screening exercise examined impacts on the Galway Bay Natura 2000 sites.

The proposed site lies in the townland of Doughiska (53.283508, -8.985867). The site for the proposed development lies approximately 1.31km from the Galway Bay Complex SAC (Site Code: 000268) and 1.49km from the Inner Galway Bay SPA (Site Code: 004031). At this distance, it is not expected that the proposed development will give rise to any direct impacts on the Natura 2000 sites in question.

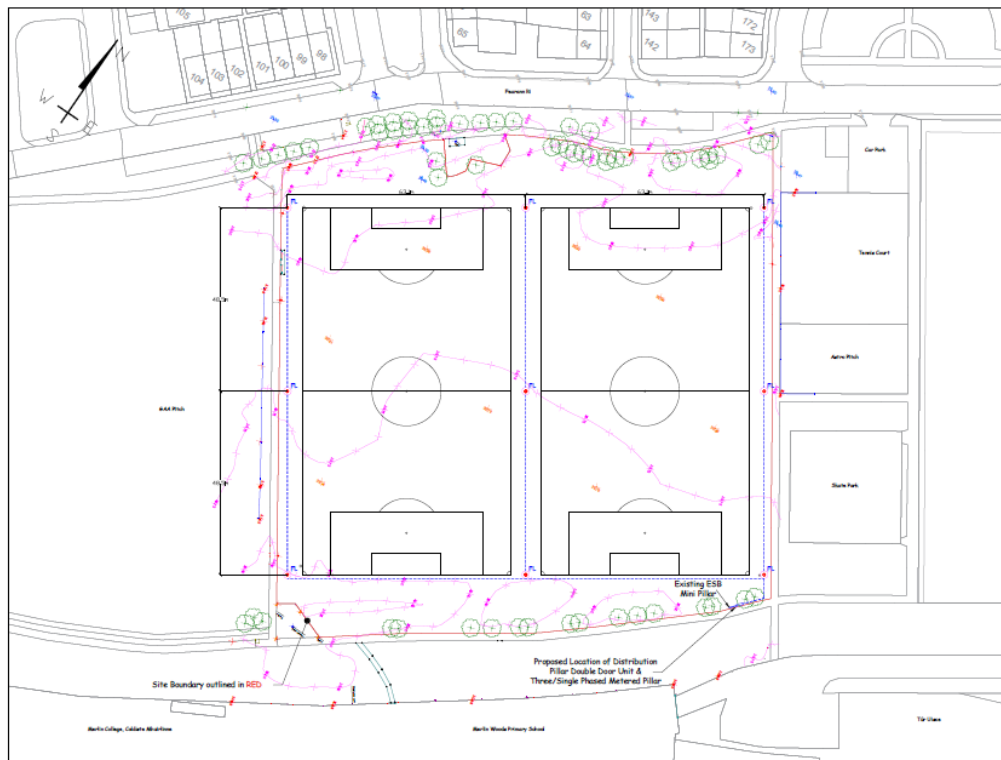
The proposed development will not result in construction or operational phase emissions that have the potential to impact the Galway Bay Natura 2000 sites.

While lighting can have an impact on fauna the proposed lighting regime is directional thus will not cause an impact on the Galway Bay Natura sites located at a minimum 1.3km from the site. Field surveys show the site is not utilised by bird species associated with the SPA thus it is not expected that emissions arising from the development will result in any significant adverse effects on the Natura 2000 sites.

An accompanying Ecological Impact Assessment provides details on local flora and fauna and examines impacts on these elements.

Therefore, the conclusion of this screening exercise is that no significant effects are expected on the qualifying interests or conservation objectives of the Galway Bay Natura 2000 sites, as a result of the proposed development in question, alone or in combination with the other plans and projects in the area, and therefore that a Natura Impact Statement is not required in this case. This report is therefore issued as a 'Finding of No Significant Effects' (FONSE) statement, in accordance with the EU Commission's methodological guidance (EC, 2001).

APPENDIX A - Site Layout Plan



Pitch Lighting - Site Layout
Scale 1:500

LEGEND

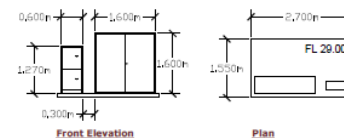
- 125mm Ø Ducting Run
- Proposed Floodlight
- Existing Tree
- Existing Level
- Contour Line



Distribution Pillar Double Door
1600mm High x 1600mm Wide x 450mm Deep
Please refer to enclosed Pitman Engineering Information Sheet

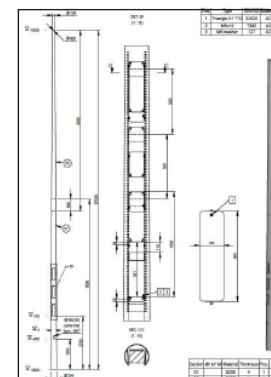


Three/Single Phased Metered Pillar
1270mm High x 600mm Wide x 225mm Deep
Please refer to enclosed Pitman Engineering Information Sheet



Layout for Distribution & Metered Panels
Scale: 1:50

Panels to be placed on 100mm Concrete Plinth as shown at Finished Level of 29.00.



15m High Floodlight Pole
Scale: NTS

 Comhairle Cathrach na Gallímhí Galway City Council	RECREATION & AMENITY										Notes				Project: Doughiska Pitches Floodlighting		Location: Doughiska Road, Galway	
	Hut na Cathrach, Bóthar an Chaisleáin, Galímhí City Hall, College Road, Galway														Title Ref: 1001/2025-02		Site Layout	
	Phone: 091 433 400 Email: public.enquiries@galwaycity.ie														Project No: 1001/2025-02		Scale: 1:500 @ A3	
															Date: 02/2025		Scale: 1:500 @ A3	

APPENDIX B NPWS SITE SYNOPSES

Site Name: Galway Bay Complex SAC

Site Code: 000268

Situated on the west coast of Ireland, this site comprises the inner, shallow part of a large bay which is partially sheltered by the Aran Islands. The Burren karstic limestone fringes the southern sides and extends into the sublittoral. West of Galway city the bedrock geology is granite. There are numerous shallow and intertidal inlets on the eastern and southern sides, notably Muckinish, Aughinish and Kinvarra Bays. A number of small islands composed of glacial deposits are located along the eastern side. These include Eddy Island, Deer Island and Tawin Island. A diverse range of marine, coastal and terrestrial habitats, including several listed on Annex I of the E.U. Habitats Directive, occur within the site, making the area of high scientific importance.

The site is a Special Area of Conservation (SAC) selected for the following habitats and/or species listed on Annex I / II of the E.U. Habitats Directive (* = priority; numbers in brackets are Natura 2000 codes): [1140] Tidal Mudflats and Sandflats [1150] Coastal Lagoons* [1160] Large Shallow Inlets and Bays [1170] Reefs [1220] Perennial Vegetation of Stony Banks [1310] *Salicornia* Mud [1330] Atlantic Salt Meadows [1410] Mediterranean Salt Meadows [3180] Turloughs* [5130] Juniper Scrub [6210] Orchid-rich Calcareous Grassland* [7210] *Cladium* Fens* [7230] Alkaline Fens [1355] Otter (*Lutra lutra*) [1365] Common (Harbour) Seal (*Phoca vitulina*)

Galway Bay South holds a very high number of littoral communities (12). They range from rocky terraces, to sandy beaches with rock or sand dunes behind. The intertidal sediments of Galway Bay support good examples of communities that are moderately exposed to wave action. A well-defined talitrid amphipod zone in the upper shore gives way to an intertidal, mid shore zone with sparse epifauna or infauna. On the lower, flat part of the shore, the tubes of the deposit-feeding terebellid worm, *Lanice conchilega*, are common on the surface. Nereid and cirratulid polychaete worms (*Hediste diversicolor*, *Arenicola marina*), small crustaceans and bivalves (*Angulus tenuis*, *Cerastoderma edule* and *Macoma balthica*) are present. The area has the country's only recorded example of the littoral community characterized by *Fucus serratus* with sponges, ascidians and red seaweeds on tide-swept lower eulittoral mixed substrata. This community has very high species richness (85 species), as do the sublittoral fringe communities on the Finavarra reef (88 species). The rare Purple Sea Urchin *Paracentrotus lividus* and the foliose red alga *Phyllophora sicula* are present at Finavarra, whereas the red alga *Rhodomenia delicatula* and the rare brown alga, *Ascophyllum nodosum* var. *mackii*, occur in Kinvarra and Muckinish Bays. Sublittorally, the area has a number of distinctive and important communities. Of particular note is that Ireland's only reported piddock (bivalve mollusc) bed thrives in the shallows of Aughinish Bay. The rare sponge, *Mycale contarenii*, is also found here. There is further interest in an extensive maerl bed of *Phymatolithon calcareum* which occurs in the strong tidal currents of Muckinish Bay. There is also maerl off Finavarra Point and in Kinvarra Bay (*Lithothamnion corallioides*, *Lithophyllum dentatum* and *Lithophyllum fasciculatum*). An oyster bed in Kinvarra Bay and seagrass (*Zostera* spp.) beds off Finavarra Point are also important features. Other significant habitats which occur include secondary maerl beds and communities strongly influenced by tidal streams.

Saltmarshes are frequent within this extensive coastal site, with both E.U. Habitats Directive types, 'Atlantic Salt Meadow' and 'Mediterranean Salt Meadow' well represented. Most of the saltmarshes are classified as the bay type, with the substrate being mud or mud/sand. There is one lagoon type and one estuary type. Lagoon saltmarshes are the rarest type found in Ireland. The best examples of saltmarsh are located in inner Galway bay, east of a line running between Galway city and Kinvarra. In this area the coastline is highly indented, thus providing the sheltered conditions necessary for extensive saltmarsh development. Common saltmarsh species include Thrift (*Armeria maritima*), Red Fescue (*Festuca rubra*), Common Scurvygrass (*Cochlearia officinalis*), Lax-flowered Sea-lavender (*Limonium humile*), Common Saltmarsh-grass (*Puccinellia maritima*), Saltmarsh Rush (*Juncus gerardi*) and Sea Rush (*Juncus maritimus*). On the lower levels of the saltmarshes and within pans there occurs Glasswort (*Salicornia europaea* agg.). A noteworthy feature of the saltmarsh habitat within this site is the presence of dwarfed brown seaweeds in the vegetation. These are also known as "turf fucoids" and typical species include *Fucus* spp., *Ascophyllum nodosum* and *Pelvetia canaliculata*. A

number of locally rare vascular plant species also grow in saltmarsh areas within the site. These include Reflexed Saltmarsh-grass (*Puccinellia distans*) and Sea-purslane (*Halimione portulacoides*), which are both relatively rare in the western half of the country.

Shingle and stony beaches can be found throughout the site, with the best examples along the more exposed shores to the south and west of Galway city and to the north and east of Finavarra, Co. Clare. In general, these shingle shorelines are sparsely vegetated and frequently occur interspersed with areas of sandy beach and/or bedrock shore. The associated flora is dominated by plant species of frequently disturbed maritime habitats. To the south and west of Galway city, typical plants include Curled Dock (*Rumex crispus*), Common Couch (*Elymus repens*), Sea Sandwort (*Honkenya peploides*), Sea Beet (*Beta vulgaris* subsp. *maritima*), Sea Mayweed (*Matricaria maritima*), Silverweed (*Potentilla anserina*) and Oraches (*Atriplex* spp.). Two rare plant species are associated with the habitat: Henbane (*Hyoscyamus niger*), a threatened species listed in the Irish Red Data Book, grows on shingle beach to the south of Lough Atalia; there are also old records for the threatened plant species Sea-kale (*Crambe maritima*).

An excellent range of lagoons of different types, sizes and salinities occurs within the site. This habitat is given priority status on Annex I of the E.U. Habitats Directive. One unusual type of lagoon, karstic rock lagoon, is particularly well represented. This type of lagoon is common on the Aran Islands, but on mainland Ireland, all but one are confined to this site. Additionally, the best example of all karstic lagoons in the country, Lough Murree, is found at this site. The flora of the habitat is rich and diverse, reflecting the range of salinities in the different lagoons. It is typically brackish, with two species of Tasselweed (*Ruppia* spp.), two Red Data charophytes *Chara canescens* and *Lamprothamnion papulosum*, and *Chaetomorpha linum*, an alga (all lagoonal specialists). The fauna of the lagoon is also rich, diverse and lagoonal. At least 10 lagoonal specialist species were recorded in 1996 and 1998 from the combined habitat of all the lagoons, which is one of the highest number for any lagoonal habitat in the country. Many of the species appear to be rare. The lagoons within this site are excellent examples of the habitat type and of high conservation importance.

Other terrestrial habitats within this site which are of conservation importance include Great Fen-sedge (*Cladium mariscus*)-dominated fen and Black Bog-rush (*Schoenus nigricans*)-dominated alkaline fen at Oranmore, a turlough of moderate size at Ballinacourty, limestone pavement mainly along the southern shore, dry calcareous grassland with orchids (best examples occurring west of Salthill), Juniper (*Juniperus communis*) scrub formations at Oranmore, wet grassland and an area of deciduous woodland at Barna. The orchid-rich grassland occurs on a series of small drumlin hills found to the west of Galway City, and is largely confined to the sides of the hills. Calcicole species such as Kidney Vetch (*Anthyllis vulneraria*), Harebell (*Campanula rotundifolia*), Spring Gentian (*Gentiana verna*), Common Spotted-orchid (*Dactylorhiza fuchsii*), Lesser Twayblade (*Listera ovata*), Pyramidal Orchid (*Anacamptis pyramidalis*), Yellow-wort (*Blackstonia perfoliata*) and Greater Knapweed (*Centaurea scabiosa*) are found here, among others. Juniper is also found in this area.

Areas of alkaline and *Cladium* fen as best represented near Oranmore, and species such as Great Fen-sedge, Common Reed (*Phragmites australis*), Purple Moor-grass (*Molinia caerulea*), Bogbean (*Menyanthes trifoliata*) and Long-stalked Yellow-sedge (*Carex lepidocarpa*) are found along with the usually dominant, Black Bog-rush. The turlough at Ballinacourty floods to about 25 ha in winter, and has vegetation with a typical zonation. Wetland species such as Amphibious Bistort (*Polygonum amphibium*), Common Marsh-bedstraw (*Galium palustre*) and Marsh Cinquefoil (*Potentilla palustris*) are found near the swallow-hole, with species of wet grassland close to the flood limit (e.g. Silverweed, *Potentilla anserina*, Water Mint, *Mentha aquatica* and Creeping Bent, *Agrostis stolonifera*). Sedges (*Carex* spp.) dominate in between.

Inner Galway Bay provides extensive good quality habitat for Common Seal (maximum count of 317 in the all-Ireland survey of 2003). This species is listed on Annex II of the E.U. Habitats Directive. The seals use a range of haul-out sites distributed through the bay - these include inner Oranmore Bay, Rabbit Island, St. Brendan's Island, Tawin Island, Kinvarra Bay, Aughinish Bay and Ballyvaughan. The site provides optimum habitat for Otter, also an Annex II-listed species.

Galway Bay is a very important ornithological site. The shallow waters provide excellent habitat for Great Northern Divers (35), Black-throated Divers (28), Scaup (39), Long-tailed Duck (27) and Red-breasted Merganser (232). (Figures given are peak average maxima over the 3 winters 1994/95 to

1996/97). All of these populations are of national importance. The intertidal areas and shoreline provides feeding and roosting habitat for wintering waterfowl, with Brent Goose (517) having a population of international importance and a further 11 species having populations of national importance. Four of the regular wintering species are listed on Annex I of the E.U. Birds Directive - Golden Plover, Bar-tailed Godwit and the two diver species. Breeding birds are also of importance, with significant populations of Sandwich Terns (81 pairs in 1995) and Common Terns (99 pairs in 1995), both also being listed on Annex I of the E.U. Birds Directive. A large Cormorant colony (approx. 300 pairs in 1989) occurs on Deer Island.

Fishing and aquaculture are the main commercial activities within the site. A concern is that sewage effluent and detritus of the aquaculture industry could be deleterious to benthic communities. Reef and sediment communities are vulnerable to disturbance or compaction from tractors accessing oyster trestles. The *Paracentrotus lividus* populations have been shown to be vulnerable to over-fishing. Extraction of maerl in Galway Bay is a threat. Owing to the proximity of Galway city, shoreline and terrestrial habitats are under pressure from urban expansion and recreational activities. Eutrophication is probably affecting some of the lagoons and is a continued threat. Drainage is a general threat to the turlough and fen habitats. Bird populations may be disturbed by aquaculture activities.

This large coastal site is of immense conservation importance, with many habitats listed on Annex I of the E.U. Habitats Directive, four of which have priority status (lagoon, Cladium fen, turlough and orchid-rich calcareous grassland). The examples of shallow bays, reefs, lagoons and saltmarshes found within this site are amongst the best in the country. The site supports an important Common Seal colony and a breeding Otter population (Annex II species), and six regular Annex I E.U. Birds Directive species. The site also has four Red Data Book plant species, plus a host of rare or scarce marine and lagoonal animal and plant species.

SITE NAME: INNER GALWAY BAY SPA

SITE CODE: 004031

Galway Bay SPA is a very large, marine-dominated, site situated on the west coast of Ireland. The inner bay is protected from exposure to Atlantic swells by the Aran Islands and Black Head. Subsidiary bays and inlets (e.g. Poul-na-clough, Auhinish and Kinvarra Bays) add texture to the patterns of water movement and sediment deposition, which lends variety to the marine habitats and communities. The terraced Carboniferous (Viséan) limestone platform of the Burren sweeps down to the shore and into the sublittoral. The long shoreline is noted for its diversity, with complex mixtures of bedrock shore, shingle beach, sandy beach and fringing salt marshes. Intertidal sand and mud flats occur around much of the shoreline, with the largest areas being found on the sheltered eastern coast between Oranmore Bay and Kinvarra Bay. A number of small islands composed of glacial deposits are included, such as Deer Island, along with some rocky islets.

The southern part of Galway Bay holds a very high number of littoral communities. They range from rocky terraces to sandy beaches with rock or sand dunes behind. The intertidal sediments of Galway Bay support good examples of communities that are moderately exposed to wave action. A well-defined talitrid zone in the upper shore gives way to an intertidal, mid-shore zone with sparse epifauna or infauna. On the lower, flat part of the shore, the tubes of the deposit-feeding terebellid worm, *Lanice conchilega*, are common on the surface. Nereid and cirratulid polychaete worms (*Hediste diversicolor*, *Arenicola marina*), small crustaceans and bivalves (*Angulus tenuis*, *Cerastoderma edule* and *Macoma balthica*) are present. Sublittorally, the area has a number of distinctive and important communities. Of particular note is that Ireland's only reported piddock bed thrives in the shallows of Auhinish Bay. The rare sponge, *Mycale contarenii*, is also found here. Of additional interest is the presence of an extensive maerl bed of *Phymatolithon calcareum* which occurs in the strong tidal currents of Muckinish Bay. There is also maerl off Finavarra Point and in Kinvarra Bay (*Lithothamnion corallioides*, *Lithophyllum dentatum* and *Lithophyllum fasciculatum*). An oyster bed in Kinvarra Bay and seagrass (*Zostera* spp.) beds off Finavarra Point are also important features.

Salt marshes are frequent within this extensive coastal site, with the best examples located east of a line running between Galway City and Kinvarra. In this area the coastline is highly indented, thus providing the sheltered conditions necessary for extensive salt marsh development. Common salt marsh species present include Thrift (*Armeria maritima*), Red Fescue (*Festuca rubra*), Common

Scurvygrass (*Cochlearia officinalis*), Lax-flowered Sea-lavender (*Limonium humile*), Common Saltmarsh-grass (*Puccinellia maritima*), Saltmarsh Rush (*Juncus gerardi*) and Sea Rush (*Juncus maritimus*). On the lower levels of the salt marshes and within pans is found Glasswort (*Salicornia europaea* agg.). Shingle and stony beaches occur throughout the site, with the best examples found along the more exposed shores to the south and west of Galway City and to the north and east of Finnavara. In general, these shingle shorelines are sparsely vegetated, with such species as Curled Dock (*Rumex crispus*), Common Couch (*Elymus repens*), Sea Sandwort (*Honkenya peploides*) and Sea Beet (*Beta vulgaris*).

Galway Bay is one of the most important ornithological sites in the western region. It supports an excellent diversity of wintering wetland birds, with divers, grebes, cormorants, dabbling duck, sea duck and waders all well represented. There are internationally important wintering populations of Great Northern Diver (83) and Brent Goose (676), and nationally important populations of an additional sixteen species, i.e. Black-throated Diver (25), Cormorant (266), Mute Swan (150), Wigeon (1,157), Teal (690), Shoveler (88), Red-breasted Merganser (249), Ringed Plover (335), Golden Plover (2,030), Lapwing (3,969), Dunlin (2,149), Bar-tailed Godwit (447), Curlew (697), Redshank (505), Greenshank (20) and Turnstone (182) – all figures are average peaks for the 5 seasons 1995/96-1999/00. Of note is that the populations of Red-breasted Merganser and Ringed Plover represent 6.7% and 3.3% of the respective national totals. Black-throated Diver is a scarce species in Ireland and the Galway Bay population is the most regular in the country. Other species which occur in notable numbers include Little Grebe (35), Grey Heron (102), Long-tailed Duck (19) and Scaup (40). The bay is an important wintering site for gulls, especially Black-headed Gull (1,815), Common Gull (1,011) and Herring Gull (216). In addition, the following species also use the site: Red-throated Diver (13), Great Crested Grebe (16), Mallard (200), Shelduck (139), Common Scoter (79), Oystercatcher (575), Grey Plover (60), Black-tailed Godwit (45) and Great Black-backed Gull (124). The site provides both feeding and roost sites for most of the species, though some birds also commute to areas outside of the site. The wintering birds of Galway Bay have been monitored annually since 1980/81.

The site has several important populations of breeding birds, most notably colonies of Sandwich Tern (81 pairs in 1995) and Common Tern (99 pairs in 1995). A large Cormorant colony occurs on Deer Island – this had 205 pairs in 1985 and 300 pairs in 1989.

Inner Galway Bay provides good quality habitat for Common Seal, a species that is listed on Annex II of the E.U. Habitats Directive. In 1984, this seal colony was one of the top three sites in the country, with over 140 animals recorded. The seals use a range of haul-out sites distributed through the bay. The site provides optimum habitat for Otter.

While there are no imminent threats to the birds, a concern is that sewage effluent and detritus of the aquaculture industry could be deleterious to benthic communities and could affect food stocks of divers, seaduck and other birds. Bird populations may also be disturbed by aquaculture activities. Owing to the proximity of Galway City, shoreline habitats are under pressure from urban expansion and recreational activities.

This large coastal site is of immense ornithological importance, with two wintering species having populations of international importance and a further sixteen species having populations of national importance. The breeding colonies of Sandwich Tern, Common Tern and Cormorant are also of national importance. Also of note is that seven of the regularly occurring species are listed on Annex I of the E.U. Birds Directive, i.e. Red-throated Diver, Black-throated Diver, Great Northern Diver, Golden Plover, Bar-tailed Godwit, Sandwich Tern and Common Tern.