Planning and Environmental Consultants

Ecological Impact Assessment

Proposed Outdoor Amenity Enhancement Project at Long Point, Loughrea, Co. Galway

DOCUMENT DETAILS

Client:	**Galway County Council**
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Document Title:	**Ecological Impact Assessment**
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Prepared By:	**MKO** **Tuam Road** **Galway** **Ireland** **H91 VW84**

Planning and Environmental Consultants

Rev	Status	Date	Author(s)	Approved By
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02	Final	24/09/2024	SC	PD

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1. INTRODUCTION

1.1 Background

MKO has been commissioned to conduct an Ecological Impact Assessment (EcIA) for Proposed Development at Long Point Amenity Area, Lough Rea, Co. Galway.

The EcIA includes an accurate description of all aspects of the Proposed Development during construction, operation, and decommissioning (where relevant). It provides a comprehensive description of the baseline ecological environment at the site, which is based on an appropriate level of survey work that was carried out in accordance with the most appropriate guidelines and methodologies. The EcIA then completes a thorough assessment of the impacts of the Proposed Development on biodiversity. Where likely ecologically significant effects are identified, measures are prescribed to avoid or minimise or compensate for such effects.

1.2 Statement of Authority

Baseline ecological surveys of the site of the Proposed Development were undertaken on the on the 05th of December 2022 and on the 7th of March 2023 by John Hynes (BSc., MSc., ACIEEM) and Cora Twomey (B.Sc) of MKO. Winter Bird Surveys were carried out on the 7th and 31st of March 2023 by Cora Twomey (B.Sc) and Brónagh Boylan (B.Sc). Further Winter Bird Surveys were carried out by Deepali Mooloo (B.Sc., M.Sc.) and Padraig Desmond (B.Sc.) in October, November, and December 2023 and January, February, March 2024. Dedicated bat surveys were undertaken by MKO ecologist Aoife Joyce (BSc., MSc.) on the 25th of May 2023. All staff have relevant academic qualifications to complete the surveys and assessments they were required to do.

This report has been prepared by Stephanie Corkery (B.Sc., M.Sc.) and has been reviewed by Pádraig Desmond. Pádraig has 4 years' professional experience in ecological consultancy. He has extensive experience undertaking ecological surveys in a range of habitats and has worked on Appropriate Assessment and Ecological Impact Assessment for a wide range of projects.

1.3 Relevant Guidance

In addition, the guidelines listed below were consulted in the preparation of this document to provide the scope, structure and content of the assessment:

- Guidelines for Ecological Impact Assessment in the UK and Ireland. Terrestrial, Freshwater, Coastal and Marine (CIEEM, 2018) (amended 2022)
- Guidelines on the information to be contained in Environmental Impact Assessment Reports (EPA, 2022).
- Ecological Surveying Techniques for Protected Flora and Fauna During the Planning of National Road Schemes, (NRA, 2008);
- Guidelines for the Protection and Preservation of Trees, Hedgerows and Scrub prior to, during and Post Construction of National Road Schemes, (NRA, 2008);
- Environmental Impact Assessment of National Road Schemes –A Practical Guide (NRA, 2009).
- Guidelines for assessment of Ecological Impacts of National Road Schemes, (NRA, 2009).

2. DESCRIPTION OF PROPOSED DEVELOPMENT

2.1 Site Location

The Proposed Development site is located in the townlands of Knockanima, County Galway. The study area is approximately 2.5km south of Loughrea town (Irish Grid Ref. M 62496 15135) and is located entirely within the existing amenity area at Long Point, Lough Rea. Access to the Proposed Development site is off the Lake Road (R351). The land uses and types within the Proposed Development site are currently public amenity areas and sealed paths and carparks.

A site location map is provided in Figure 2-1.

2.2 Characteristics of Proposed Development

2.2.1 Development Description

Pursuant to the requirements of Section 177AE(4)(a) of the Planning and Development Act 2000 (as amended), notice is hereby given that Galway County Council proposes to seek approval from An Bord Pleanála to carry out the following development at Long Point, Lake Road (R351) in the townland of Knockanima, Loughrea, Co. Galway.

The development will consist of the following:

1. Repair works comprising:
    a. Repair of the existing pier surfaces.
    b. Repair of the existing slipway to provide safe launching point for kayaks and stand-up paddle boards.
2. Demolition of an existing changing shelter to facilitate passive surveillance and views of Lough Rea.
3. Alteration to existing toilet and shower building to provide storage, plant, and a changing places toilet (accessible toilet, shower and changing facility) (93 sqm).
4. Provision of new changing, toilet and shower facilities in a single storey building (86 sqm) including sheltered outdoor shower changing area.
5. Provision of a lifeguard station building (16 sqm).
6. Provision of a circular viewing deck to the south of the existing pier.
7. Provision of a totem sign extending to c. 4 metres in height.
8. Alteration to existing beach area and provision of a deck, steps and ramp to water's edge and beach area for access for all to the water.
9. Provision of a shared active travel route along the sites eastern boundary adjacent to the Lake Road (R351) and the provision of designated bicycle parking spaces.
10. Removal of 2 no. existing vehicular access points and alterations and junction upgrade works to the existing central access point, and provision of internal pedestrian crossings.
11. Reconfiguration of and upgrades to the existing car parking areas to provide increased parking provision and to accommodate age friendly and set down spaces and trading bays, and the provision of 1 no. new car parking area which includes EV charging and accessible parking spaces.
12. Provision of hard and soft site landscaping works, SuDS measures, pumping and water stations all connections, public lighting, and site services.
13. All ancillary services and associated site development works.

The proposed site layout is provided in Figure 2-2.

2.2.2 Site Drainage

2.2.2.1 Surface water

There is currently no surface water drainage system in place within the Proposed Development site, with all surface water currently being drained directly into Lough Rea with no treatment or settlement. As part of the Proposed Development, a Civils Report has been prepared by S. Hanniffy & Associates Consulting Engineers and is included in the planning application. This report provides for Sustainable Drainage Systems (SUDs) and includes the attenuation and treatment of surface water within the site prior to discharge.

Surface water from the proposed buildings, carparks and roads will be first conveyed to 1 of 3 petrol interceptors (kingspan klargester bypass interceptor) which include silt traps, and then to 1 of 3 no. attenuation, infiltration, and soakaway systems within the site, with a total capacity of 384.3m^3.

It also proposed to use permeable paving along the quaysides as an additional SUDs measure, allowing surface water to soak directly to ground. The is no requirement for bypass interceptors here as these are for pedestrian use only.

The proposed surface water drainage layout is presented in Figure 2-3.

2.2.2.2 Foul water

The existing foul water system for the current changing facilities is discharged to a foul sewer adjacent to the changing rooms and is pumped to an existing public sewer within the public road to the north of the site. It is proposed to install a new foul sewer system around the new storage/plant building and changing room/WC which will discharge to the existing pup station and then to the existing public sewer north of the site.

The proposed foul water drainage layout is presented in Figure 2-3.

2.2.3 Flood Risk Assessment

A Flood Risk Assessment (FRA) has been undertaken for the Proposed Development by Hydro Environmental Ltd and is included in the planning application.

The FRA indicates that areas of the Proposed Development are within a flood risk area for 100year and 1000year flood events. However, the majority of the of development within these risk zones are water compatible or less vulnerable developments and therefore, a flood risk justification test is not required for the Proposed Development.

2.2.4 Landscape Plan

A Landscape Soft Works plan has been prepared by Cooney McDowall Design Studio Ltd. The planting incorporated into this design has been based on long-term suitability, aesthetics, and biodiversity improvement. The proposed plant material has been divided into six categories as outlined below. The full Landscape Soft Works Plan is provided in **Appendix 1**.

a) Native Wildflower Zones/reduced Mowing Areas – this will include the establishment of mixed native species of meadow grasses and wildflower zones.

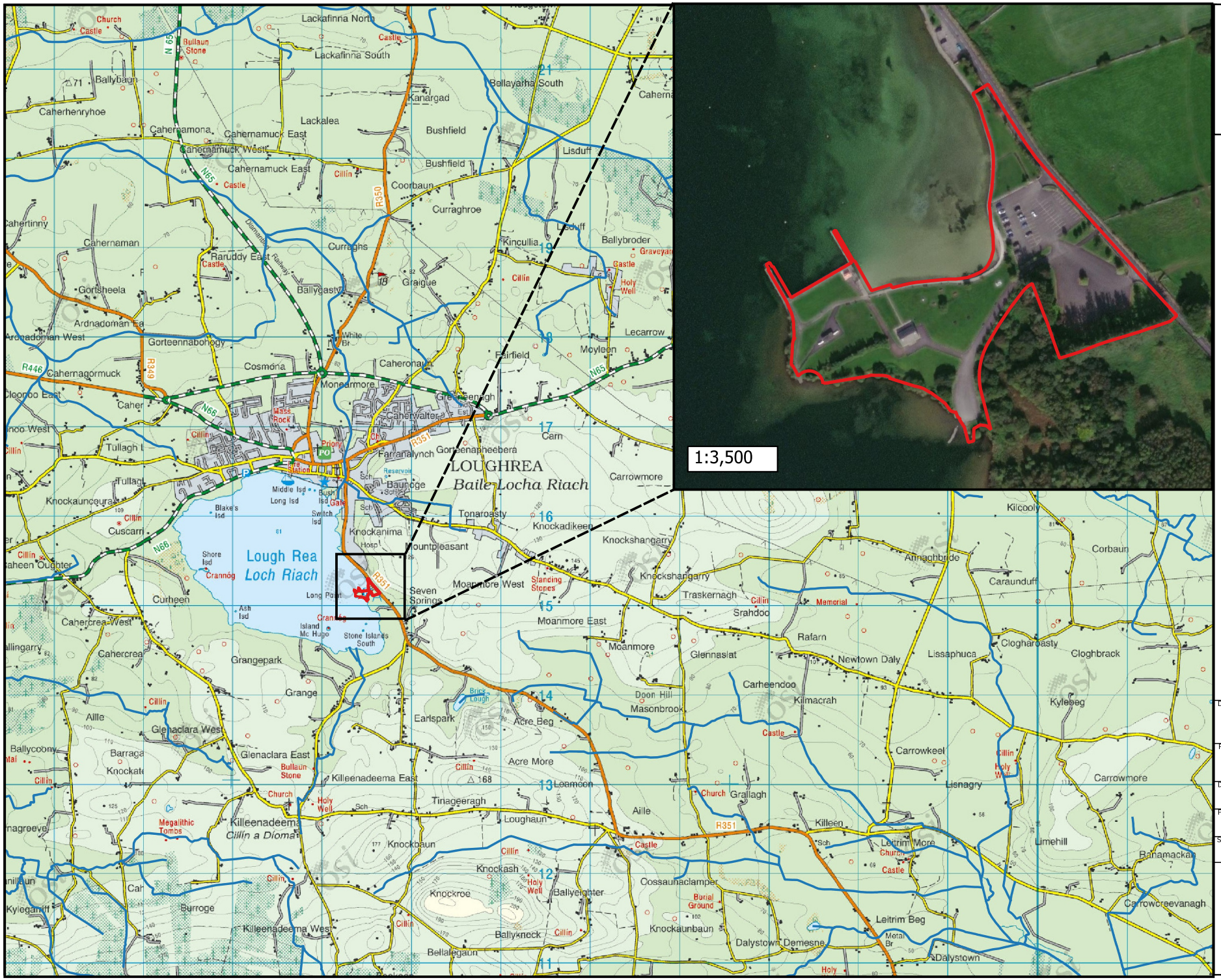
b) Pollinator Friendly Perennial & Grass planting (Natural Stone Planting Beds) – These will include ornamental perennials, bulbs and ornamental grass species and will be in line with the 'All Ireland pollinator Plan 2021-2025'.

c) Woodland Tree Clusters – New woodland clusters will be developed at key locations between existing woodland areas in the adjacent NHA and SPA. This will aim to enhance habitat opportunities for bat and bird species. Tree species will include Native Scots Pine (*Pinus sylvestris*), Native Birch (*Betula pendula and nigra*), Field Maple (*Acer campestre*), Native Oak (*Quercus robur*).

d) Avenue Tree planting - It is proposed to line the new central spine pathway with a row of single species.

e) Swale Planting – This will involve the planning of a Meadow Mixture of Wetland Wild Flora.

f) Amenity Grass – This involves mowed amenity grass for all areas specified as maintained grass.



Drawing Title

Site Location

Project Title: Proposed Outdoor Amenity Enhancement Project at Long Point, Loughrea, Co. Galway	
Drawn By: SC	Checked By: PD
Project No.: 220727	Drawing No.: Figure 2-1
Scale: 1:55,000	Date: 10/09/2024

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KEY TO SURFACE FINISHES

- AMENITY GRASS, MAINTAINED GRASS / LAWN
- WILDFLOWER / BIO-DIVERSE PLANTING
- SWALE
- EXISTING WOODLAND
- PERMEABLE RESIN BOUND GRAVEL FOOTPATHS: 18 mm RESIN BOUND FINISH ON POROUS ASPHALT BINDER COURSE ON SUB-BASE
- SELECTED PERMEABLE PAVING, SUITABLE FOR VEHICLES TO FACILITATE EMERGENCY ACCESS
- NATURAL STONE PLANTING BEDS - POLLINATOR FRIENDLY PERENNIAL & GRASS PLANTING
- COMPOSITE / RECONSTITUTED DECKING
- SAND
- EXISTING NATURAL BEACH AREA
- PEDESTRIAN / CYCLE SHARED SURFACE
- COURTESY CROSSING SUITABLE FOR PERMANENT VEHICULAR TRAFFIC
- BLISTERED TACTILE PAVING - BUFF COLOURED
- BLISTERED TACTILE PAVING - RED COLOURED
- TARMACADAM ROAD FINISH
- PICNIC BENCH / TABLE - WITH AGE FRIENDLY SEATING
- PICNIC BENCH TABLE - WITH AGE FRIENDLY SEATING AND WHEELCHAIR ACCESSIBLE SPACE
- BENCH - WITH AGE FRIENDLY SEATING
- CUSTOM BENCH
- WASTE BIN
- METAL SPHERICAL BOLLARD
- CONTACTLESS WATER STATION
- EXISTING LEVELS
- PROPOSED LEVELS
- PARKING SPACE
- AGE FRIENDLY PARKING SPACE
- ACCESSIBLE PARKING SPACE
- ELECTRIC VEHICLE CHARGING PARKING SPACE
- BICYCLE STANDS
- NATIVE TREE CLUSTERS
- AVENUE TREE PLANTING
- PROPOSED LIGHTING

01 SITE LAYOUT PLAN - PROPOSED
SCALE 1:500 @ A1

DRAWING NOTES

EXTENT OF SITE OUTLINED IN RED

SITE AREA: 2.26 HA

AREA OF EXISTING LIFEGUARD STATION TO BE DEMOLISHED: 9 SQ.M

AREA OF EXISTING CHANGING SHELTER TO BE DEMOLISHED 28 SQ.M

AREA OF EXISTING STORAGE/ PLAN TO BE ALTERED: 92.5 SQ.M

AREA OF PROPOSED CHANGING/WCs: 86 SQ.M

AREA OF PROPOSED LIFEGUARD STATION: 16.2 SQ.M

151 NO. PARKING SPACES:
STANDARD: 130 NO.
ACCESSIBLE: 8 NO.
AGE FRIENDLY: 7 NO.
EV: 6 NO.

REFER TO CIVIL ENGINEERS DRAWINGS AND SW REPORT FOR DETAILS OF PROPOSED DRAINAGE AND SEWAGE DETAILS.

REFER TO TRAFFIC AND TRANSPORT ASSESSMENT AND ROAD SAFETY AUDIT FOR DETAILS OF PROPOSED UPGRADES TO EXISTING VEHICULAR ACCESS AND PROPOSED NEW VEHICULAR, CYCLE AND PEDESTRIAN AMENITIES.

REFER TO SOFT LANDSCAPING DESIGN REPORT FOR DETAILS OF SOFT LANDSCAPING PROPOSALS.

REFER TO SITE LIGHTING LAYOUT AND SITE LIGHTING OVERVIEW FOR DETAILS OF PROPOSED EXTERNAL LIGHTING.

Rev	Date	Description	Drawn By	Checked By
0	2024.09.24	ISSUED FOR PLANNING		

PROJECT	LONG POINT OUTDOOR AMENITY ENHANCEMENT PROJECT
CLIENT	GALWAY COUNTY COUNCIL
DRAWING TITLE	PROPOSED SITE LAYOUT PLAN
DWG. NO.	P(01)03
REV.	0

PROJECT NO.	DATE	SCALE	DRAWN BY	CHECKED BY	RELEASED
9901.4	JULY 2024	1:500 @ A1	BS		

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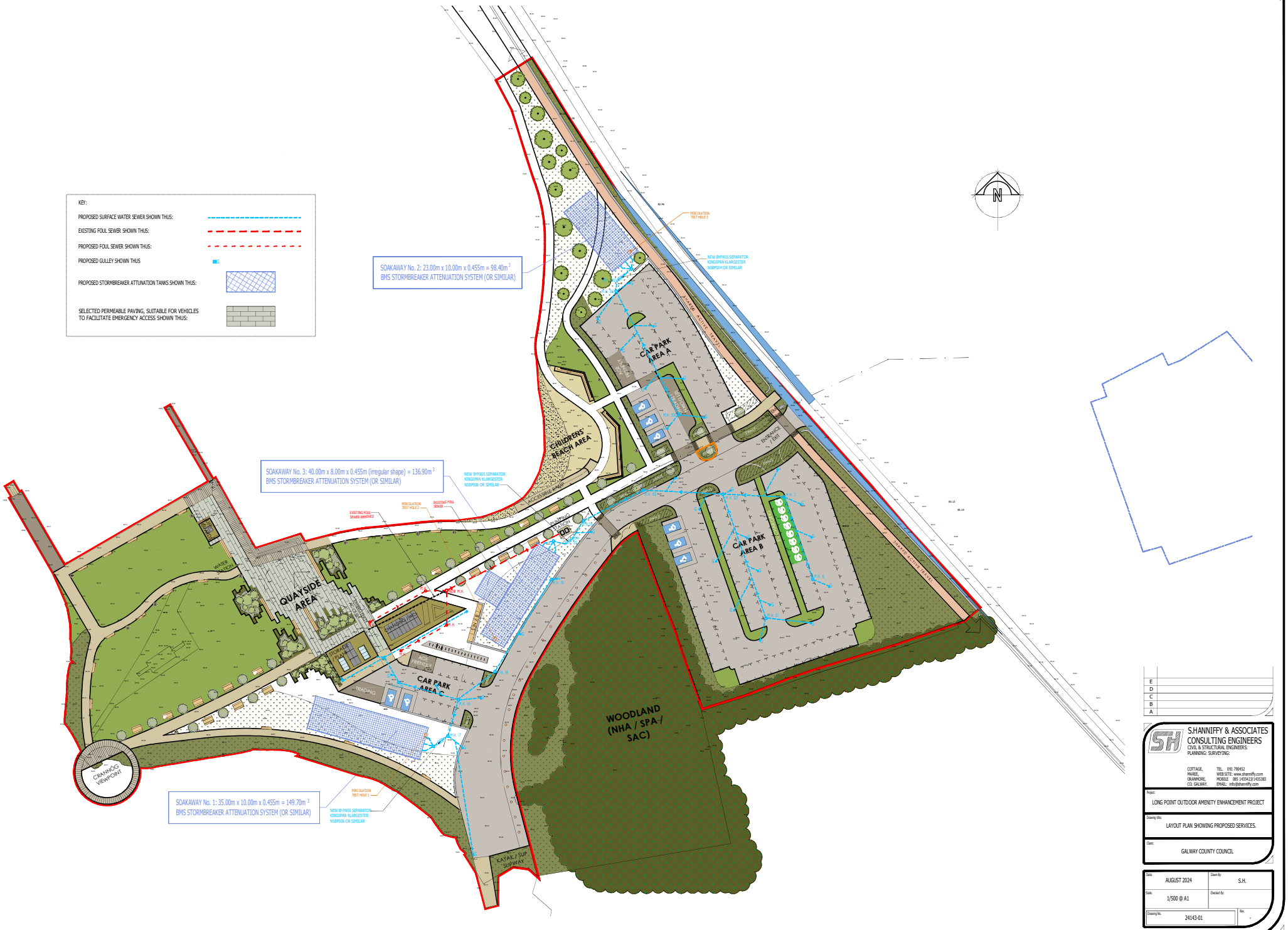

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D	
C	
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Project:
LONG POINT OUTDOOR AMENITY ENHANCEMENT PROJECT

Drawing title:
LAYOUT PLAN SHOWING PROPOSED SERVICES.

Client:
GALWAY COUNTY COUNCIL

Date: AUGUST 2024	Drawn By: S.H.
Scale: 1/500 @ A1	Checked By:
Drawing No. 24143-01	Rev. -

3. METHODOLOGY

The following sections describe the methodologies followed to establish the baseline ecological condition of the Proposed Development site and surrounding area. Assessing the impacts of any project and associated activities requires an understanding of the ecological baseline conditions prior to and at the time of the project proceeding. Ecological Baseline conditions are those existing in the absence of proposed activities (CIEEM 2019).

3.1 Desk Study

A comprehensive desk study was undertaken to inform this ecological impact assessment. This study includes a thorough review of available information that is relevant to the ecology of the site of the Proposed Development. This information provides valuable existing data and also helps in the assessing the requirement for additional ecological surveys.

The following list describes the sources of data consulted:

- Review of online web-mappers: National Parks and Wildlife Service (NPWS), Environmental Protection Agency (EPA).
- NPWS records (data request).
- Review of the Bat Conservation Ireland (BCI) Private Database.
- Review of the publicly available National Biodiversity Data Centre web-mapper.
- Records from the NPWS web-mapper and review of specially requested records from the NPWS Rare and Protected Species Database for the hectads which overlap with the study area.
- Review of Inland Fisheries Ireland GIS web mapper.
- Review of specially requested records from the NPWS Rare and Protected Species Database within 5 km of the Proposed Development site.

3.2 Scoping and Consultation

The Development Applications Unit (DAU) of the Department of Culture, Heritage & The Gaeltacht was consulted on the 9th of February 2023. A response was received on the 15th of March 2023. The received scoping document is included as **Appendix 2** of this EcIA and highlighted the following:

- An ecological Impact Assessment, Natura Impact Statement, and a Construction Environmental Management Plan should be produced for the Proposed Development.

- The impact assessments should have regard to the following:

  - Natura 2000 sites, i.e. Special Areas of Conservation (SAC) designated under the EC Habitats Directive (Council Directive 92/43/EEC) and Special Protection Areas designated under the EC Birds Directive (Directive 2009/147 EC), most notably the Lough Rea SAC (site code 000304) and Lough Rea SPA (site code 004134; S.I. 72 of 2010),
  - Other designated sites, or sites proposed for designation, such as Natural Heritage Areas and proposed Natural Heritage Areas, Nature Reserves and Refuges for Fauna or Flora, designated under the Wildlife Acts 1976 to 2012,
  - Species protected under the Wildlife Acts including protected flora,
  - Protected species and natural habitats', as defined in the Environmental Liability Directive (2004/35/EC) and European Communities (Environmental Liability) Regulations, 2008, including Birds Directive – Annex I species and other regularly

occurring migratory species, and their habitats (wherever they occur) and Habitats Directive – Annex I habitats, Annex II species and their habitats, and Annex IV species and their breeding sites and resting places (wherever they occur),
- Important bird areas such as those identified by Birdlife International,
- Features of the landscape which are of major importance for wild flora and fauna, such as those with a "stepping stone" and ecological corridors function, as referenced
in Article 10 of the Habitats Directive,
- Other habitats of ecological value in a national to local context,
- Red data book species,
- and biodiversity in general.

- Invasive species surveys should be undertaken and considered in the impact assessment
- Ecological corridors should be retained where possible
- Bats should be considered in surveys and in the project design
- Construction work should not be allowed impact on water quality and measures should be detailed in the EcIA to prevent sediment and/or fuel runoff from getting into watercourses
- Licences should be obtained from NPWS where necessary

Inland fisheries Ireland (IFI) was consulted on the 9th of February 2023. No response to date. Correspondence is included in **Appendix 2**.

3.3 Field Surveys

3.3.1 Multi-disciplinary ecological walkover surveys

Multidisciplinary ecological walkover surveys of the site were carried out on the 5th of December 2022 and on the 7th of March 2023 in line with NRA (2009) guidelines (Ecological Surveying Techniques for Protected Flora and Fauna during the Planning of National Road Schemes) by John Hynes (BSc., MSc., ACIEEM) and Cora Twomey (B.Sc.) of MKO. This survey provided baseline data on the ecology of Site and assessed whether further detailed habitat or species-specific ecological surveys were required. The multi-disciplinary ecological walkover survey comprehensively covered the entire Site.

Winter Bird Surveys were carried out on the 7th and 31st of March 2023 by Cora Twomey (B.Sc) and Brónagh Boylan (B.Sc). Further Winter Bird Surveys were carried out by Deepali Mooloo (B.Sc., M.Sc.) and Padraig Desmond (B.Sc.) in October, November, and December 2023 and January, February, March 2024.

Dedicated bat surveys were undertaken by MKO ecologist Aoife Joyce (BSc., MSc.) on the 25th of May 2023.

Habitats were classified in accordance with the Heritage Council's 'Guide to Habitats in Ireland' (Fossitt, 2000). Habitat mapping was undertaken with regard to guidance set out in 'Best Practice Guidance for Habitat Survey and Mapping' (Smith et al., 2011).

Plant nomenclature for vascular plants follows 'New Flora of the British Isles' (Stace, 2019),

The walkover surveys were designed to detect the presence, or suitable habitat for a range of protected faunal species that may occur in the vicinity of the Proposed Development.

During the multidisciplinary surveys, a search for Invasive Alien Species (IAS), with a focus on those listed under the Third Schedule of the European Communities Regulations 2011 (S.I. 477 of 2011), was also conducted.

Although the walkover surveys were undertaken on 05th of December 2022 and on the 7th of March 2023 and outside the recognised optimum period for vegetation surveys/habitat mapping, i.e. April to September (Smith *et al.*, 2011), all habitats within and adjacent to the Proposed Development site were readily identifiable.

3.3.2 Otter Survey

The Proposed Development site is located upstream of Galway Bay Complex SAC which has been designated for otter. As part of the multidisciplinary survey, a search for indications of otter was carried out. This search was conducted in order to determine the presence or absence of otter within Proposed Development site. This involved a search for all potential indications of otter, as per NRA (2008) (spraint, tracks, couches, holts). Searches were carried along the shore of Lough Rea within and adjacent to the Proposed Development site. The otter survey was conducted as per TII (2009) guidelines (Ecological Surveying Techniques for Protected Flora and Fauna during the Planning of National Road Schemes).

3.3.3 Bird Surveys

All bird species heard or seen during the ecological walkover surveys were recorded. Considering the location of the Proposed Development, which is directly adjacent to Lough Rea SPA, and partially within, further targeted winter bird surveys were undertaken, which are detailed in Section 3.3.3.1 below.

3.3.3.1 Wintering Bird Survey

The Proposed Development is located directly adjacent, and partially within, Lough Rea SPA. As Lough Rea provides suitable foraging habitat for the SCIs of the SPA, dedicated wintering bird surveys of the site were undertaken to assess the activity of the SCIs adjacent to the Proposed Development site and to inform the impact assessment of this report.

Prior to the commencement of surveys, an initial field visit was undertaken in December 2022 to assess the habitats on site and plan the surveys as well as to identify suitable vantage points. The survey area covered the Proposed Development site. The surveys were undertaken at the site over two dates: the 7th and 31st of March 2023 by Cora Twomey and Brónagh Boylan of MKO. Additional wintering bird surveys were undertaken monthly by Deepali Mooloo and Pádraig Desmond of MKO from October 2023 to March 2024, inclusive. As this survey site is a lake, no timing of surveys regards tidal conditions was necessary.

All observations were recorded, and detailed point data was gathered for each species observation, with all bird species denoted using standard British Trust for Ornithology (BTO) codes and with the number of each species recorded next to each registration. The survey focused on species listed as SCIs for Lough Rea SPA. However, in addition to this, all other birds including all common and widespread passerines, were also recorded from within the Proposed Development site.

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

Details of the surveys carried out including date, duration, and weather conditions are provided in Table 3-1 below.

Table 3-1 Survey efforts for wintering birds

Date	Survey duration	Weather conditions
07/03/2023	4 hours	Wind speed: Light breeze Cloud cover: approx. 33% Visibility: Good (>5 km) Rain: None Frost: None Snow: None
31/03/2023	5 hours	Wind speed; Strong breeze Cloud cover: approx. 100% Visibility: Poor (<1km) Rain: Persistent Frost: None Snow: None
27/10/2023	4 hours	Wind speed: Light breeze Cloud cover: approx. 85% Visibility: Good >5 km) Rain: None Frost: None Snow: None
28/11/2023	6 hours	Wind speed: No wind Cloud cover: approx. 100% Visibility: Good >5 km) Rain: light showers Frost: None Snow: None
21/12/2023	6 hours	Wind speed; Strong breeze/gusty Cloud cover: approx. 100% Visibility: poor (<1km) Rain: Heavy showers Frost: None Snow: None
31/01/2024	6 hours	Wind speed; Strong breeze/gusty Cloud cover: approx. 100% Visibility: poor (<1km) Rain: Heavy showers Frost: None Snow: None
23/02/2024	6 hours	Wind speed; Calm Cloud cover: approx. 40% Visibility: Misty (<1km) Rain: None (other than light mist) Frost: None Snow: None
15/03/2024	6 hours	Wind speed; Moderate breeze Cloud cover: approx. Variable Visibility: Fair (>2km) Rain: Sunny with occasional showers Frost: None Snow: None

3.3.4 Bat Survey

The multi-disciplinary walkover survey undertaken in December 2022 identified potential bat roosting features (PRFs) in the vicinity of the Proposed Development site. Therefore, dedicated bat surveys of the site were undertaken. These are described in the sections below.

3.3.4.1 Roost Assessment and Bat Habitat Appraisal

A bat inspection survey was undertaken during daylight hours on the 25th of May 2023 by Aoife Joyce of MKO.

During the inspection surveys, the landscape features (including trees and hedgerows) on the site were visually assessed for potential use as bat roosting habitats and commuting/ foraging habitats using a protocol set out in BCT Bat Surveys for Professional Ecologists: Good Practice Guidelines (3rd edn.) (Collins, 2016). Table 4.1 of the 2016 BCT Guidelines identifies a grading protocol for assessing structures, trees and commuting/foraging habitat for bats. The protocol is divided into four Suitability Categories*: High, Moderate, Low* and *Negligible*.

An existing toilet block/changing facility within the Proposed Development site was identified as potential roosting features (PRFs) for bats. During the surveys, an inspection of the exterior of this structure was undertaken to look for evidence of bat use, including live and dead specimens, droppings, feeding remains, urine splashes and fur oil staining and noises (Collins, 2016). An interior inspection was also carried out. The search included any accessible gaps and crevices.

Trees within the site were visually assessed from ground level using binoculars, for natural features of high value to roosting bats including knot holes, trunk hollows, splits/cracks in branches and areas of flaking bark and also for signs indicating possible bat use including droppings, staining and scratching of bark and any other potential roost features (i.e. PRFs) identified by Andrews (2018).

In addition to the above, pier structures within the proposed development site were also assessed for PRFs. An endoscope was taken to site to utilise if required, but use was deemed unnecessary during the survey effort.

New Collins guidelines were published in September 2023 (Collins, 2023), after the bat habitat appraisal was undertaken. The new protocol includes the 'None' category, where no uncertainty exists on the lack of PRFs on a tree or structure. Trees where further assessment is required are marked as FAR, and trees with obvious PRF are marked PRF, which can be assessed as either PRF-I, which corresponds to the previous Negligible and Low categories, or PRF-M, which marks a sizeable feature suitable to host a maternity roost. The assessment and scope of surveys carried out with reference to the previous edition are considered in line with the updated guidelines and appropriate for the site.

3.3.4.2 Activity Surveys

The daylight inspection survey on the 25th of May 2023 was followed by an activity survey on the same date with the aid of a thermal scope. The aim of the survey was to identify if there were bats present at the proposed site, what bat species were present and to gather any information on potential roosting and on bat foraging and commuting behaviour. The survey included an emergence survey of the existing toilet block/changing facility and a walked transect of the site. All structures within the proposed development site that were identified as PRFs were covered either by the surveyor or the thermal scope. The transect route was selected to cover as much of the site's existing habitats as possible, with consideration for health and safety due to the presence of Lough Rea directly adjacent to the site. The surveyor was equipped with active a full spectrum bat detector, a Batlogger M (Elekon, Lucerne, Switzerland). Where possible, species identification was made in the field and any other relevant information was also noted, e.g. numbers, behaviour, features used, etc.

All bat echolocation was recorded for subsequent analysis to confirm species identifications. Individual bats of the same species cannot be identified using this method: the number of bat passes recorded is used as a measure of activity within the area, although it might not reflect the number of individual bats present, as the same bat can be recorded multiple times.

Conditions were suitable for a bat survey on the survey night (Table 3-2). The activity survey commenced approximately 30 minutes before sunset and concluded approximately 3 hours after sunset with a walked transect. The purpose was to identify any bat species, numbers, access points and roosting locations within the site.

May is within the suitable survey period for bat activity surveys (Collins, 2016). No limitations associated with weather conditions were recorded during the surveys at Lough Rea, Co. Galway.

Table 3-2 Bat Activity Survey Effort 2022.

Date	Surveyor	Type	Sunset	Weather
25th May 2023	Aoife Joyce	Dusk	21:44	12-13˚C, Dry, Light Breeze

3.3.4.3 Analysis of Detector Results

Echolocation signal characteristics (including signal shape, peak frequency of maximum energy, signal slope, pulse duration, start frequency, end frequency, pulse bandwidth, inter-pulse interval and power spectra) were compared to published signal characteristics for local bat species (Russ, 1999). Myotis species (potentially Daubenton's bat (*M. daubentonii*), Whiskered bat (*M. mystacinus*), Natterer's bat (*M. nattereri*) were considered as a single group, due to the difficulty in distinguishing them based on echolocation parameters alone (Russ, 1999). The echolocation of Soprano pipistrelle (*P. pygmaeus*) and Common pipistrelle (*P. pipistrellus*) are distinguished by having distinct (peak frequency of maximum energy in search flight) of ~55 kHz and ~46 kHz respectively (Jones & van Parijs, 1993).

Plate 3-1 below shows a typical sonogram of echolocation pulses for Common pipistrelle recorded with a SM4BAT bioacoustic static bat recording device. The recorded file is illustrated using Wildlife Acoustics Kaleidoscope software.

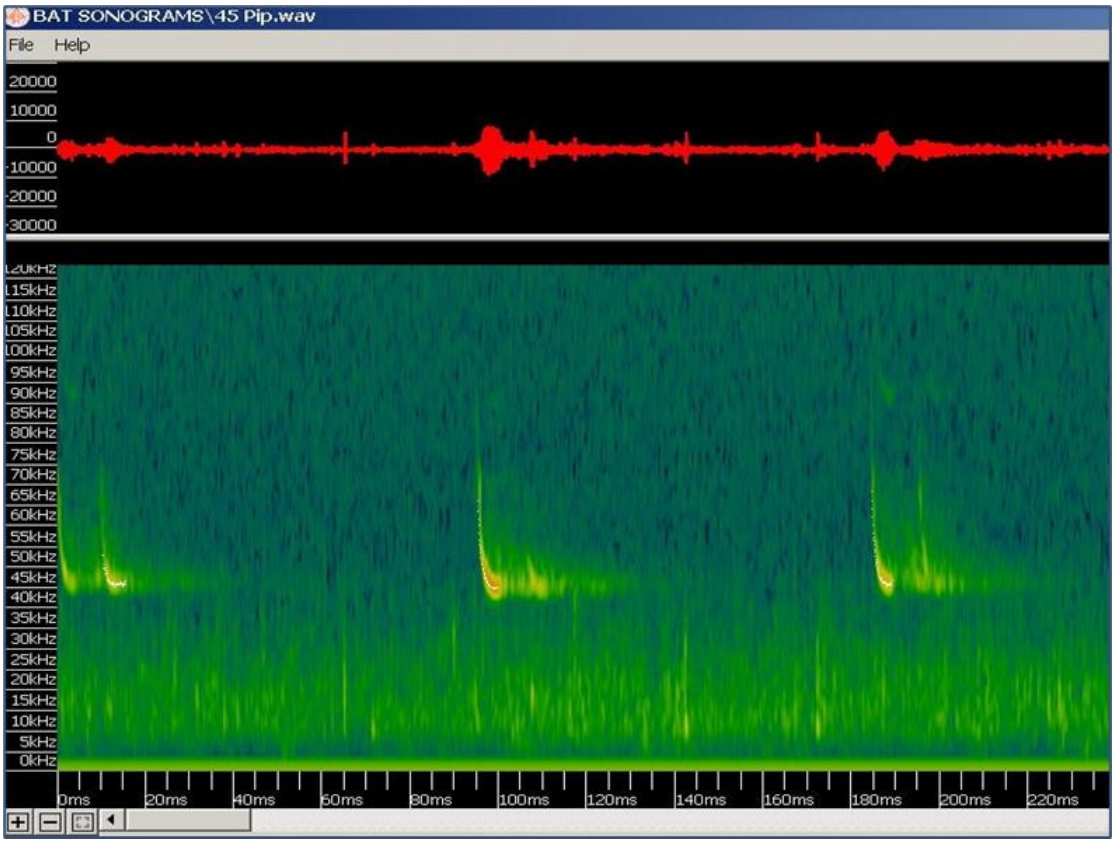


Plate 3-1 Sonogram of Echolocation Pulses of Common pipistrelle (Peak Frequency 45kHz)

Individual bats of the same species cannot be distinguished by their echolocation alone. Thus, 'bat passes' was used as a measure of activity (Collins, 2016). For the purposes of this survey, a bat pass was defined as a recording of an individual species/species group's echolocation containing at least two echolocation pulses and of maximum 15 seconds length.

3.4 Methodology for Assessment of Impacts and Effects

3.4.1 Determining Importance of Ecological Receptors

The importance of the ecological features identified within the study area was determined with reference to a defined geographical context. This was undertaken following a methodology that is set out in Chapter 3 of the 'Guidelines for Assessment of Ecological Impacts of National Roads Schemes' (NRA, 2009). These guidelines set out the context for the determination of value on a geographic basis with a hierarchy assigned in relation to the importance of any particular receptor. The guidelines provide a basis for determination of whether any particular receptor is of importance on the following scales:

- International
- National
- County
- Local Importance (Higher Value)
- Local Importance (Lower Value)

The Guidelines clearly set out the criteria by which each geographic level of importance can be assigned. Locally Important (lower value) receptors contain habitats and species that are widespread and of low ecological significance and of any importance only in the local area. Internationally Important sites are either designated for conservation as part of the Natura 2000 Network (SAC or SPA) or provide the best examples of habitats or internationally important populations of protected flora and fauna. Specific criteria for assigning each of the other levels of importance are set out in the guidelines and have been followed in this assessment. Where appropriate, the geographic frame of reference set out above was adapted to suit local circumstances. In addition, and where appropriate, the conservation status of habitats and species is considered when determining the significance of ecological receptors.

Any ecological receptors that are determined to be of Local Importance (Higher Value), County, National or International importance following the criteria set out in NRA (2009) are considered to be Key Ecological Receptors (KERs) for the purposes of ecological impact assessment if there is a pathway for effects thereon. Any receptors that are determined to be of Local Importance (Lower Value) are not considered to be Key Ecological Receptors.

3.4.2 Characterisation of Impacts and Effects

The Proposed Development will result in a number of impacts. The ecological effects of these impacts are characterised as per the CIEEM 'Guidelines for Ecological Impact Assessment in the UK and Ireland (2018). The headings under which the impacts are characterised follow those listed in the guidance document and are applied where relevant. A summary of the impact characteristics considered in the assessment is provided below:

- **Positive or Negative.** Assessment of whether the Proposed Development result in a positive or negative effect on the ecological receptor.
- **Extent.** Description of the spatial area over which the effect has the potential to occur.

- **Magnitude** to size, amount, intensity and volume. It should be quantified if possible and expressed in absolute or relative terms e.g. the amount of habitat lost, percentage change to habitat area, percentage decline in a species population.
- **Duration** is defined in relation to ecological characteristics (such as the lifecycle of a species) as well as human timeframes. For example, five years, which might seem short-term in the human context or that of other long-lived species, would span at least five generations of some invertebrate species.
- **Frequency and Timing.** This relates to the number of times that an impact occurs and its frequency. A small-scale impact can have a significant effect if it is repeated on numerous occasions over a long period.
- **Reversibility.** This is a consideration of whether an effect is reversible within a 'reasonable' timescale. What is considered to be a reasonable timescale can vary between receptors and is justified where appropriate in the impact assessment section of this report.

3.4.3 Determining the Significance of Effects

The ecological significance of the effects of the Proposed Development are determined following the precautionary principle and in accordance with the methodology set out in Section 5 of CIEEM (2018).

For the purpose of EcIA, 'significant effect' is an effect that either supports or undermines biodiversity conservation objectives for 'important ecological features' or for biodiversity in general. Conservation objectives may be specific (e.g. for a designated site) or broad (e.g. national/local nature conservation policy) or more wide-ranging (enhancement of biodiversity). Effects can be considered significant at a wide range of scales from international to local (CIEEM, 2018).

When determining significance, consideration is given to whether:

- Any processes or key characteristics of key ecological receptors will be removed or changed
- There will be an effect on the nature, extent, structure and function of important ecological features
- There is an effect on the average population size and viability of ecologically important species.
- There is an effect on the conservation status of important ecological habitats and species.

The EPA draft guidelines on information to be included in Environmental Impact Statements (EPA, 2017) and the *Guidelines for assessment of Ecological Impacts of National Road Schemes*, (NRA, 2009) were also considered when determining significance.

3.5 Limitations

The information provided in this document accurately and comprehensively describes the baseline ecological environment; provides an accurate prediction of the likely ecological effects of the Proposed Development; prescribes mitigation as necessary; and describes the residual ecological impacts. The specialist studies, analysis and reporting have been undertaken in accordance with the appropriate guidelines. No significant limitations in the scope, scale or context of the assessment have been identified.

4. DESK STUDY

4.1 Hydrological Desk Study

The online EPA Envision map viewer provides access to water quality information on waterbodies and watercourses for all the River Basin Districts in Ireland. The EPA Envision map viewer was consulted on 14/08/2024.

The Proposed Development site is located entirely within the Galway Bay South-East catchment and the Kilcogan_SC_010 sub-catchment.

The Proposed Development site is directly adjacent to Lough Rea. This Lough has a Water Framework Directive (WFD) status of 'Good' from the last the round of testing (2016-2021) with a risk status of 'Not at Risk'.

Lough Rea is drained to the north via the Kilcogan stream. The upper section of this watercourse has a Water Framework Directive (WFD) status of 'Good' from the last the round of testing (2016-2021), while the lower section has status' of 'Poor'. In the upper section has a risk status of 'Not at Risk', while the lower sections of risk status' of 'At Risk'.

The Proposed Development site is located within the GWDTE-Rahasane Turlough (SAC000322) ground water catchment. This Lough has a Water Framework Directive (WFD) status of 'Good' from the last the round of testing (2016-2021) with a risk status of 'At Risk'.

The Biotic Index of Water Quality (BIWQ) was developed in Ireland by the Environmental Protection Agency (EPA). Q-values are assigned using a combination of habitat characteristics and structure of the macro-invertebrate community within the waterbody. Individual macro-invertebrate families are classified according to their sensitivity to organic pollution and the Q-value is assessed based primarily on their relative abundance within a sample. The EPA sampling station result provides a baseline against which any water quality changes occurring in the future can be measured. Q values of downstream monitoring stations of the Study Area were available for the Kilcogan stream and are given in Table 4-1 below.

Table 4-1 Q values of downstream monitoring stations of the Study Area

River Waterbody	Monitoring Station	Year	Location from Proposed Site	Q Values with Status
Kilcogan Stream (EPA Code: 29K01)	White Mill N. of Loughrea (RS29K010100)	2000	Downstream	3, Poor
	Killilan Bridge (RS12S030200)	2021	Downstream	3, Poor
	Br just u/s Toberdoney at Caherkin (RS29K010280)	1994	Downstream	3-4, Moderate
	Bridge at Strongfort Lodge (RS29K010300)	2021	Downstream	4, Good
	Old Road Bridge Craughwell (RS29K010400)	2021	Downstream	3, Poor

4.2 Designated Sites

The potential for the Proposed Development to impact on sites that are designated for nature conservation was considered in this Ecological Impact Assessment.

Special Areas of Conservation (SACs) and Special Protection Areas for Birds (SPAs) are designated under EU Habitats Directive and are collectively known as 'European Sites'. The potential for effects on European Sites is fully considered in the Natura Impact Statement. The location of the site of the Proposed Development in relation to European Sites is provided in Figure 4-1.

Natural Heritage Areas (NHAs) are designated under the Wildlife (Amendment) Act 2000 and their management and protection is provided for by this legislation and planning policy. The potential for effects on these designated sites is fully considered in this EcIA.

Proposed Natural Heritage Areas (pNHAs) were designated on a non-statutory basis in 1995 but have not since been statutorily proposed or designated. However, the potential for effects on these designated sites is fully considered in this EcIA.

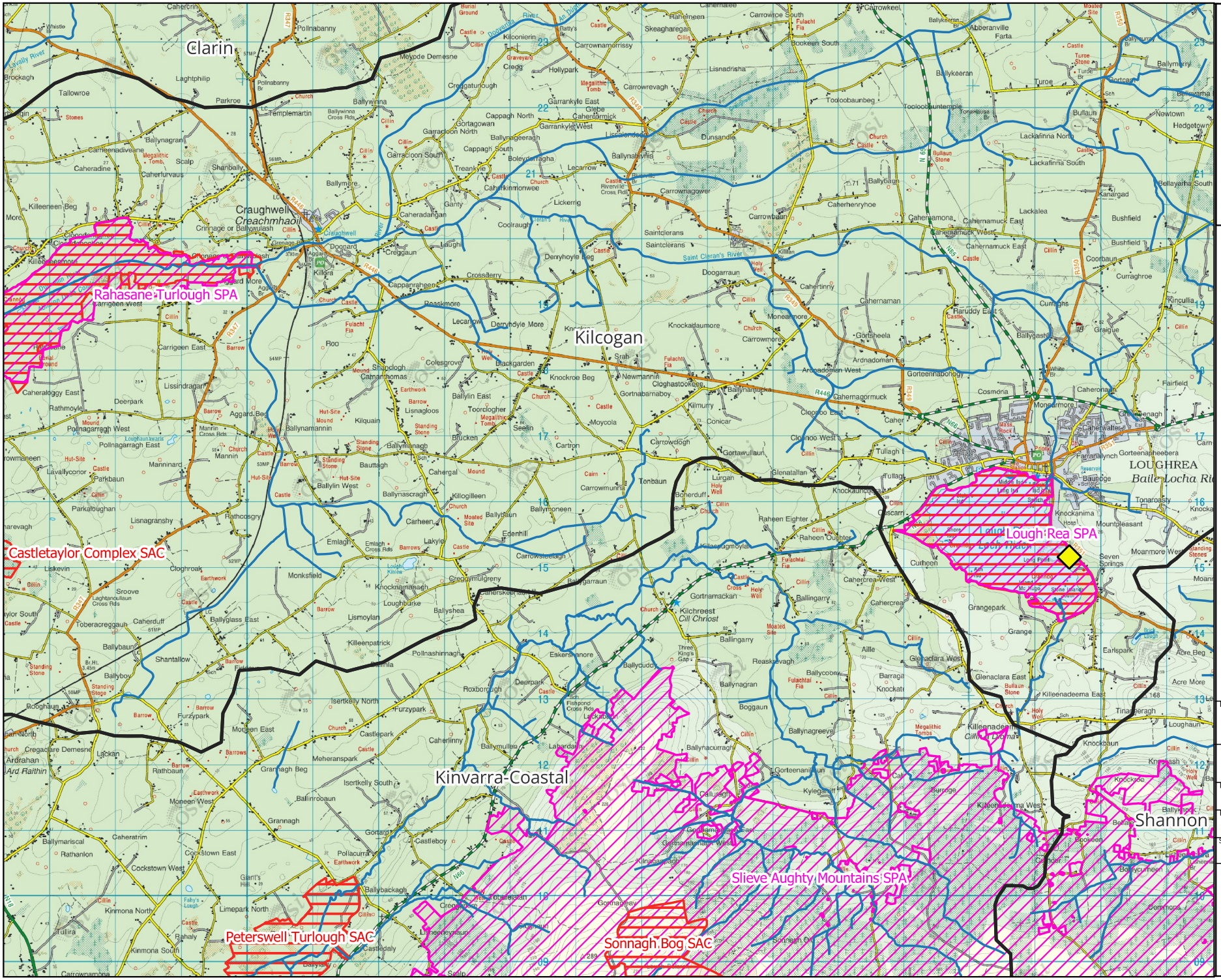
The following methodology was used to establish which sites that are designated for nature conservation have the potential to be impacted by the Proposed Development:

- Initially the most up to date GIS spatial datasets for Nationally designated sites and water catchments were downloaded from the NPWS website (www.npws.ie) and the EPA website (www.epa.ie) on the 24/09/2024. The datasets were utilized to identify Designated Sites which could feasibly be affected by the Proposed Development.
- All Nationally Sites that could potentially be affected were identified using a source-pathway - receptor model. To provide context for the assessment, National Sites surrounding the development site are shown on Figure 4-2. Sites that were further away from the Proposed Development were also considered and potential for significant impacts on European sites further downstream from the Proposed Development site was identified. These sites are included in Table 4-2 below.
- Catchment mapping was used to establish or discount potential hydrological connectivity between the site of the Proposed Development and any Designated Sites. The hydrological catchments are also shown in Figures 4-1 & 4-2.
- Table 4-1 provides details of all relevant Nationally Designated Sites as identified in the preceding steps and assesses which are within the likely Zone of Influence.
- The site synopses and main reasons for designation of these sites, as per the NPWS website (www.npws.ie) were consulted where available.
- Where potential pathways for Significant Effect are identified, the site is included within the Likely Zone of Influence and further assessment is required.

Table .4-2 Identification of Designated sites within the Likely Zone of Influence

Designated Sites and distance from Proposed Development	Features of Interest	Likely Zone of Influence Determination
Natural Heritage Areas (NHA)		
Slieve Aughty Bog NHA [001229] **Distance:** 7.99 km	Peatlands [4]	The Proposed Development site is located entirely outside of this NHA and therefore, no potential for direct effect exists. No pathway for significant effect on this NHA was identified, when considered in the absence of any mitigation, individually or cumulatively with other plans or projects. There is no hydrological connectivity between the Proposed Development and this NHA, which is located in a separate hydrological catchment. Given the terrestrial nature of the features of interest for this NHA, the distance between the development and the NHA and the absence of connectivity, no potential for indirect effects on the NHA was identified. **No pathway for effect was identified and the site is not within the Likely Zone of Influence.**
Proposed Natural Heritage Areas (pNHA)		
Lough Rea pNHA [000304] **Distance:** 0.00 km	N/A	The Proposed Development site is partially located within this pNHA. Therefore, following the precautionary principle and in the absence of best practice and mitigation, a potential pathway for significant direct effects on this National Site was identified. There is potential for effect resulting from potential water pollution and disturbance through the construction and operational phases of the Proposed Development. **This pNHA is therefore within the Likely Zone of Influence and further assessment is required.**
Sonnagh Bog pNHA [001913] **Distance:** 7.65 km	N/A	The Proposed Development site is located entirely outside of these pNHAs and therefore, no potential for direct effect exists. No pathway for significant effect on these pNHAs was identified, when considered in the absence of any mitigation, individually or cumulatively with other plans or projects. There is no hydrological connectivity between the Proposed Development and these National Sites, which are located in separate hydrological sub-catchments. Given the distance between the development and these pNHAs and the absence of connectivity, no potential for indirect effects on these designated sites was identified. **No pathway for effect was identified and the site is not within the Likely Zone of Influence.**
Peterswell Turlough pNHA [000318] **Distance:** 11.75 km	N/A	
Rahasane Turlough pNHA [000322]	N/A	The Proposed Development site is located entirely outside of these pNHAs and therefore, no potential for direct effect exists.

Designated Sites and distance from Proposed Development	Features of Interest	Likely Zone of Influence Determination
Distance: 12.92 km **Hydrological Distance:** 18.18 km downstream		There is hydrological connectivity between the Proposed Development and these pNHAs via the Kilcogan stream which drains Lough Rea. Lough Rea is located partially within the Proposed Development site The Kilcogan discharges into these designated sites downstream of the Proposed Development site. Following the precautionary principle and in the absence of best practice and mitigation, there is potential for indirect effects on these pNHAs via deterioration of water quality arising from the run-off or percolation of pollutants to surface or ground waters, respectively, during the construction and operational phases of the Proposed Development. **These pNHAs are therefore within the Likely Zone of Influence and further assessment is required.**
Galway Bay Complex [000268] **Distance:** 20.73 km **Hydrological Distance:** 27.44 km downstream	N/A	



Map Legend

- Site Location
- WFD Catchments
- WFD Watercourses
- Special Area of Conservation (SAC)
- Special Protection Area (SPA)

Drawing Title
European Sites surounding the Proposed Development

Project Title
Proposed Outdoor Amenity Enhancement Project at Long Point, Loughrea, Co. Galway

Drawn By	Checked By
SC	PD
Project No.	Drawing No.
220727	Figure 4-1
Scale	Date
1:75,000	10/09/2024

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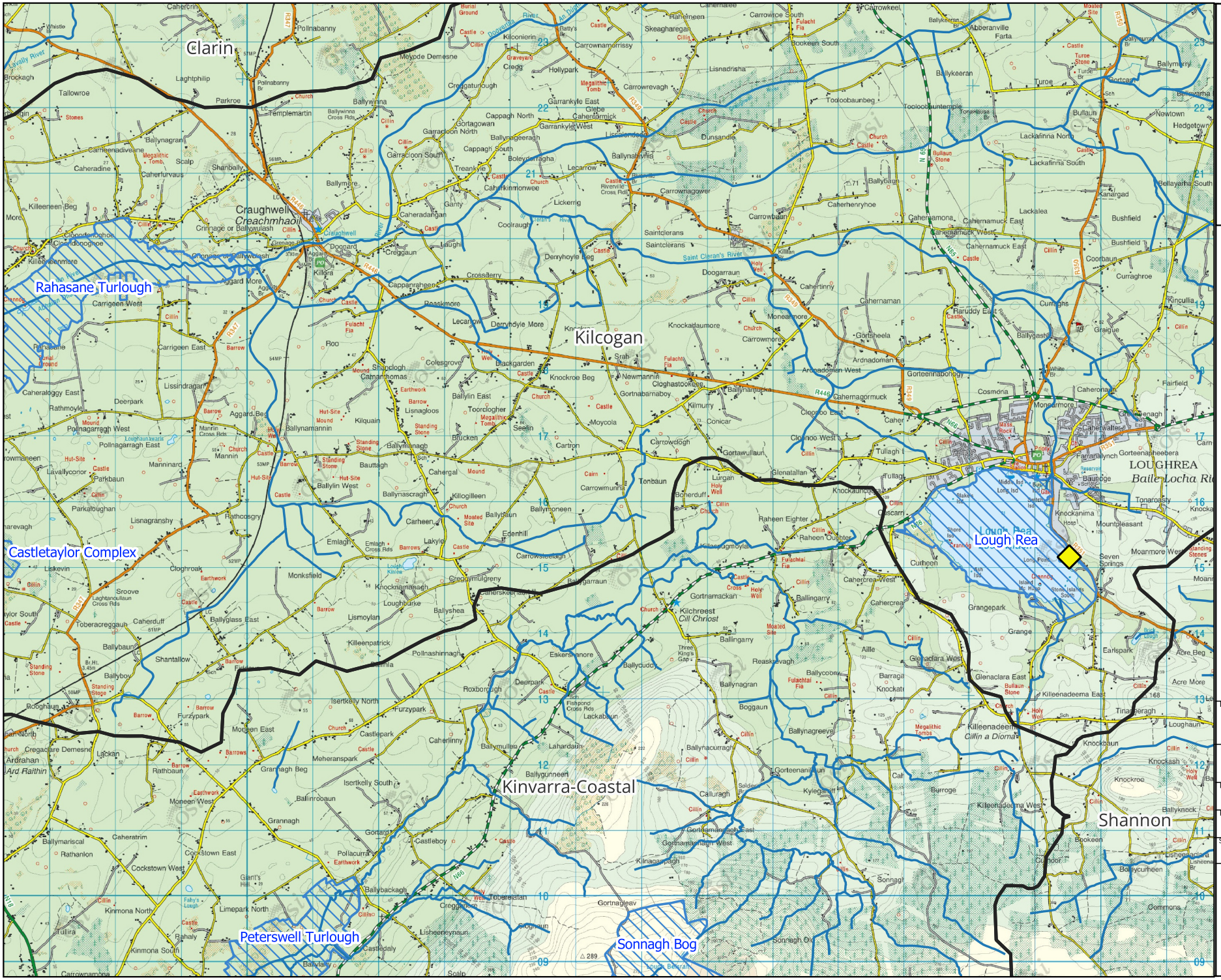

Map Legend

- Site Location
- WFD Catchments
- WFD Watercourses
- Natural Heritage Area (NHA)
- Proposed Natural Heritage Area (pNHA)

Drawing Title
European Sites surounding the Proposed Development

Project Title
Proposed Outdoor Amenity Enhancement Project at Long Point, Loughrea, Co. Galway

Drawn By	Checked By
SC	PD
Project No.	Drawing No.
220727	Figure 4-2
Scale	Date
1:75,000	10/09/2024

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4.3 New Flora Atlas

A search was made in the New Atlas of the British & Irish Flora (Preston et al., 2002) to investigate whether any rare or unusual plant species listed as Annex II of the Habitats Directive which are listed as rare on the Red Data List (Curtis and McGough 1988) or protected under the Flora (Protection) Order, 1999 had been recorded in the relevant 10km squares in which the study site is situated (M61), during the 1987-1999 atlas survey.

Table 4-3 Records of species listed under the Flora Protection Order 2015 or the Irish Red Data Book for Vascular Plants [

Common Name	Scientific Name	Status
Scaly Buckler-fern	*Dryopteris remota*	RE
Green-winged Orchid	*Orchis morio*	VU
Small-white Orchid	*Pseudorchis albida*	FPO, VU
Frog Orchid	*Coeloglossum viride*	NT
Field Gentian	*Gentianella campestris*	NT

4.4 NPWS Records

A data request was sent to the NPWS on the 30/03/2023 for records of any rare or protected species of flora or fauna within the 10 km grid square M61. A response was received on the 13/04/2023. An updated request was sent on the 13th of August, but no response has been received to date. Table 4-4 lists the rare and protected species records obtained from the NPWS during this study.

Table 4-4 Records for rare and protected species, NPWS.

Common Name	Scientific Name	Status
Common Frog	*Rana temporaria*	Annex V; WA
Irish Hare	*Lepus timidus subsp. hibernicus*	WA
White-clawed Crayfish	*Austropotamobius pallipes*	Annex II, V; WA
Sika Deer	*Cervus nippon*	WA
West European Hedgehog	*Erinaceus europaeus*	WA
Eurasian Badger	*Meles meles*	WA
Fallow Deer	*Dama dama*	WA

Annex II, Annex IV, Annex V – Of EU Habitats Directive, WA – Irish Wildlife Acts (1976-2022), Ireland Red List no. 10: Vascular Plants (Wyse Jackson et al. *2016)*

4.5 Biodiversity Ireland Database

The National Biodiversity Data centre database was accessed on 19/08/2024 and the following information was obtained.

Table 4-5 lists all records of the protected faunal species (excluding birds) recorded within the hectads pertaining to the current study area (M61). The database was also searched for records of Third Schedule non-native invasive species within this hectad. Table 4-6 lists the non-native invasive species recorded within the hectad. Table 4-7 lists all the protected bird species recorded within the hectad.

Table 4-5 All NBDC records for protected fauna records (excl. birds).

Common Name	Scientific Name	Status
Common Frog	*Rana temporaria*	Annex V; WA
Smooth Newt	*Lissotriton vulgaris*	WA
White-clawed Crayfish	*Austropotamobius pallipes*	Annex II, V; WA
Marsh Fritillary	*Euphydryas aurinia*	Annex II
Common Lizard	*Zootoca vivipara*	WA
European Otter	*Lutra lutra*	Annex II, IV; WA
Eurasian Badger	*Meles meles*	WA
Eurasian Red Squirrel	*Sciurus vulgaris*	WA
Lesser Noctule	*Nyctalus leisleri*	Annex IV; WA
Pine Marten	*Martes martes*	Annex V; WA
Soprano Pipistrelle	*Pipistrellus pygmaeus*	Annex IV; WA
Pipistrelle	*Pipistrellus pipistrellus sensu lato*	Annex IV; WA
West European hedgehog	*Erinaceus europaeus*	WA
Brown Long-eared Bat	*Plecotus auritus*	Annex IV, WA
Daunbenton's Bat	*Myotis daubentonii*	Annex IV; WA
Natterer's Bat	*Myotis nattereri*	Annex IV; WA
Whiskered Bat	*Myotis mystacinus*	Annex IV; WA

Annex II, Annex IV, Annex V – Of EU Habitats Directive, WA – Irish Wildlife Acts (1976-2024).

Table 4-6 All NBDC records for Invasive species.

Common Name	Scientific Name
Greylag Goose	*Anser anser*
Ruddy Duck	*Oxyura jamaicensis*
Himalayan Knotweed	*Persicaria wallichii*
Japanese Knotweed	*Fallopia japonica*
Rhododendron ponticum	*Rhododendron ponticum*
American Mink	*Mustela vison*
Fallow Deer	*Dama dama*

Table 4-7 All NBDC Records for Birds

Common Name	Scientific Name	Status
Common Kingfisher	*Alcedo atthis*	Annex I
Little Egret	*Egretta garzetta*	Annex I
Merlin	*Falco columbarius*	Annex I
Corn Crake	*Crex crex*	Annex I, Red List
Dunlin	*Calidris alpina*	Annex I
Hen Harrier	*Circus cyaneus*	Annex I, Red List
Little Egret	*Egretta garzetta*	Annex I
Northern Lapwing	*Vanellus vanellus*	Red List
Whooper swan	*Cygnus cygnus*	Annex I
European Golden Plover	*Pluvialis apricaria*	Annex I, Red List
Eurasian curlew	*Numenius arquata*	Red List
Herring Gull	*Larus argentatus*	Red List
Northern Shoveler	*Anas clypeata*	Red List
Red Grouse	*Lagopus lagopus*	Red List
Yellowhammer	*Emberiza citrinella*	Red List
Barn owl	*Tyto alba*	Red List
Black-headed Gull	*Larus ridibundus*	Red List
Common Redshank	*Tringa totanus*	Red List
Grey Partridge	*Perdix perdix*	Red List
Great Northern Diver	*Gavia immer*	Annex I

Annex I – Of EU Birds Directive, Red List – Birds of Conservation Concern in Ireland *2020 - 2026* (Population for which the species is red listed in brackets).

4.5.1 Bat Records

The National Bat Database of Ireland holds records of bat observations received and maintained by BCI. These records include results of national monitoring schemes, roost records as well as ad-hoc observations. A search of the National Bat Database of Ireland was last carried out on the 19th of August 2024 and examined bat presence and roost records within 10 km hectads adjacent to the Proposed Development site. Hectad M61 surrounds the proposed site boundary. A number of observations have been recorded (Table 4-8). No roost has been recorded within the Proposed Development site. At least four of Ireland's nine resident bat species were recorded. The most recent results of the database search are provided in Table 4-7.

Table 4-8 National Bat Database of Ireland Records within 10km

Species	Latest Record
Brown Long-eared Bat (*Plecotus auritus*)	06/08/2016
Soprano Pipistrelle (*Pipistrellus pygmaeus*)	20/06/2019
Pipistrelle (*Pipistrellus pipistrellus sensu lato*)	27/09/2009
Lesser Noctule (*Nyctalus leisleri*)	06/08/2016
Natterer's Bat (*Myotis nattereri)*	06/08/2016
Common pipistrelle (*Pipistrellus pipistrellus*)	08/10/2015
Whiskered Bat (*Myotis mystacinus)*	20/06/2019
Daubenton's Bat (*Myotis daubentonii)*	08/10/2015

The potential for negative impacts is likely to increase where there are high risk species at the edge of their range (NatureScot, 2021). Therefore, range maps presented in the 2019 Article 17 Reports (NWPS, 2019) were reviewed in relation to the location of the Proposed Development.

The Proposed Development site is located outside the current range of Nathusius' Pipistrelle (*Pipistrellus nathusii*), Natterer's Bat (*Myotis nattereri*) bat and lesser horseshoe bat (*Rhinolophus hipposideros*). The site is within range for all other species.

A review of the NBDC bat landscape map provided a habitat suitability index of 36.11 for Lough Rea. This indicates that the Proposed Development area has medium-high habitat suitability for bat species.

5. FIELD STUDY

5.1.1 Habitats Present on the Site and Surrounding Area

A dedicated habitat survey of the area within and in the vicinity of the Proposed Development site was undertaken on the 5th of December 2022 and 7th of March 2023 in line with NRA (2009) guidelines (Ecological Surveying Techniques for Protected Flora and Fauna during the Planning of National Road Schemes) by John Hynes and Cora Twomey of MKO. The habitats recorded during the site visit are described below and a habitat map is provided in Figure 5-1.

Table 5-1 Habitats recorded within the Proposed Development site.

Habitat	Code
Scattered Trees and Parkland	WD5
Amenity Grassland	GA2
Buildings and artificial surfaces	BL3
Stone Walls and Other Stonework	BL1
Wet willow alder ash woodland	WN7
Mixed-broadleaved/ Conifer Woodland	WN6
Treelines	WL2
Scrub	WS1
Limestone/ Marl Lakes	FL3
Upland/Eroding Stream	FW1

The Proposed Development site is located within an amenity area on the eastern shore of Lough Rea, which is currently comprised of carparks, walkways, amenity grasslands, and parkland.

The Proposed Development site comprised highly modified habitats and was dominated by ***Buildings and artificial surfaces (BL3)***, ***Amenity grassland (GA2)***, and ***Scattered trees and parkland (WD5)*** (Plate 5-1). The site was delineated to the northeast by ***Stone walls and other stonework (BL1)*** while ***Treelines (WL2)*** of Sitka spruce and ***Mixed broadleaved/conifer woodland (WD2)*** (Plate 5-2) formed the southern boundary of the Proposed Development site. This woodland was generally dry, but areas close to the lake fringe were wet and best classified as ***Wet willow alder Ash Woodland (WN6)*** (Plate 5-3). Small sections of ***Scrub (WS1)*** were identified on the fringes of the woodland. The remainder of the Study Area was delineated by ***Limestone/marl lakes (FL3)*** (Plate 5-4). Within the site there is an existing toilet block and changing facility (Plate 5-5 and Plate 5-6), which are both proposed to be demolished, and were categorised as Buildings and artificial surfaces (BL3).

No watercourses were recorded within the Proposed Development site, However Lough Rea is directly adjacent to the western boundary of the site, with some minor elements of the Proposed Development located within the lake. This includes an upgraded kayak access slip (Plate 5-7) and a boardwalk which will be elevated above the lake itself, as indicated in Figure 2-2. Lough Rea includes both Lough Rea SAC and Lough Rea SPA as well as Lough rea pNHA. The Kilcogan stream, classified as an ***Upland/eroding stream (FW1)***, drains Lough Rea to the north which drains into Galway Bay downstream.

No habitats listed under Annex I or species listed under Annex II of the EU Habitats Directive were recorded within the Proposed Development site during the walkover survey. Wet willow alder ash woodland recorded to south of the site conforms to the Annex I listed habitat of the EU Habitats Directive: Alluvial forests with *Alnus glutinosa* and *Fraxinus excelsior* (*Alno-Padion, Alnion incanae, Salicion albae*) [91E0].

No evidence of any species listed on the Third Schedule of the European Communities (Birds and Natural Habitats) Regulations (S.I. 477 of 2011) was recorded within or adjacent to the Proposed Development.

Plate 5-1 Buildings and artificial surfaces (BL3), Amenity grassland (GA2), and Scattered trees and parkland (WD5) within the Proposed Development site.

Plate 5-2 Mixed broadleaved/conifer woodland (WD2) adjacent to the Proposed Development site.

Plate 5-3 Wet willow alder ash woodland recorded to the south of the Proposed Development site.

Plate 5-4 Limestone/marl lakes (FL3) adjacent to the Proposed Development Site

Plate 5-5 Existing toilet block to be demolished within the Proposed Development site

Plate 5-6 Existing changing shelter to be demolished within the Proposed Development site.

Plate 5-7 Existing slip into Lough Rea which will be upgraded.

Map Legend

- Site Boundary
- Treelines (WL2)
- Stone walls and other stonework
- Buildings and artificial surfaces
- Limestone/marl lakes
- Amenity grassland (improved)
- Mixed broadleaved/ conifer woodland
- Scattered trees and parkland

Drawing Title

Habitat Map

Project Title

Proposed Outdoor Amenity Enhancement Project at Long Point, Loughrea, Co. Galway

Drawn By	Checked By
SC	PD
Project No.	Drawing No.
220727	Figure 5-1
Scale	Date
1:1,500	24.09.2024

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5.2 Fauna

5.2.1 Otter Survey

No evidence of otter, including otter resting or breeding sites were recorded during the survey. However, Lough Rea which is partially within the Proposed Development site and the downstream Kilcolgan stream provides potential foraging and commuting habitat for this species and is likely to be used on occasion by foraging otter.

5.2.2 Badger Survey

Some worn trails were identified in woodland within the Proposed Development site, but no further indication of this species, including setts or latrines, was identified.

5.2.3 Bird Surveys

Bird species recorded within the site boundaries during the multidisciplinary survey were an assemblage of common birds that are typical of the grassland and urban habitats in the wider area. A total of twelve bird species were recorded within or flying over the site during the initial multidisciplinary site visit (Table 5-2).

The existing treelines and hedgerows bordering the Proposed Development site provide suitable nesting and foraging habitat for common breeding birds.

No red listed bird species of Birds of Conservation Concern Ireland (BOCCI) (Gilbert *et al.* 2021) were recorded within the Proposed Development site.

Table 5-2 Bird species recorded within the Proposed Development site during multidisciplinary walkover.

Common Name	Latin Name	Conservation Status
Starling	*Sturnus vulgaris*	Amber
Hooded crow	*Corvus cornix*	Green
Wood pigeon	*Columba palumbus*	Green
Blue tit	*Cyanistes caeruleus*	Green
Song thrush	*Turdus philomelos*	Green
Magpie	*Pica pica*	Green
Goldfinch	*Carduelis carduelis*	Green
Buzzard	*Buteo buteo*	Green
Mallard	*Anas platyrhynchos*	Amber
Pied wagtail	*Motacilla alba yarrellii*	Green
Jackdaw	*Coloeus monedula*	Green
Coot	*Fulica atra*	Amber

5.2.3.1 Wintering Bird Survey

Table 5-3 below details the results of the winter bird surveys carried out through the winter months, which focused on species listed as SCIs for Lough Rea SPA, undertaken at the Proposed Development site.

Table 5-3 Targeted Lough Rea SPA bird survey results.

Species	Date	Number of Individuals	Notes	Distance from Proposed Development Site (meters)
Coot (*Fulica atra)*	07/03/2023	15	Flying, diving, swimming	200
	31/03/2023	6	Rafting, feeding	400+
	27/10/2023	100+	Rafting, feeding	500+
	28/11/2023	500+	Rafting, feeding	400+
	21/12/2023	20	Flying over Lough Rea	10
	31/01/2024	100+	Rafting	400+
	23/02/2024	100+	Rafting, feeding	300+
	15/03/2024	20+	Rafting, feeding	400+
Shoveler (*Anas clypeata*)	07/03/2023	0	-	-
	31/03/2023	0	-	-
	27/10/2023	5	Rafting	150
	28/11/2023	7	Rafting, feeding	400+
	21/12/2023	0	-	-
	31/01/2024	0	-	-
	23/02/2024	0	-	-
	15/03/2024	2	Flying over Lough Rea	50

In addition to the SCIs of Lough Rea recorded during the winter bird surveys, the species listed in Table 5-4 were also recorded during the surveys undertaken.

Table 5-4 Bird species recorded at Lough Rea.

Common Name	Latin Name	Conservation Status
Great Crested Grebe	*Podiceps cristatus*	Amber
Mute Swan	*Cygnus olor*	Amber
Grey Heron	*Ardea cinerea*	Green
Common Scoter	*Melanitta nigra*	Red
Mallard	*Anas platyrhynchos*	Amber
Bullfinch	*Pyrrhula pyrrhula*	Green
Kestrel	*Falco tinnunculus*	Red
Hooded Crow	*Corvus cornix*	Green
Raven	*Corvus corax*	Green

5.2.4 Bat Surveys

5.2.4.1 Bat Habitat Appraisal

With regard to foraging and commuting bats at the site, areas of buildings and artificial surfaces, amenity grassland, and scattered trees and parkland (Plate 5-8) were considered to be of *Negligible-Low* suitability for bats, i.e. habitat that could be used by no or small numbers of commuting or foraging bats (Collins, 2016).

Treelines, hedgerows, and woodland located around the site boundary (Plate 5-9) provide good connectivity to the surrounding landscape and they were assessed as having *Moderate* suitability i.e. continuous habitat connected to the wider landscape that could be used by bats for commuting and foraging (Collins, 2016).

5.2.4.2 Roost Assessment

An existing toilet block/changing facility (Plate 5-10) within the Proposed Development site was inspected for evidence of roosting bats. During the initial walkover survey in December 2022 bat droppings were identified outside of this structure. However, during subsequent targeted bat surveys in May 2023, no evidence of roosting bats was identified in this structure and no bats were observed emerging during the dusk survey. The structure was characterised by concrete walls and a slate apex

roof and provided little in terms of roosting potential for bats and was assessed as providing *Low* roosting suitability. This structure will be demolished as part of the Proposed Development.

The site was checked for potential tree roosts. Trees may have increased or decreased probability of hosting roosting bats in certain circumstances i.e. Having large broadleaf trees with cavities or other damage such as rot or loose bark increased probability whereas conifer plantations and young trees with little – no damage have a decreased probability of hosting bats (Kelleher and Marnell, 2006). The majority of trees within the site were assigned a *Negligible* roosting potential, while some mature trees with ivy cover and some suitable roosting features were assigned a *Low* roosting potential.

Piers within the Proposed Development (Plate 5-11) were also inspected for evidence of roosting bats. Due to the short distance between the top of these structures and typical water levels of Lough Rea, these structures were considered to be of *Negligible* suitability as, while there are some cracks present, bats need a minimum of 1m clearance above water to allow them to drop from a roost (BCI, 2010).

Plate 5-8 buildings and artificial surfaces, amenity grassland, and scattered trees and parkland providing Negligible-Low suitability for bats.

Plate 5-9 Treelines and hedgerows on the edge of Lough Rea, providing Moderate suitability for bats.

Plate 5-10 Existing toilet block which was assessed as a potential PRF.

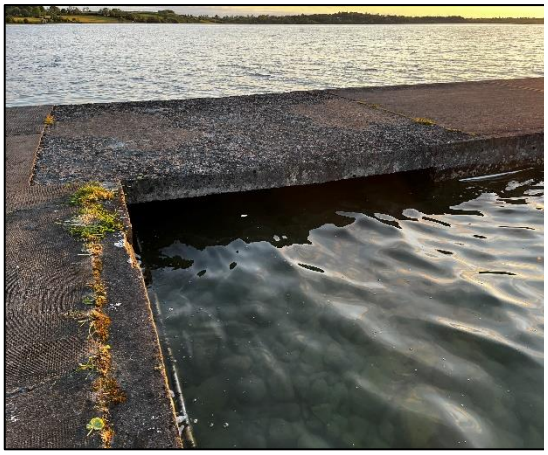

Plate 5-11 Example of a pier within the Proposed Development site.

5.2.4.3 Activity Survey

No bats were observed exiting the toilet block/changing facility during the dusk emergence survey undertaken.

Bat activity within the Proposed Development site was composed of commuting/foraging soprano pipistrelle, common pipistrelle, and Leisler's bat. Following the emergence survey, a transect survey around the Proposed Development site was undertaken. Foraging activity recorded throughout the site was low but was higher around the mixed willow/alder/ash treeline on the lake edge.

In total, 87 bat passes were recorded during the activity surveys. Activity was dominated by common pipistrelle (*Pipistrellus pipistrellus)*, n=48, and soprano pipistrelle (*Pipistrellus pygmaeus*), n=36. These were followed by Leisler's bat (*Nyctalus leisleri*), n=3. All species are common and widespread across Ireland. Plate 5-12 shows total bat species composition.

Bat activity is quantified as bat passes. A bat pass is defined as a recording of an individual species/species group's echolocation containing at least two echolocation pulses and of maximum 15 seconds length.

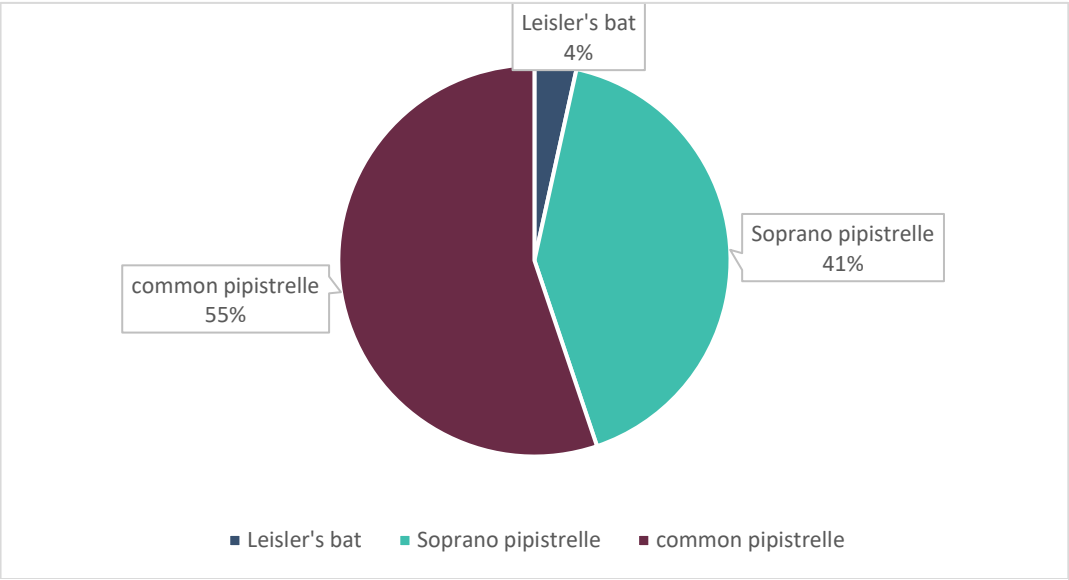

Plate 5-12 Bat passes composition for the activity survey on 25th of May 2023

5.2.1 Importance of Ecological Receptors

Table 5-5 lists all identified receptors and assigns them an ecological importance in accordance with the Guidelines for Assessment of Ecological Impacts of National Road Schemes (NRA, 2009). This table also provides the rationale for this determination and identifies the habitats and species that are Key Ecological Receptors.

Table 5-5 Importance of Ecological Receptors.

Ecological Receptors and Geographic Importance	KER Y/N	Rationale
Protected Sites		
National Sites › Lough Rea pNHA [000304] › Rahasane Turlough pNHA [000322] › Galway Bay Complex [000268] *National Importance*	*Yes*	These National Sites have direct hydrological connectivity to the Proposed Development and therefore has been identified as being within the likely Zone of Influence. These National Sites have been assessed as being of National Importance and are included as KERs as there is potential for direct and indirect effects on these sites during the construction and operational stages of the Proposed Development as a result of water pollution. **Therefore, these Nationally important sites are considered a KER.**
European Sites › Lough Rea SAC [000304] › Rahasane Turlough SAC [000322] › Galway Bay Complex SAC [000268] › Lough Rea SPA [004134] › Rahasane Turlough SPA [004089] › Inner Galway Bay SPA [004031] *International Importance*	*Yes*	These European Sites have been identified as being within the Likely Zone of Influence and are assessed fully in the NIS that accompanies this application. These sites are assigned International Importance and are included as KERs as there is potential for indirect effects on them via water pollution during the operational stage of the development. **Therefore, these European Sites are included as KERs.**
Habitats		
Local Importance (*lower value*) habitats › Buildings and artificial surfaces (BL3) › Amenity grassland (GA2) › Stone walls and other stonework (BL1)	*No*	These habitats, although some contain small areas of semi-natural habitat that are of some local importance for wildlife, are common and widespread in the local and wider landscape and are assigned Local Importance (lower value). Whilst there will be some loss of these habitats to facilitate the Onshore Site, these habitats are **not** included as KERs. **Therefore, these habitats are not considered as KERs.**
Local Importance (*higher value*) habitats › Mixed broadleaved/conifer woodland (WD2) › Wet willow alder ash woodland (WN7)	*No*	These habitats have been assigned as of Local Importance (*higher value*) as they contain high biodiversity value and help maintain links and ecological corridors between features of higher ecological value and are likely to be utilised by protected faunal species.

› Treelines (WL2) › Scattered trees and parkland (WD5) › Scrub (WS1)		There will be no loss of these habitats associated with the Proposed Development. **Therefore, these habitats are not included as KERs.**
Local Importance (*higher value*) to International Importance. › Limestone/marl lakes (FL3) › Upland/eroding river (FW1) › Aquatic receptors	*Yes*	The Proposed Development is located directly adjacent and partially within Lough Rea, which is comprised of Limestone/marl Lakes habitat. As this lake makes up Lough Rea SAC, which is designated for Hard oligo-mesotrophic waters with benthic vegetation of *Chara* spp., to which Limestone/marl lakes corresponds (FL3), this receptor has been assessed as Local Importance (higher value) to International Importance. Furthermore, Lough Rea and the Kilcogan stream (upland eroding stream) which drains this lake to the north, potentially provide significant supporting habitat for several aquatic species and therefore, aquatic receptors have been assessed as Local Importance (*higher value*) to International Importance. As the Proposed Development is located directly adjacent to Lough Rea and partially within, there is potential for significant impacts on these receptors due to the deterioration of water quality arising from the runoff of pollutants into these aquatic habitats. **Therefore, these aquatic habitats and their aquatic receptors are considered as KERs.**
Faunal Species		
Local Importance (*higher value*) species › Bats	*Yes*	All bat species in Ireland are protected under the Bonn Convention (1992), Bern Convention (1982) and the EU Habitats Directive (92/43/EEC). Additionally, in Ireland, bat species are afforded further protection under the Birds and Natural Habitats Regulations (2011) and the Wildlife Acts 1976 (as amended). Based on the information identified within the desk study, the assessment of the habitats and features on site during the site visit, and the results of the bat survey, bat species have been assessed as of Local Importance (*Higher Value*). Commuting bats were noted throughout the site during the activity survey. Foraging activity recorded throughout the site was low but was higher around the mixed willow/alder/ash treeline on the lake edge. Such habitats provide connectivity to the wider landscape. Whilst the toilet block which is proposed to be demolished was assessed as providing low suitability for roosting bats, there is potential for significant impacts on bats as a result of disturbance and/or direct mortality during construction due to opportunistic bats using this structure, as well as proposed lighting.

		Taking a precautionary approach, the potential for impacts on bats arising from the Proposed Development was considered. **Therefore, bats are included as a KER.**
Local Importance (*higher value*) to International important species › Birds	*Yes*	The majority of the Proposed Development site does not provide significant supporting habitat for bird species listed on Annex I of the EU Birds Directive or on the BOCCI red list. However, small elements of the development are located within Lough Rea. The majority of bird species recorded within the site comprised an assemblage of common birds typical of the grassland and urban habitats within the wider area. However, the targeted winter bird surveys undertaken identified coot and shoveler to frequently use Lough Rea, which is directly adjacent to the Proposed Development site. Additionally, treeline and mature trees within and adjacent to the site provides suitable nesting and foraging habitat for a range of common bird species. Whilst there will be no loss of significant supporting habitat for any bird species, there is both the potential for deterioration of foraging habitat via reduced water quality and disturbance to breeding birds as a result of both the construction and operational phases of the Proposed Development. **Therefore, birds are included as a KER.**
Local Importance (*higher value*) to International important species › Otter	*Yes*	No otter resting or breeding sites were identified within the Proposed Development site. However, the Kilcolgan stream provides potential suitable commuting and foraging habitat for otter which is a QI species for Galway Bay Complex SAC located downstream of the Proposed Development. Therefore, as there is potential for the deterioration of water quality, there is potential for degradation of supporting habitat and also disturbance to otter. **Therefore, otter is considered a KER.**
Other fauna - Local Importance (higher value)	*No*	No species of conservation concern or protected under Annexes of the EU Habitats Directive were recorded. Although other common species may occur within the site, at least on occasion, no potential for significant effect has been identified on any other faunal species associated with the Proposed Development and are thus **not** included as KERs.

6. ECOLOGICAL IMPACT ASSESSMENT

6.1 Do Nothing Impact

If the Proposed enhancements to Long Point Amenity Area were not to go ahead, it is likely that the amenity would continue to function in its current state.

6.2 Impacts during Construction

6.2.1 Impacts on Habitats

The loss, degradation or fragmentation of habitats that have been identified as Key Ecological Receptors to facilitate construction is described in the following sections.

Whilst there will be loss of habitats of Local Importance (*Lower Value*) to facilitate the Proposed Development, there will be no loss of any habitats of Local Importance (*Higher value*) or higher. The potential for significant impacts on habitats is restricted to direct and indirect effects on aquatic habitats, via the deterioration of water quality, which is assessed in Table 6-1 below.

6.2.2 Assessment of Potential Effects on rivers, streams, lakes, and Sensitive Aquatic Faunal Species

Potential direct and indirect impacts on water quality have been identified as a result of the Proposed Development via the runoff of pollutants into waterbodies, and therefore, there is potential for significant impacts on the following receptors:

- Limestone/marl lakes (FL3)
- Upland/ eroding Rivers (FW1)
- Sensitive aquatic fauna

Whilst this impact assessment is in the habitats section, it also assesses the impact of the Proposed Development on aquatic species including salmonids, lamprey, coarse fish, European eel, aquatic invertebrates, otter, kingfisher and other aquatic species. It also assesses the impacts on waterbirds which are dependent on aquatic habitats. Potential pathways for direct and indirect effect from the Proposed Development were identified as a result of water pollution and this is discussed in this section in relation to aquatic habitats and species.

Table 6-1 Impact assessment on water pollution and deterioration of water quality

Description of Effect	**This section assesses the potential for likely significant effects on aquatic receptors including aquatic habitats (i.e., watercourses), salmonids, lamprey, coarse fish, European eel, aquatic invertebrates, molluscs, otter, waterbirds and other aquatic species identified during the desk study and field surveys, and which are likely to occur downstream of the Proposed Development** The Proposed Development site is located adjacent to and partially within Lough Rea. This lake is drained to the north via the Kilcolgan stream which discharges into Rahasane Turlough approximately 13km downstream and Galway Bay approximately 27km downstream. The construction of the Proposed Development will involve excavations and earth moving which create the potential for pollution in various forms, i.e. the generation of suspended solids and the potential for spillage of fuels associated with the refuelling of excavation

	machinery. Furthermore, there is a requirement for in-lake works to construct the new slip and the Crannog viewing platform. In the absence of mitigation, the direct and indirect effects on waterbodies and associated aquatic receptors during construction of the Proposed Development has the potential to be a short-term, moderate, reversible impact on aquatic habitats and the aquatic fauna they support. **Note: Whilst this impact assessment is in the habitats section, it also assesses the impact of the Proposed Development on aquatic species listed above.**
Assessment of Significance prior to mitigation	In the absence of mitigation, there is potential for the Proposed Development to result in significant direct and indirect effects on aquatic habitats and associated aquatic species of local, National, and International Importance in the form of pollution during the construction phase of the Proposed Development.
Mitigation	The construction methodologies and best practice measures are described in the Construction and Environmental Management Plan (CEMP) which has been submitted as part of the planning application. It incorporates mitigating principles to ensure that the work is carried out in a manner which blocks all potential pathways for impact on aquatic receptors. These include comprehensive details regarding site set up, pollution prevention including pollution, hydrocarbon management, construction monitoring and biosecurity. These and additional measures have been outlined below. **Environmental Monitoring** › The appointed contactor will be fully briefed by an ecologist as to the sensitive nature of the site and the required mitigation measures. › The contractor will assign a member of the site staff as the environmental officer with the responsibility for ensuring the environmental measures prescribed in this document are adhered to. Any environmental incidents or non-compliance issues will immediately be reported to the project team. › In addition, a suitably qualified ecologist will be appointed to supervise the works undertaken during construction, particularly where works within the lake are required. **Site Set-up** › The working area will be fenced off prior to construction using heras panels and/or other hard barrier. All works will be undertaken within the confines of the fencing. Fencing will restrict access to adjacent habitats. › A silt fence will be erected between the works area and Loughrea. This will protect the lake from the runoff of pollutants during construction. The silt fence will comprise wooden posts with geotextile membrane buried approximately 250mm below ground level. This fence will be kept in good repair and will be routinely inspected. › The silt fences will be left in place throughout construction until all exposed soil has revegetated. › A site compound will be established within the site boundary. The exact location of the site compound will be established by the contractor and will be located a minimum of 50m from any watercourses or waterbodies. The compound will be used for storage of material, machinery, fuel, and workers facilities. › All construction materials and substances will be stored in the site compound and the compound will be located a minimum of 50m from any watercourse. **Works within Lough Rea** › Timing of in-lake works should be carried out during the period of July 1st to September 30th to minimise potential adverse impacts to fisheries, in line with

Inland Fisheries Ireland (2016) Guidelines on Protection of Fisheries During Construction Works in and Adjacent to Waters.

- Works will be carried out in the dry to avoid siltation of the Lough Rea and downstream watercourses.
- The areas within Lough Rea where works are required will be temporarily dammed (coffer dam) with sandbags and will completely surround the work area.
- Where possible, precast elements of the Proposed Development will be used to reduce the necessity of batching cement on site i.e. the upgraded access slip.
- A submersible pump will be used to pump water out of the works area, creating a dry working area, and will be pumped to a discharge point, a minimum of 30m from any waterbody and within the main construction site. It will pass through a silt bag before discharge to ground.
- Prior to pumping, electrofishing will be carried out within the works area under licence from the NPWS by a qualified ecologist to remove any fisheries and move them into Lough Rea.
- Machinery will not enter the water.
- Once works within these areas are complete, the sandbags will be removed to allow water from the lake back into the area.
- All in-lake works will be carried out in line with Inland Fisheries Ireland (2016) Guidelines on Protection of Fisheries During Construction Works in and Adjacent to Waters.

Biosecurity

- Prior to entering the works area, all machinery and personnel will be thoroughly disinfected to ensure that no inadvertent spread of invasive species into Lough Rea occurs.
- All works within this area will be subject to strict biosecurity protocols to prevent the spread of the crayfish plague which is caused by the fungal-like organism, *Aphanomyces astaci.*
- Good construction site hygiene will be employed to prevent the introduction and spread of problematic invasive alien plant species (e.g. Rhododendron, Japanese Knotweed, Giant Rhubarb etc.) by thoroughly washing vehicles prior to entering the site.
- Any soil and topsoil required on the site will be sourced from a stock that has been screened for the presence of any invasive species and where it is confirmed that none are present.

Pollution Prevention

- Excavated spoil (if any) will be stockpiled and contained entirely within the confines of the site boundaries.
- During earthwork activities, the following mitigations will be adhered to:
    - Excavation depths will be limited to the necessity of the proposed works.
    - Material that is not re-used will be transported off site to a designated waste facility.
    - Suitable stone material will be imported to the site to be used as backfill.
    - Stockpiling of soil during construction, should it be required, will take place in designated areas within the site boundary away from any watercourses or waterbodies.
    - A silt fence will be erected around any stockpiling of material to prevent any sediment-laden run-off occurring.
- All diesel or petrol pumps required onsite will be operated within bunded units.
- Exposed surfaces will be re-vegetated as soon as possible following construction.
- The minimum number of soil/subsoils and bedrock material will be removed from site. Soil may be reused for landscaping elsewhere on the site.
- Earthworks will not be carried out during periods of heavy rainfall.

- As construction advances there may be a requirement to collect and treat surface water within the site. This will be completed using perimeter swales at low points around the construction areas, and if required will be tankered off site for appropriate treatment.
- If ground water is encountered during excavations, waters will be pumped from excavation and discharged through a pipe with a silt bag attached on to an area of overland vegetation within the site boundary.
- Discharge to ground will be via a silt bag which will filter any remaining sediment from the pumped water;
- Daily monitoring and inspections of site drainage during construction will be completed by the appointed environmental officer;
- Good construction practices such wheel washers and dust suppression on site roads, and regular plant maintenance will ensure minimal risk. The Construction Industry Research and Information Association (CIRIA) provide guidance on the control and management of water pollution from construction sites ('Control of Water Pollution from Construction Sites, guidance for consultants and contractors', CIRlA, 2001), which provides information on these issues. This will ensure that surface water arising during the course of construction activities will contain minimum sediment.

Refuelling, Fuel and Hazardous Materials Storage

- Storage/refuelling will be located in and carried out in a designated area of the proposed site, located a suitable distance from excavation works. Bunded tanks will be used, and these will be inspected for leaks regularly. Spill kits will be available on site and staff will be trained in their use and in spill control. All spills shall be diverted for collection.
- Fuels, lubricants and hydraulic fluids for equipment used on the site will be carefully handled to avoid spillage, properly secured against unauthorised access or vandalism, and provided with spill containment.
- Minimal refuelling or maintenance of construction vehicles or plant will take place on site. Off-site refuelling will occur at a controlled fuelling station.
- On-site refuelling will take place by direct refuelling from the delivery truck or from fuel stored within a bunded fuel tank. Mobile measures such as drip trays and fuel absorbent mats will be used during all refuelling operations.
- Vehicles will never be left unattended during refuelling. Only dedicated trained and competent personnel will carry out refuelling operations and plant refuelling procedures shall be detailed in the contractor's method statements.
- Storage bunds/trays, if required will be constructed of an impermeable membrane (HDPC Plastic) and will have the adequate capacity to contain the volume of the liquids contained therein, if a leak/spillage does occur from one of the storage vessels.
- The storage area will contain a small bund lined with an impermeable membrane in order to prevent any contamination of the surrounding soils and vegetation.
- All site plant will be inspected at the beginning of each day prior to use. Defective plant shall not be used until the defect is satisfactorily fixed. All major repair and maintenance operations will take place off site.
- Potential impacts caused by spillages etc. during the construction phase will be reduced by keeping spill kits and other appropriate equipment on-site.

Cement Based Products

- No batching of wet-cement products will occur on site.
- Ready-mixed supply of wet concrete products and where possible, emplacement of pre-cast elements, will take place.
- Where possible, pre-cast elements for concrete works will be used.
- No washing out of any plant used in concrete transport or concreting operations will be allowed on-site.
- Where concrete is delivered on site, only chute cleaning will be permitted, using the smallest volume of water possible.

- No discharge of cement contaminated waters to the construction phase drainage system or directly to any artificial drain or watercourse will be allowed.
- Use weather forecasting to plan dry days for pouring concrete.
- Ensure pour site is free of standing water and plastic covers will be ready in case of sudden rainfall event.

Spill Control Measures

In the event of minor spills and leaks from road vehicles and the onsite machinery, the following steps provide the procedure to be followed in the event of any significant spill or leak.

- Stop the source of the spill and raise the alarm to alert people working in the vicinity of any potential dangers.
- If applicable, eliminate any sources of ignition in the immediate vicinity of the incident
- Contain the spill using the spill control materials, track mats or other material as required. Do not spread or flush away the spill.
- If possible, cover or bund off any vulnerable areas where appropriate such as drains or watercourses.
- If possible, clean up as much as possible using the spill control materials.
- Contain any used spill control material and dispose of used materials appropriately using a fully licensed waste contractor with the appropriate permits so that further contamination is limited.
- Notify the applicant immediately giving information on the location, type and extent of the spill so that they can take appropriate action and further investigate the incident to ensure it has been contained adequately.
- External consultants will inspect the site and ensure the necessary measures are in place to contain and clean up the spill and prevent further spillage from occurring.
- The applicant will notify the appropriate regulatory body if deemed necessary.

Waste Management

- All waste will be collected in skips and the site will be kept tidy and free of debris at all times.
- Waste oils and hydraulic fluids will be collected in leak-proof containers and removed from the site for disposal or recycling.
- All construction waste materials will be stored within the confines of the site, prior to removal from the site to a permitted waste facility.

Wastewater Disposal

- A self-contained port-a-loo with an integrated waste holding tank will be used at the site compounds, maintained by the providing contractor, and removed from site on completion of the construction works; No foul water will be discharged on-site during the construction.

Applicable guidance to be followed

- Good practice guidelines on the control of water pollution from construction sites developed by the Construction Industry Research and Information Association (CIRIA) in particular;
- C532 Control of water pollution from construction sites: guidance for consultants and contractors (Masters-Williams *et al*, 2001); and
- SP156 Control of water pollution from construction sites - guide to good practice (Murnane *et al*, 2002).

Residual Effect following Mitigation	Following the implementation of the mitigation measures and best practice procedures as detailed above and in the CEMP, there will be no significant residual effect on aquatic habitats or species as a result of the Proposed Development.

6.2.3 Impacts on Fauna

Faunal species recorded within and adjacent the Proposed Development site have widespread and favourable ranges in Ireland and alternative suitable habitat is abundant in the wider area. There will be no loss of any significant supporting habitat for any protected species as all works will be contained within the existing Long Point amenity area footprint, with no loss of any hedgerows, treelines, woodland, or lake habitat proposed. The effects of habitat loss and disturbance to faunal KER species during the construction phase of the development is considered in this section. The following faunal species have been identified as KERs for further assessment in the following subsections:

- Birds
- Bats
- Otter

6.2.3.1 Assessment on the Potential impacts on Birds

Potential for significant effects on birds resulting from the construction of the Proposed Development were identified in the form of habitat loss and disturbance/displacement and are assessed in Table 6-2 below.

Table 6-2 Assessment of Potential Impacts on Birds

Description of Effect	As there will be no loss of any hedgerows, treelines, woodland, or lake habitat, there is no potential for significant impacts on any bird species as a result of habitat loss during the construction phase of the Proposed Development. Whilst the Proposed Development site does not provide significant supporting habitat for any bird species greater than local importance (higher value), Lough Rea which is directly adjacent to the site provides supporting habitat for species of Local Importance (higher value) to International Importance, as it is both a European and National Site. During the winter bird surveys undertaken, as detailed in Section 5.2.4, no protected birds were identified within the Proposed Development site, but several protected waterbirds were recorded in the adjacent Lough Rea. Although these were generally recorded in excess of 200m from the Proposed Development site, taking a precautionary approach and in the absence of mitigation, there is potential for a short-term negative effect on protected bird species as a result of disturbance associated with the construction phase of the Proposed Development via lighting and noise.
Assessment of Significance prior to mitigation	In the absence of mitigation, there is potential for significant disturbance/displacement of bird populations of Local to International Importance as a result of the Proposed Development.
Mitigation	With regard to potential impacts arising from lighting and noise associated with construction, the following mitigations will be implemented: › All plant and equipment for use will comply with Statutory Instrument No 359 of 1996 "European Communities (Construction Plant and Equipment) (Permissible Noise Levels) Regulations 1996".

	› Operating machinery will be restricted to the works area. › All vehicles and mechanical plant will be fitted with effective exhaust silencers and maintained in good working order for the duration of the works. › Compressors will be of the "sound reduced" models fitted with properly lined and sealed acoustic covers which will be kept closed whenever the machines are in use and all ancillary pneumatic tools shall be fitted with suitable silencers. › Machines, which are used intermittently, will be shut down during those periods when they are not in use. › Any lighting required for night-time works will be switched off when not needed. › Lighting required for night-time works will be directed onto the works areas and will not be focussed onto the treeline on the eastern boundary.
Residual Effect following Mitigation	Following the incorporation of the mitigation measures described above, no significant negative effects to birds is anticipated at any geographic scale, as a result of the Proposed Development

6.2.3.2 Assessment of the Potential Impact on Bats

Loss of Roosting Habitat

The potential for significant impacts on bats as a result of loss of roosting habitat during construction is provided in Table 6-3 below.

Table 6-3 Assessment of Potential Impacts on Bats as a result of loss of roosting habitat.

Description of Effect	The potential for loss of roosting bat habitat was considered. As part of the Proposed Development, the existing toilet block/changing facility within the site will be demolished. Whilst no evidence of roosting bats were recorded during the surveys undertaken, this structure was assessed a providing low potential for roosting bats. Therefore, taking a precautionary approach, there is potential for loss of roosting habitat for bat species utilizing the Proposed Development site during construction activities as a result of demolition of an existing structure was identified. Trees recorded within the site were assessed as providing low roosting potential. There will be no loss of any trees as part of the Proposed Development.
Assessment of Significance prior to mitigation	As the structure proposed to be demolished provides *low* roosting potential for bats, should opportunistic bats take up this structure, in the absence of mitigation and best practice, there is potential for significant impacts on populations of bats assessed as of Local Importance (*Higher Value*), as a result of loss of roosting habitat. No significant impacts at any higher geographical scale are anticipated.
Mitigation	As the toilet block proposed to be felled was assessed as providing *Low* roosting suitability, taking a precautionary approach, the following mitigations will be implemented prior to construction. › A pre-commencement survey will be carried out by a suitably qualified ecologist prior to the demolition of the structure. The requirement for a pre-commencement survey does not represent a *lacuna* in the survey assessment but is fully in line with industry best practice. The function of this survey will be to assess any changes in baseline environment since the time of undertaking the surveys in May 2023. › Should a bat roost be identified within this building at this time, a derogation licence will be required prior to demolition. › To mitigate any losses of roosting habitat which has been identified, or otherwise to enhance bat roosting potential within the site, any new structure within the Proposed Development site should include integrated bat boxes, with at least two on any structure.

Residual Effect following Mitigation	Following the incorporation of the mitigation measures described above, no significant negative effects to bats is anticipated at any geographic scale.

Loss of Foraging and Commuting Habitat

The potential for habitat loss/degradation for foraging and commuting bat species was considered. Linear features such as treelines and hedgerows within and forming the boundary of the Proposed Development site were assessed as having *Moderate* suitability for foraging and commuting bats. However, there will be no loss of any such features to facilitate the Proposed Development.

No significant impacts on bats as a result of loss of foraging and commuting habitat are anticipated at any geographic scale. No mitigation is required.

Disturbance

Taking a precautionary approach, potential for significant effects on bats resulting from the construction of the Proposed Development were identified in the form of disturbance/displacement and is assessed in Table 6-4 below.

Table 6-4: Assessment of Potential Impacts on Bats as a result of disturbance

Description of Effect	The potential for disturbance of fauna, including bat species, was considered. The use of machinery and lighting may be required to construct the Proposed Development. Therefore, taking a precautionary approach, potential for disturbance of bat species during construction activities as a result of noise and light was identified.
Assessment of Significance prior to mitigation	As the Proposed Development site provides *Moderate* foraging and commuting habitat for bats, should the use of lighting be required during construction, on top of construction activities, in the absence of mitigation and best practice, there is potential for significant impacts on populations of bats assessed as of Local Importance (*Higher Value*), as a result of disturbance associated with lighting and noise. No significant impacts at any higher geographical scale are anticipated.
Mitigation	During construction works the following mitigations will be implemented to avoid any impacts on bats as a result of lighting or noise: › Any lighting required for night-time works, should it be required, will be switched off when not needed. › Lighting required for night-time works, should it be required, will be directed onto the works areas and will not be focussed onto the treeline or hedgerows within or delineating the Proposed Development site. › All plant and equipment for use will comply with Statutory Instrument No 359 of 1996 “European Communities (Construction Plant and Equipment) (Permissible Noise Levels) Regulations 1996”. › Operating machinery will be restricted to the works area. › All vehicles and mechanical plant will be fitted with effective exhaust silencers and maintained in good working order for the duration of the works. › Compressors will be of the “sound reduced” models fitted with properly lined and sealed acoustic covers which will be kept closed whenever the machines are in use and all ancillary pneumatic tools shall be fitted with suitable silencers. › Machines, which are used intermittently, will be shut down during those periods when they are not in use.

Residual Effect following Mitigation	Following the incorporation of the mitigation measures described above, no significant negative effects to bats is anticipated at any geographic scale.

6.2.3.3 Assessment of the Potential Impact on Otter

Potential for significant effects on otter resulting from the construction of the Proposed Development were identified in the form of habitat degradation and disturbance/displacement. Potential for effects from habitat degradation is provided in Section 6.2.2 and potential for effects from disturbance is provided in Table 6-5.

Table 6-5 Assessment of Potential Impacts on otter during construction.

Description of Effect	Whilst no indications of otter (couches, holts, tracks, spraint) were recorded during the surveys undertaken, Lough Rea provides potential foraging and commuting habitat for otter and are likely to be used by this species at least on occasion. Given the active nature of the site, it is unlikely that otter would use the Proposed Development site for breeding. In relation to disturbance, otter are predominantly crepuscular in nature and it is anticipated that construction activity associated with the Proposed Development will be confined to daytime hours, thus minimising potential disturbance related impacts to the species. Furthermore, the Proposed Development site is already an active site which provides a recreational area for the public and therefore, otter are likely to be accustomed to human activity. Any disturbance impacts would be short-term in nature and not considered to have a significant impact on any otter population.
Assessment of Significance prior to mitigation	No potential for significant effect with regard to disturbance as a result of the Proposed Development is anticipated. No mitigation is proposed.
Mitigation	Disturbance limitations measures provided in Section 6.2.3.1 will be applied for bats and birds and will also ensure no significant impacts from disturbance on otter will occur.
Residual Effect following Mitigation	With the implementation of the above mitigations and best practice procedures no residual effects on otter are expected as a result of disturbance, resulting from the Proposed Development.

6.3 Impact during Operation

6.3.1 Impacts on Habitats

There will be no additional loss or degradation of terrestrial habitats associated with the operational phase of the Proposed Development. There is potential for the operational phase of the Proposed Development to result in impacts on aquatic habitats via the degradation of water quality which are discussed below.

6.3.1.1 Assessment of Potential Effects on rivers, streams, lakes, and Sensitive Aquatic Faunal Species

6.3.1.1.1 *Surface water run-off*

The Proposed Development will result in increased hard surfaces within the Proposed Development site which has the potential to result in direct and indirect impacts on aquatic ecological receptors as a result of deterioration in water quality arising from the run-off of pollutants, if surface water run-off is not adequately treated, during the operational phase of the Proposed Development.

Mitigation

As described in Section 2.2.2.1, proposed surface water drainage systems have been incorporated into the design of the Proposed Development designed to cater for all surface water runoff from all hard surfaces within the Proposed Development. This includes Sustainable Drainage Systems (SUDs) and permeable pavements along the quaysides.

Residual Effect

Given the proposed treatment of surface water, significant negative effects on water quality are not anticipated. In fact, considering there is currently no surface water drainage within the Proposed Development site, the project is likely to result in a positive impact on water quality

6.3.1.1.2 *Production of Foul Sewage*

The operational phase of the Proposed Development will result in the production of foul sewage. If not adequately treated, there is potential for indirect impacts on ground water quality.

Mitigation

As described in Section 2.2.2.2, it is proposed that foul water generated from the Proposed Development will be serviced by existing infrastructure on Lake Road. The wastewater treatment system will undergo yearly inspections and maintenance to ensure sufficient use, and no faults have occurred.

Residual Effect

No residual impacts on water quality as a result of the production of foul sewage is anticipated, as the site will be serviced.

6.3.2 Impacts on Fauna

There will be no loss or degradation of faunal habitat associated with the operational phase of the Proposed Development. Additionally, while the development intends on improving public amenities and may result in more human activity within the site, fauna would already be habituated to activities within the site as it is already a popular attraction. No potential for direct adverse impacts on any fauna is anticipated during the operational phase of the Proposed Development, with regards to habitat loss or disturbance.

Exterior lighting, including security lighting and/or fixtures along footpaths, will be installed in line with Bat Conservation Ireland guidelines; Bat Conservation Ireland (Bats and Lighting: Guidance Notes for Planners, Engineers, Architects and Developers, BCI, 2010) and the Bat Conservation Trust (Guidance Note 08/18 Bats and Artificial Lighting in the UK (BCT, 2018), to minimise light spillage, thus reducing any potential disturbance to bats. A maximum of 1LUX should be recorded along woodland edges and treelines.

A Lighting Plan and overview is provided in **Appendix 3** which adheres to the above. This plan further states that a lighting control regime will be implemented within the site, with lights being turned off between 10:30 pm and 6:30 am. Additionally, lamps within the site will be no higher than 5m, and colour temperatures are proposed as 2700K to reduce blue light from all lamps.

Additionally, there will be no downstream habitat degradation for aquatic species, including otter, via deterioration water quality, due to the project design set out in Section 2.2.2.

6.4 Decommissioning Phase

The Proposed Development is considered permanent. No decommissioning is anticipated.

6.4.1 Impacts on European Sites

The EPA Guidance 2022 states:

"a biodiversity section of an EIAR, for example, should not repeat the detailed assessment of potential effects on European sites contained in documentation prepared as part of the Appropriate Assessment process" but should "refer to the findings of that separate assessment in the context of likely significant effects on the environment, as required by the EIA Directive".

This section provides a summary of the key assessment findings with regard to Special Areas of Conservation (SACs) and Special Protection Areas (SPAs).

None of the elements of the Proposed Development are located within the boundaries of any European designated sites. There will be no direct effects on any designated site as a result of the construction or operation of the Proposed Development.

Potential for indirect effects resulting from the construction and operational phases of the Proposed Development have been identified on the following European designated sites:

- Lough Rea SAC [000304]

- Rahasane Turlough SAC [000322]
- Galway Bay Complex SAC [000268]
- Lough Rea SPA [004134]
- Rahasane Turlough SPA [004089]
- Inner Galway Bay SPA [004031]

Following the precautionary principle, a potential pathway for direct and/or indirect effects on QIs/SCIs of the above European Designated Site was identified through the deterioration of surface and ground water quality or disturbance arising from the construction and operational phases of the development. An Appropriate Assessment Screening Report and Natura Impact Statement have been prepared with this application, which fully assess the potential impacts on European designated sites, providing the competent authorities with the information necessary to undertake an Appropriate Assessment.

The potential for impact on European sites has been fully assessed in the Appropriate Assessment Screening Report (AASR) and Natura Impact Statement (NIS) that has been prepared in support of the current application. The NIS concludes that:

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

6.4.2 Impacts on Nationally Designated Sites

Impacts on nationally designated sites, including NHAs and pNHAs, are considered in this section of the report. Where such sites are also designated as SACs or SPAs (European Sites) they have been assessed and considered under that designation. Three National Sites were identified as being in the likely Zone Of Influence in the desk study: Lough Rea pNHA [000304], Rahasane Turlough pNHA [000322], and Galway Bay Complex [000268].

These sites have been assessed and considered under that designation in the accompanying NIS. A summary of the results of the NIS is provided in Section 5.2.1 above.

7. CUMULATIVE IMPACT ASSESSMENT

A search and review in relation to plans and projects that may have the potential to result in cumulative and/or in-combination impacts on the ecology of the site was conducted. This assessment focuses on the potential for cumulative in-combination effects on the existing habitats where potential for significant effects was identified. This included a review of online Planning Registers, development plans and other available information and served to identify past and future plans and projects, their activities and their predicted environmental effects.

7.1 Plans

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

- Galway City Council Development Plan 2022-2029
- Northern and Western Regional Assembly – Regional Spatial and Economic Strategy 2020 – 2032
- Irelands 4th National Biodiversity Action Plan 2023-2030

The review focused on policies and objectives that relate to designated sites for nature conservation, biodiversity and protected species. Policies and objectives relating to the conservation of Annex I habitats were also reviewed. An overview of the search results with regard to plans is provided in Table 7-1.

Table 8.1 Review of Plans

Plan	Key Policies/Issues/Objectives Directly Related to European Sites in The Zone of Influence	Assessment of development compliance with policy
Galway County Development Plan 2022-2028	**Policy Objective NHB 1 – Natural Heritage and Biodiversity of Designated Sites, Habitats and Species** › Protect and where possible enhance the natural heritage sites designated under EU Legislation and National Legislation (Habitats Directive, Birds Directive, European Communities (Birds and Natural Habitats) Regulations 2011 and Wildlife Acts) and extend to any additions or alterations to sites that may occur during the lifetime of this plan. › Protect and, where possible, enhance the plant and animal species and their habitats that have been identified under European legislation (Habitats and Birds Directive) and protected under national Legislation (European Communities (Birds and Natural Habitats) Regulations 2011 (SI 477 of 2011), Wildlife Acts 1976-2010 and the Flora Protection Order (SI 94 of 1999). Support the protection, conservation and enhancement of natural heritage and biodiversity, including the protection of the integrity of European sites, that form part of the Natura 2000 network, the protection of Natural Heritage Areas, proposed Natural Heritage Areas, Ramsar Sites, Nature Reserves, Wild Fowl Sanctuaries (and other designated sites including any future designations) and the promotion of the development of a green/ ecological network. .	The Development plan was comprehensively reviewed, with particular reference to Policies and Objectives that relate to the biodiversity and other natural heritage interests. The Proposed Development has been designed in order to avoid likely significant effect on areas of ecological importance. Where the potential for adverse effect on areas of ecological importance has been identified mitigation will be implemented. No potential for cumulative impacts when considered in conjunction with the current proposal were identified.
Regional Spatial and Economic Strategy 2020-2032	**Growth Ambition 2: Environment – Natural Region** **RPO 5.4** Encourage the prioritisation of Site-Specific Conservation Objectives (SSCO) for all sites of Conservation Value, designated in EU Directive (i.e. SACs, SPAs) to integrate with the development objectives of this Strategy. **RPO 5.5** Ensure efficient and sustainable use of all our natural resources, including inland waterways, peatlands, and forests in a manner which ensures a healthy society a clean environment and there is no net contribution to biodiversity loss arising from development supported in this strategy. Conserve and protect designated areas and natural heritage areas. Conserve and protect European sites and their integrity.	The strategy was reviewed, with particular reference to Policies and Objectives that relate to biodiversity. No potential for cumulative impacts when considered in conjunction with the current proposal were identified. There will be no significant impacts on designated sites or biodiversity as a result of the Proposed Development. The Proposed Development will not impact on connectivity within the wider area.

	RPO 5.6 Develop awareness and create a greater appreciation of the benefits of our natural heritage, including on the health, wealth and well-being of the region's ecosystem services. RPO 5.7 Ensure that all plans, projects and activities requiring consent arising from the RSES are subject to the relevant environmental assessment requirements including SEA, EIA and AA as appropriate.	
Irelands 4th National Biodiversity Action Plan 2023-2030	**Objective 2** - Meet Urgent Conservation and Restoration Needs **Outcome 2A**: The protection of existing designated areas and protected species is strengthened and conservation and restoration within the existing protected area network are enhanced. **Outcome 2B**: Biodiversity and ecosystem services in the wider countryside are conserved and restored – agriculture & forestry. **Outcome 2C**: Biodiversity and ecosystem services in the wider countryside are conserved and restored – peatlands & climate action. **Outcome 2D**: Biodiversity and ecosystem services in the marine and freshwater environment are conserved and restored.	The Proposed Development will not result in significant effects on habitats and features of ecological importance. The Proposed Development will not impact on connectivity within the wider area. Mitigations have been outlined in this report and in the CEMP for effects on water quality. There will be no adverse effects on biodiversity as a result of the Proposed Development.

7.2 Other Projects

Assessment material for this in-combination impact assessment was compiled on the relevant developments within the vicinity of the Proposed Development and was verified on the 24/09/2024. The material was gathered through a search of relevant online Planning Registers, reviews of relevant documents, planning application details and planning drawings, and served to identify past and future projects, their activities and their environmental impacts. All relevant projects were considered in relation to the potential for in-combination effects. All relevant data was reviewed (e.g. individual EISs/EIARs, layouts, drawings etc.) for all relevant projects where available. These consisted mainly of small scale domestic and agricultural developments.

The online planning system for Galway County Council as well as the An Bord Pleanála Website (planning searches), was consulted on the 24/09/2024 for the wider area surrounding the site. Relevant finalised projects identified in the wider area of the development from the last 5 years include:

- Permission to carry out alterations and extension to an existing dwelling house and all associated site works and services. Gross floor space of proposed works house 180.9 sqm and garage 63.1 sqm. (Planning Ref: 211369).
- Retention of change of use of car port to sunroom with minor changes to elevations of dwelling house (previously approved under planning reg. ref. no. 3580) & (2) to retain home office & garden shed. (Planning Ref: 2360710).
- Permission for the blocking up of an existing agricultural entrance and the construction of a replacement agricultural entrance, internal roadway and concrete bund for the temporary storage and disposal of animal waste. (Planning Ref: 1966).
- Extension of duration for the construction of a serviced dwellinghouse and wastewater treatment system (gross floor space 186.30sqm). (Planning Ref: 21908).
- Permission to carry out alterations and extension to an existing dwelling house and all associated site works and services. Gross floor space of proposed works house 180.9 sqm and garage 63.1 sqm. (Planning Ref: 211369).
- Permission for the demolition of existing sub-standard dwelling house and the construction of a new dwelling house, domestic garage, treatment unit, percolation area, site access, landscaping and all associated site services. A Natura Impact Statement has been prepared as part of this planning application. Gross floor space of proposed works: Dwelling House - 685.9 sqm, Garage - 135.8 sqm. (Planning Ref: 191465).

7.3 Conclusion of Cumulative Assessment

Following the detailed assessment provided in the preceding sections, it is concluded that the Proposed Development will not result in any residual significant effects on the biodiversity, flora, and fauna of the existing environment at any geographical scale, when considered on its own. There is therefore no potential for the Proposed Development to contribute to any cumulative adverse effects on any European Site when considered in-combination with other plans and projects.

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

Taking into consideration the reported residual impacts from other plans and projects in the area and the predicted impacts with the current proposal, no residual cumulative impacts have been identified with regard to the biodiversity, flora, and fauna of the existing environment.

8. CONCLUSION

Following the implementation of best practice and mitigation, there will be no residual significant impacts on biodiversity at any geographical scale. There will be no loss of any habitat of Local Importance (higher value) of higher and this report provides mitigations to ensure that no significant impacts on biodiversity as a result of deterioration of water quality or disturbance will occur.

The potential residual impacts on ecological receptors will not be significant and no potential for the Proposed Development to contribute to any cumulative impacts on biodiversity when considered in combination with other plans and projects was identified.

Provided that the Proposed Development is constructed and operated in accordance with the design described within this application, significant effects on biodiversity are not anticipated at any geographic scale.

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APPENDIX 1

LANDSCAPE SOFT WORKS PLAN

LANDSCAPE SOFT WORKS

Outline Specification For Part 10 Planning

Project:

LONG POINT OUTDOOR AMENITY ENHANCEMENT PROJECT

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LANDSCAPE ARCHITECTURE
GARDEN DESIGN

LANDSCAPE SOFTWORKS PROPOSALS

The plant material for the Long Point Enhancement Project has been chosen on the basis of its long-term suitability within the setting, aesthetic appeal and its contribution to improve the overall biodiversity of the site. The plant material proposed within the development can be categorised into the following key types: namely:

a) Native Wildflower Zones/reduced Mowing Areas
b) Pollinator Friendly Perennial & Grass planting (Natural Stone Planting Beds)
c) Native Tree Clusters
d) Avenue Tree planting
e) Swale Planting
f) Amenity Grass

Each of these categories are described in further detail below with an outline plant specification for the plant material where applicable. While these plant proposals largely represent the species proposed for the scheme, additional plant species may be introduced to supplement and support the planting arrangement as the design develops post planning.

a) Managed Native Wildflower Zones/reduced Mowing Areas (Fig 1.0 below for reference)

This will include the establishment of mixed native species meadow grasses and wildflower zones which are generally highlighted on the site layout plan as wildflower/biodiverse planting areas. These may be established by 1) planting new diverse meadow mixes into prepared seedbeds and 2) by managing undisturbed existing grass areas and woodland edge areas as reduced mowing areas to improve local biodiversity and rely on the the existing seedbank present to establish the vegetation. These measures will enhance wildlife, boost pollinators and generally reduce maintenance costs. The reduced mowing frequency will also reduce fossil fuel consumption. Exact mix location to be determined at detailed design stage with the aid of soil samples.

The following are 3 Suggested mixes for seeded wildflower meadow areas on prepared beds for varying soil conditions:

1. Meadow Mixture - MM08 Wild Flora for Moist Limy Soil by Design By Nature.

Birdsfoot Trefoil, Black Meddick, Corn Chamomile, Corn Marigold, Corn Poppy, Corncockle, Cornflower, Cowslip, Devils bit Scabious, Eyebright, Meadow Buttercup, Field Poppy, Fleabane, Greater Trefoil, Lady's Bedstraw, Lesser Knapweed, Scented Mayweed, Meadowsweet, Ox-eye Daisy, Purple Loosestrife, Ragged Robin, Red Bartsia, Ribwort Plantain, Selfheal, Water Avens, Wild Carrot, Yellow Flag Iris, Yellow Rattle.
Additional species: Meadow Cranesbill, Wild Valerian, Marsh Marigold.

2 Meadow Mixture-EC09 Species Rich Amenity Grassland by Design By Nature.
This is a very specific mixture of the most beautiful flora ideally suited to the improved soils found in parklands and rolling countryside.
This mixture has been the constant favourite of County Councils, park managers and nature conservationists.
It can be sown with our without grass, and can be managed in many different ways, left tall, cut short or given mixed and varied management.

Species Mix:
Birdsfoot Trefoil, Black Meddick, Cowslip, Devil's Bit Scabious, Eyebright, Field Scabious, Greater Trefoil, Kidney Vetch, Lady's Bedstraw, Lesser Knapweed, Marjoram, Meadow Buttercup, Mullein, Ox-eye Daisy, Ragged Robin, Red Campion, Red Clover, Ribwort Plantain, Rough Hawksbit, Salad Burnet, Selfheal, St Johnswort, Wild Angelica, Wild Carrot, Yarrow, Yellow Agrimony, Yellow Rattle , Orchid seed from wild meadow harvests also included, Corn Marigold, Corn Poppy, Corncockle, Cornflower, Scentless Mayweed

3. Meadow Mixture- EC03 Woodland Wild Flower Mixture by Design By Nature.
Woodland mixture flower mostly in spring/ early summer and only a few flowers appear from June/July onwards.
This mixture will thrive in dappled light under broadleaved trees.

Species Mix:
Bluebell, Burdock, Dog Violet, Cowslip, Devils Bit Scabious, Foxglove, Hedge Garlic Mustard, Lesser Knapweed, Meadowsweet, Ramson, Red Campion, Ribwort Plantain, Sorrel, Upright Hedge Parsley, Wild Angelica, Wood Avens, Hemp Agrimony, Hoary Plantain, Primrose , Sweet Violet Wood Sage

Image 1 Image 1Managed Native Wildflower Meadow. Image Credit: Samantha Morrissey

b) Pollinator Friendly Perennial & Grass planting

These will include ornamental perennials, bulbs and ornamental grass species to high amenity areas such as the Quayside areas and will also include multistem shrubs/small trees. This plant selection, while not fully native, will be in line with the 'All Ireland Pollinator Plan 2021-2025. The planting has been selected to ensure resilient planting establishment which offers variety throughout the seasons. A select number of native species which are already present in the hedgerows on site have been included within the planting mix.

Species Mix:

Achillea 'Moonshine' *
Arbutus unedo *
Amelanchier lamarkii*
Heptacodium miconioides
Dryopteris felix-mas *
Geranium Spp. *
Calamagrostis 'Karl Foerster'
Kniphofia 'Ice Queen' *
Nepeta × faassenii *
Salvia nemerosa *
Sedum telephium *
Armeria martima *
Achillea millefolium**
Lychnis flos-cuculi**
Silene dioica**
Tanacetum vulgare**
Aquilegia vulgaris**

* Pollinator Friendly
**native plants

Image 2 Pollinator Friendly Planting in Gravel. Note Species May differ. Photo Credit: Nigel Dunnett

c) Native Tree Clusters

Developing new woodland clusters at key locations will enhance the connection between existing woodland areas in the adjacent NHA/SPA to other fragmented woodland areas to the north of the proposed site. This will generally enhance habitat creation especially for bat and bird species. It is proposed that these woodland clusters would consist primarily of native species. It is proposed that all new tree planting shall be standard with 1.8m clear stem to maintain visibility across open spaces and views to the lake.

Species Mix:
Pinus sylvestris (Native Scots Pine)
Betula Pendula and nigra (Native Birch)
Acer campestre (Field Maple)
Quercus robur (Native Oak)

Image 3 Nenagh Town Park, Pine and Birch Standard Tree planting. Image Credit: Eunice from Life in The Mouse House.

d) **Avenue Tree planting**

Avenue Trees are generally selected as a single species to define axes or major routes of circulation. Species selection often considers upright growth habit to maintain uniformity in appearance. It is proposed to line the new central spine pathway with a row of single species standard trees (Clear Stem). There will be some opportunity also to add these trees into landscaped areas between carpark areas.

Species Selected:

Acer campestre ‘Huibers Elegant’ (Field Maple)

Image 4 Acer campestre ‘Huibers Elegant’ Standard Tree in AutumnPhoto Credit. Nangle & Niesen

Image 5 Acer campestre ‘Huibers Elegant’ Standard Tree.Photo Credit. Nangle & Niesen.

e) Swale Planting

<u>Meadow Mixture</u>-EC05 Wetland Wild Flora Mixture by Design By Nature.
Devils Bit Scabious, Common Sorrel, Cowslip, Fleabane, Greater Trefoil, Hemp Agrimony, Lesser Knapweed, Marsh Cinquefoil, Marsh Marigold, Meadow Buttercup, Meadowsweet, Meadow Rue, Oxeye Daisy, Purple Loosestrife, Ragged Robin, Red Clover, Red Rattle,, Ribwort Plantain, Selfheal, Sneezewort*, Tufted Vetch, Water Avens*, Wild Angelica, Wild Valerian, Yarrow, Yellow Flag Iris, Yellow Rattle, Red Rattle

Image 6 Wildflower Swale. Image Credit: Unknown.

f) Amenity Grass

Mowed Amenity Grass Mix for all areas specified as maintained grass. The germination capacity of each constituent of the mixture should be not less than 80%, and the purity of the mixture not less than 90%. The seed is to be thoroughly re-mixed before sowing to avoid patchiness on the ground. On min depth of 250mm topsoil. Above free draining de-compacted subsoil

Species Mix:
Coburns 'Urban Parks mix' or similar @35-50g per m2

APPENDIX 2

SCOPING CORRESPONDENCE

An Roinn Tithíochta,
Rialtais Áitiúil agus Oidhreachta
Department of Housing,
Local Government and Heritage

Your Ref: 220727- Long point, Loughrea
Our Ref: G Pre00033/2023 (Please quote in all related correspondence)

15 March 2023

MKO
Tuam Road
Galway
H91 VW84

Via email: pdesmond@mkoireland.ie

Proposed Pre Planning Development: MKO for Galway County Council: Outdoor Amenity Enhancement Project: Long Point, Loughrea, Co Galway

A chara

I refer to correspondence received in connection with the above. Outlined below are heritage-related observations/recommendations co-ordinated by the Development Applications Unit under the stated headings.

Nature Conservation

The Department welcomes the correspondence in relation to the proposed Long Point, Loughrea, Outdoor Amenity Enhancement Project in Co. Galway. These observations are intended to assist you in relation to identifying potential impacts on European sites, other nature conservation sites, and biodiversity and environmental protection in general, in the context of the current proposal. The observations here are not exhaustive, and are made without prejudice to any recommendation that may be made by this Department in the future. Data collected and surveys carried out in connection with this proposed development may raise other issues that have not been considered here.

The Department recommends that an Ecological Impact Assessment (EcIA), Appropriate Assessment (AA) and Construction Environment Management Plan (CEMP) be carried out for the entire proposal.

Ecological Impact Assessment (EcIA)

In order to assess impacts on biodiversity, fauna, flora and habitats, an EcIA is required. The ecological surveys should be carried out by suitably qualified persons at an appropriate time of the year depending on the species being surveyed for. The Ecological Impact Statement (EcIS) should detail the survey methodology and timing of such surveys followed by the results. Best practice survey methodologies and guidelines should be adhered to.

Impact assessment

The impact of the proposed development should be assessed, where applicable, with regard to:

- Natura 2000 sites, i.e. Special Areas of Conservation (SAC) designated under the EC Habitats Directive (Council Directive 92/43/EEC) and Special Protection Areas designated under the EC Birds Directive (Directive 2009/147 EC), most notably the Lough Rea SAC (site code 000304) and Lough Rea SPA (site code 004134; S.I. 72 of 2010),
- Other designated sites, or sites proposed for designation, such as Natural Heritage Areas and proposed Natural Heritage Areas, Nature Reserves and Refuges for Fauna or Flora, designated under the Wildlife Acts 1976 to 2012,
- Species protected under the Wildlife Acts including protected flora,
- 'Protected species and natural habitats', as defined in the Environmental Liability Directive (2004/35/EC) and European Communities (Environmental Liability) Regulations, 2008, including Birds Directive – Annex I species and other regularly occurring migratory species, and their habitats (wherever they occur) and Habitats Directive – Annex I habitats, Annex II species and their habitats, and Annex IV species and their breeding sites and resting places (wherever they occur),
- Important bird areas such as those identified by Birdlife International,
- Features of the landscape which are of major importance for wild flora and fauna, such as those with a "stepping stone" and ecological corridors function, as referenced in Article 10 of the Habitats Directive,
- Other habitats of ecological value in a national to local context,
- Red data book species,
- and biodiversity in general.

Reference should be made to the National Biodiversity Plan and The Galway County Biodiversity Plan. Any losses of semi-natural habitat associated with this proposed development such as woodland, scrub, hedgerows and other habitats should in the first instance be avoided where possible, and mitigated for where not. The EcIS should assess cumulative impacts with other plans or projects if applicable. Where negative impacts are identified suitable mitigation measures should be detailed if appropriate.

Alien invasive species

The EcIS should also address the issue of invasive alien plant and animal species, such as Japanese Knotweed, and detail the methods required to ensure they are not accidentally introduced or spread during construction. Information on alien invasive species in Ireland can be found at http://invasives.biodiversityireland.ie/ and at http://invasivespeciesireland.com/.

Hedgerows and Treelines

Hedgerows form important wildlife corridors and provide areas for birds to nest in and should be maintained and enhanced where possible. If suitable mature trees are present, bats may roost there and they use hedgerows as flight routes. Annex IV of the EU Habitats Directive provides protection to a number of named species wherever they occur, including bats. Hedgerows also provide a habitat for woodland flora. Where trees or hedgerows have to be removed there should be suitable planting of native species in mitigation. Vegetation, hedgerows and trees should not be removed during the bird nesting season (i.e. March 1st to August 31st). Badger setts can occur within hedgerows and treelines. Badgers and their setts are protected under the provisions of the Wildlife Act, 1976, and the Wildlife Amendment Act, 2000. It is an offence to intentionally kill or injure a protected species or to wilfully interfere with or destroy the breeding site or resting place of a protected wild animal. A badger survey is recommended to address this if any removal is required.

The Department notes the presence of a strip of lakeside shrubbery/tree line (mainly willow) and recommends its retention if possible. It acts as buffer for wintering birds using the lower part of the lake from the amenity area and also acts as a foraging corridor for bats.

Bats

Bat roosts may be present in trees, buildings and bridges. Bat roosts can only be destroyed under licence under the Wildlife Acts and a derogation under the Birds and Natural Habitats Regulations and such a licence would only be given if suitable mitigation measures were implemented.

The Department notes the consideration of a public lighting strategy. Any proposed lighting should be bat friendly lighting and proven to be effective, following up-to-date guidance.

The pier structures located within the site are reinforced concrete and in poor condition. This means there are plentiful crevices and cracks that are possibly used as night roosts or summer roosts by bats, given that they are never submerged. Any proposed works involving the pier structures should be included in bat surveys by a suitably qualified ecologist.

Rivers and Wetlands

Wetlands are important areas for biodiversity. Any watercourse or wetland impacted on should be surveyed for the presence of protected species and species listed on Annexes II and IV of the Habitats Directive. These species include Otters (*Lutra lutra*), which are protected under the Wildlife Acts and listed on Annexes II and IV of the Habitats Directive, Salmon (*Salmo salar*) and Lamprey species listed on Annex II of the Habitats Directive, and White-clawed Crayfish (*Austropotamobius pallipes*) which are protected under the Wildlife Acts and listed on Annex II of the Habitats Directive, Frogs (*Rana temporaria*) and Newts (*Trituris vulgaris*) protected under the Wildlife Acts and Kingfishers (*Alcedo atthis*) protected under the Wildlife Acts and listed on Annex I of the Birds Directive (Council Directive 79/409 EEC).

Construction work should not be allowed impact on water quality and measures should be detailed in the EcIS to prevent sediment and/or fuel runoff from getting into watercourses which could adversely impact on aquatic species in SAC's and birds in the SPA's. Inland Fisheries Ireland should be consulted with regard to impacts on fish species.

Construction Environment Management Plan

Complete project details including construction management plans (CMPs) need to be provided in order to allow an adequate EcIS and Appropriate Assessment to be undertaken. Applicants need to be able to demonstrate that CMPs and other such plans are adequate and effective mitigation, supported by scientific information and analysis, and that they are feasible within the physical constraints of the site. The positions, locations and sizes of infrastructure may significantly affect European and other designated sites, habitats, and species in their own right and could have an effect for example on drainage, water quality, habitat loss, and disturbance. If these are undetermined at time of the assessment, all potential effects of the development on the site are not being considered.

Appropriate Assessment

Guidance on AA is available in the Departmental guidance document on Appropriate Assessment, which is available on the NPWS web site and in the EU Commission guidance entitled "Assessment of plans and projects significantly affecting Natura 2000 sites. Methodological guidance on the provisions of Article 6(3) and (4) of the Habitats Directive 92/43/EEC". However CJEU and Irish case law has to some extent clarified certain issues and should be also be consulted.

In order to carry out the appropriate assessment screening, and/or prepare the Natura Impact Statement (NIS), information about the relevant Natura 2000 sites including their conservation objectives will need to be collected. Details of designated sites and species and conservation objectives including the Lough Rea SAC and SPA can be found on www.npws.ie. Site-specific, as opposed to generic, conservation objectives are now available for some sites. Each conservation objective for a qualifying interest is defined by a list of attributes and targets and is often supported by further documentation. Where these are not available for a site, an examination of the attributes that are used to define site-specific conservation objectives for the same QIs in other sites can be usefully used to ensure the full ecological implications of a proposal for a site's conservation objective and its integrity are analysed and assessed. It is advised, as per the notes and guidelines in the site-specific conservation objectives that any reports quoting conservation objectives should give the version number and date, so that it can be ensured and established that the most up-to-date versions are used in the preparation of Natura Impact Statements and in undertaking appropriate assessments. Where further detail is required on any information on the website www.npws.ie, a data request form should be submitted. This can be found at http://www.npws.ie/maps-and-data/request-data.

Habitat Management Plan

Such developments can be an opportunity for ecological enhancement. However, enhancement measures must have sufficient information to be implemented effectively. It is suggested that an Habitat Management Plan (HMP) is carried out, outlining specific enhancement measures to be undertaken, the timescale for implementation, objectives to be achieved and ecological monitoring requirements.

Licenses

Where there are impacts on protected species and their habitats, resting or breeding places, licenses may be required under the Wildlife Acts or derogations under the Habitats Regulations. In particular bats and otters are strictly protected under annex IV of the Habitats Directive and a copy of Circular Letter NPWS 2/07 entitled "Guidance on Compliance with Regulation 23 of the Habitats Regulations 1997 – strict protection of certain species/applications for derogation licences" can be found on the Departmental web site at http://www.npws.ie/sites/default/files/general/circular-npws-02-07.pdf. It should be noted however that this Regulation has been replaced by SI 477 of 2011 and that section 53 is the relevant section.

In addition, licenses will be required if there are any impacts on other protected species or their resting or breeding places, such as on protected plants, badger setts or birds nests. In order to apply for any such licenses or derogations as mentioned above the results of a survey should be submitted to the National Parks and Wildlife Service of this Department. Such surveys are to be carried out by appropriately qualified person/s at an appropriate time of the year. Details of survey methodology should also be provided. Such licences should be applied for in advance of planning to avoid delays and in case project modifications are necessary. Should this survey work take place well before construction commences, it is recommended that an ecological survey of the development site should take place immediately prior to construction to ensure no significant change in the baseline ecological survey has occurred. If there has been any significant change, mitigation may require amendment and where a licence has expired, there will be a need for new licence applications for protected species.

The above observations/recommendations are based on the papers submitted to this Department on a pre-planning basis and are made without prejudice to any observations that the Minister may make in the context of any consultation arising on foot of any development application referred to the Minister, by the planning authority/ies, in the role as statutory consultee under the Planning and Development Act, 2000, as amended.

You are requested to send further communications to the Development Applications Unit (DAU) at **manager.dau@npws.gov.ie**.

Is mise le meas**,**

Diarmuid Buttimer
Development Applications Unit
Administration

Padraig Desmond

From: Housing Manager DAU <Manager.DAU@npws.gov.ie>
Sent: 15 March 2023 12:11
To: Padraig Desmond
Subject: G Pre00033/2023 - 220727 Long Point, Loughrea, Co Galway
Attachments: G Pre00033-2023 MKO 220727 Long Point, Loughrea, Co Galway.pdf

Our Ref: G Pre00033/2023

A Chara,

Please find attached Heritage related recommendations for the above mentioned pre-planning application.

Regards
Diarmuid

Diarmuid Buttimer
Executive Officer

An Roinn Tithíochta, Rialtais Áitiúil agus Oidhreachta
Department of Housing, Local Government and Heritage
Aonad na nIarratas ar Fhorbairt
Development Applications Unit
Oifigí an Rialtais
Government Offices
Bóthar an Bhaile Nua, Loch Garman, Contae Loch Garman, Y35 AP90
Newtown Road, Wexford, County Wexford, Y35 AP90

—

Diarmuid.Buttimer@npws.gov.ie
Manager.DAU@npws.gov.ie

Padraig Desmond

From: Padraig Desmond
Sent: 13 February 2023 09:03
To: 'David.Harrington@fisheriesireland.ie'
Subject: 220727 IFI consultation request for Long point, Loughrea
Attachments: Site Location .pdf; 99014 (A1m) -2023.02.08 - Long Point Project Description.pdf

Dear David,

I hope you're well.

McCarthy Keville O'Sullivan (MKO) are working with Galway county Council on an Outdoor Amenity Enhancement Project at Long Point, Loughrea, Co Galway (Location map attached). The development is currently at the early stages of the design process but include the works to improve the recreational experience at the existing amenity site. The project also aims to be biodiversity friendly through various measures. I have attached the current project description.

The proposed development site is directly adjacent to the Lough Rea SAC [000304] and Lough Rea SPA [004134]. Depending on final design, the site may partially overlap with these designated sites.

There is a likelihood that in-lake works will be required to upgrade existing pier supports, but this has not been confirmed.

We are proposing to undertake the following scope of work:

- Site multidisciplinary ecological walkover survey to NRA standards
- Dedicated night time bat survey as potential bat habitat may be lost as part of the development. The bat survey will be undertaken during the active season for bats (i.e. post April)
- Preparation of a Natura Impact Statement which will consider the potential impacts of the proposed development on European Sites and include appropriate mitigation to block any pathways for impact identified.
- Invasive species survey
- Completion of an Ecological Impact Assessment.
- Wintering bird surveys

In terms of assessing potential impacts on fisheries, the scope of works will be determined when we have a better understanding of the project.

We would appreciate any comments/recommendations regarding the ecological scope of works that could be required and the potential for impacts on fisheries within Lough Rea lake and downstream watercourses. As we are about to enter the planning application process, we would appreciate any feedback at your earliest convenience so that we can take your recommendations on board, and address any potential concerns, at the earliest possible opportunity.

Please do not hesitate to contact me if you require any further information.

Kind Regards,
Padraig Desmond.

Kind regards,
Pádraig

Pádraig Desmond
Ecologist

MKO
Tuam Road, Galway, H91 VW84

Offices in Galway and Dublin
mkoireland.ie | +353 (0)91 735 611

APPENDIX 3

LIGHTING PLAN

MWP

THE LONG POINT LOUGHREA, PUBLIC REALM UPGRADE.

Loughrea, Co Galway.

Site Lighting Overview

Contents

Project No.	Doc. No.	Rev.	Date	Prepared By	Checked By	Approved By	Status
25141	25141-MWP-00-00-RP-E-6000	P01	2024.09.24	**CK**	**FF**	**DA**	**Planning**

MWP, Engineering and Environmental Consultants
Address: Park House, Bessboro Road, Blackrock, Cork, T12 X251
www.mwp.ie

1. Site Lighting Overview

1.1 Introduction

The following report is intended to give an overview of the proposed site lighting design for the public realm update to the existing Long point amenity in Loughrea Co Galway.
It should be read in conjunction with 25141-MWP-00-00-DR-E-9150 Site Lighting Layout, 25141-MWP-00-00-DR-E-9155 Site Lighting Lux Levels and site lighting calculation reports.

The lighting has been designed and light fitting selected to limit as much as is possible spill into the natural environment. Column heights have been constrained, lux levels kept to the minimum, fittings wattages kept to the minimum, dark sky certified fittings have been selected to ensure no upward light spill, colour temperatures are proposed as 2700K and lighting controls will be implemented to ensure artificial lighting illumination hours are as limited as possible.

1.2 Carparks A, B and C

Carparks are proposed to be lit to a 5lux average in line with the lowest acceptable lux level allowed by BS 5489-1 2020 which is referenced in the Galway CoCo public lighting guidelines.

The below fitting X1 is proposed to be mounted on 5m columns, it is a dark sky certified fitting with low glare optics.

Carpark and roadway lighting (fittings X1 and X3) are proposed to be on time control and daylight control to turn on 30mins before carpark opening and 30 mins after carpark closing currently foreseen as 6.30am to 10.30pm. Daylight controls will than regulate their operation

Fitting spacings will be reduced to give a slightly higher lux level around the EV charging points and conflict zones.

Note uniformities in certain areas such as carpark B are compromised by the requirement to have very limited light spill into woodland areas.

NOTE 1 A different level may be selected at periods of night when the usage is significantly different to normal usage.

NOTE 2 Table 4 is extrapolated from BS EN 12464-2:2014, Table 5.9.

Table 4 — *Maintained lighting levels for outdoor car parks*

		Values in lux
Type of area and usage	$\bar{E}$	U_o
Light traffic, e.g. parking areas of shops, terraced and apartment houses; cycle parks	5	0.25
Medium traffic, e.g. parking areas of department stores, office buildings, plants, sports and multipurpose building complexes	10	0.25
Heavy traffic, e.g. parking areas of major shopping centres, major sports and multipurpose sports and building complexes	20	0.25

In areas with low ambient luminance or environmental sensitivity areas, car park lighting levels should be appropriate to the adjacent highway lighting levels.

Lighting for open roof level car parks should be planned to avoid visual domination of the skyline by the components used to mount the luminaires during the day and by the light sources at night.

NOTE 3 Further information is given in ILP GN01 [N2].

The boundary of open roof level car parks should be well defined by illumination of the perimeter and rails. When selecting the location of luminaires and mounting components, the need for access for maintenance should be taken into account.

Table 4 From BS 5489

Proposed Light Fitting X1 – Cree Syrius 2700k 12W

1.3 Main Roadway Down To Slipway

This roadway is proposed be lit to a P4 classification which is equivalent to a quiet residential road and aligned with the lux level for the carparks.

A more powerful 20W version of the carpark X1 light fitting is required for this route and uniformities are not fully complaint as we need to keep fittings away from the woodland area and ensure lux levels drop off at the SPA boundary.

Carpark and roadway lighting (Fittings X1 and X3) are proposed to be on time control and daylight control to turn on 30mins before carpark opening and 30 mins after carpark closing currently foreseen as 6.30am to 10.30pm. Daylight controls will than regulate their operation

Fitting spacings are aligned to give a higher lux levels at pedestrian crossings and similar conflict zones.

Road Type	Lighting Class	Maintained Average Illuminance, lx LED	Maintained minimum illuminance, lx LED	Uniformity Emin/Eav
Roads where - Night-time public use likely to be high - Or the crime risk likely to be high - Or the traffic usage is likely to be high	P2	10.0	2.0	0.2
Roads where - Public use is likely to be moderate - Or the crime risk is average to low - Or normal traffic usage is of a level equivalent to that of a housing estate access road.	P3	7.5	1.5	0.2
Roads where - Public use is likely to be moderate - Or the crime risk is average to low - Or quiet traffic usage is of a level equivalent to that of a residential roadmainly associated with the adjacent properties.	P4	5.0	1.0	0.2

A P4 Lighting Class Overview in Line with Table 3 of EN 13201-2 2015

Proposed Light Fitting X3 – Cree Syrius 2700k 20W

1.4 Pedestrian Link Route to New Crannog Viewpoint

It is proposed to light one central pedestrian route leading to the new Crannog viewing point.
Lights on this walkway proposed to be fitting X2 as shown below on a 5m column

Fitting X2 to have astronomical clock, photocell and presence sensor controls - fittings to operate on presence controls between 10.30pm and 6.30 am and daylight controls as required between 6.30am and 10.30pm. Presence controls to be linked between fittings to light up multiple fittings on one detection, zoning to be agreed at detailed design stage.

We are proposing this route as being a P5 lighting class based on the recommendations of BS 5489-1 2020 however we are closer to a P4 in our calculations due to being restricted in the type of fitting we can use and the lowest wattage available, we would propose a dimming strategy to bring this down on commissioning.

Table A.5 — *Lighting classes for subsidiary roads*

Traffic flow	Lighting class		
	E1 to E4[A)]	E1 to E2[A)]	E3 to E4[A)]
	Pedestrian and cyclists only	Speed limit $v \leq 30$ mph	Speed limit $v \leq 30$ mph
Busy [B)]	P5	P4	P3
Normal [C)]	P5	P5	P4
Quiet [D)]	P6	P5	P4

NOTE 1 Table A.5 assumes no parked vehicles; see risk assessment in A.3.3.2.

NOTE 2 An EV lighting class using vertical illuminance, from BS EN 13201-2:2015, Table 6, can be specified in addition to the general lighting class when there are particular concerns about crime and personal safety. EV is calculated at the typical height of a human face (1.5 m) and in relevant viewing orientations.

NOTE 3 To ensure adequate uniformity, the actual value of the maintained average illuminance is not to exceed 1.5 times the value indicated for the class.

NOTE 4 The actual overall uniformity of illuminance, U_o, needs to be as high as reasonably practicable (see 7.2.6).

NOTE 5 The ambient luminance descriptions E1 to E4 refer to the environmental zone as defined in ILP GN01 [N2].

NOTE 6 The illuminance classes are suggested minimum levels. A risk assessment needs to be carried out to ensure that the light levels are adequate, particularly for pedestrians and cyclists.

[A)] Environmental zone, as given in ILP GN01 [N2].

Table A5 From BS 5489-1 2020

Table 3 — P lighting classes

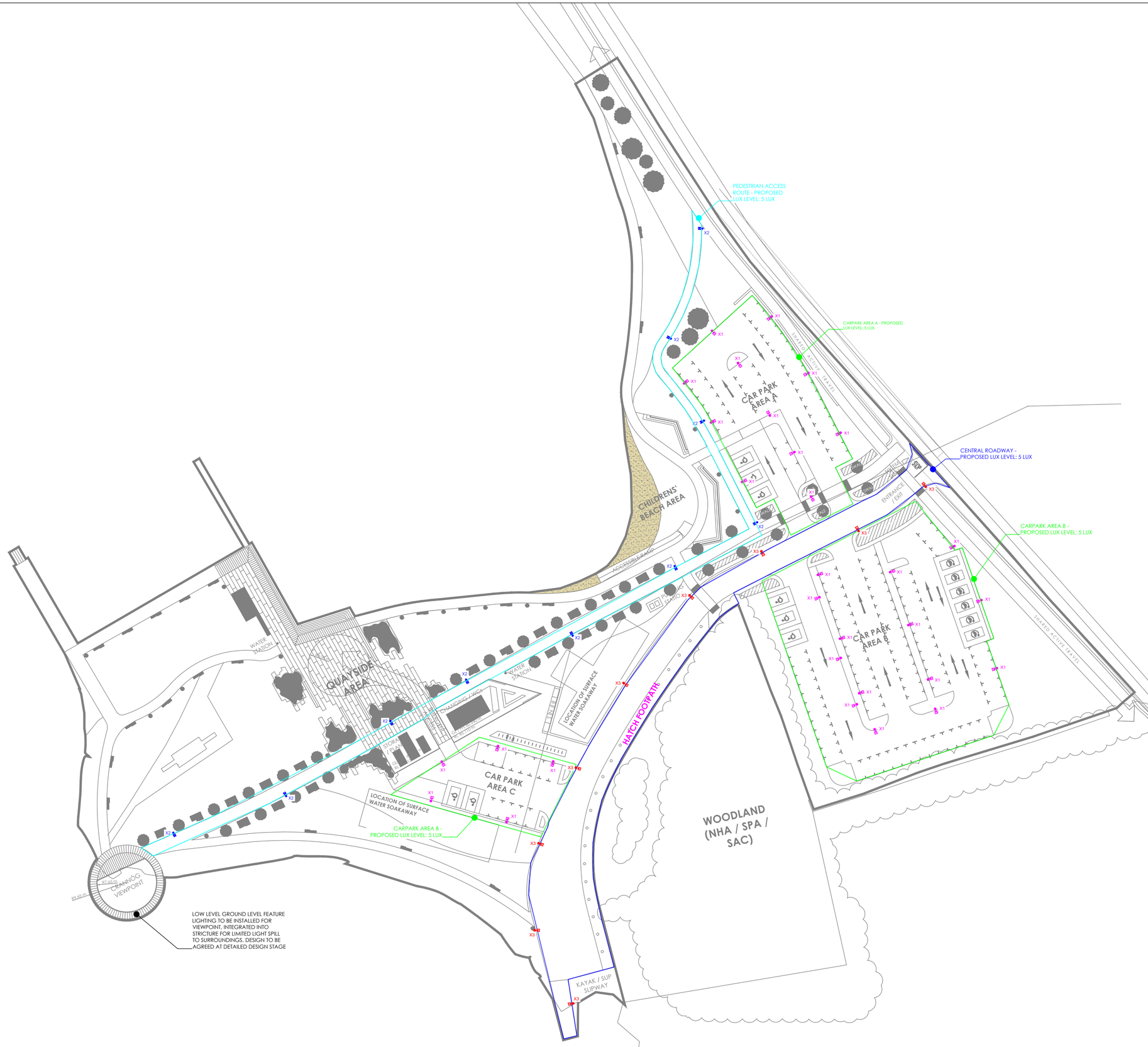
Class	Horizontal illuminance		Additional requirement if facial recognition is necessary	
	$\bar{E}$ [a] [minimum maintained] lx	E_{min} [maintained] lx	$E_{v,min}$ [maintained] lx	$E_{sc,min}$ [maintained] lx
P1	15,0	3,00	5,0	5,0
P2	10,0	2,00	3,0	2,0
P3	7,50	1,50	2,5	1,5
P4	5,00	1,00	1,5	1,0
P5	3,00	0,60	1,0	0,6
P6	2,00	0,40	0,6	0,2
P7	performance not determined	performance not determined		

[a] To provide for uniformity, the actual value of the maintained average illuminance shall not exceed 1,5 times the minimum $\bar{E}$ value indicated for the class.

NOTE 4 A high colour rendering contributes to a better facial recognition.

A P5 Lighting Class as Defined by Table 3 In EN 13201-2 2015

Proposed Lighting Fitting X2 For Pedestrian Routes, Thorn Flow 15W 2700K With Daylight and Presence Sensor Controls



LEGEND

EXTERNAL LIGHTING

X1 — LED EXTERIOR LUMINAIRE MOUNTED ON 5M COLUMN, 2700K, 12W, EXTRA LOW GLARE, CONTROLLED OPTICS

X2 — LED PEDESTRIAN FOOTPATH LIGHT ON 5m COLUMN, 2700K, EXTRA LOW GLARE, CONTROLLED OPTICS

X1 — LED EXTERIOR LUMINAIRE MOUNTED ON 5M COLUMN, 2700K, 20W, EXTRA LOW GLARE, CONTROLLED OPTICS

LIGHTING CONTROLS NOTES

1. CARPARK AND ROADWAY LIGHTING (FITTINGS X1 AND X3) TO BE ON TIME AND DAYLIGHT CONTROLS TO TURN ON 30MINS BEFORE CARPARK OPENING AND 30 MINS AFTER CARPARK CLOSING CURRENTLY FORESEEN AS 6.30AM TO 10.30PM AND THEN ACTIVATE AS REQUIRED DEPENDING ON SUNLIGHT LEVELS.

2. PEDESTRIAN ACCESS ROUTE LIGHTING (FITTING X2) TO HAVE PHOTOCELL AND PRESENCE SENSOR CONTROLS - FITTINGS TO OPERATE ON PRESENCE CONTROLS BETWEEN 10.30PM AND 6.30 AM AND DAYLIGHT CONTROLS AS REQUIRED BETWEEN 6.30AM AND 10.30PM. PRESENCE CONTROLS TO BE LINKED BETWEEN FITTINGS TO LIGHT UP MULTIPLE FITTINGS ON ONE DETECTION.

REV	DATE	DESCRIPTION	BY	APP
P02	2024.09.24	PLANNING ISSUE	CK	CK
P01	2024.09.18	INITIAL COMMENT ISSUE	CK	CK

PROJECT:
THE LONG POINT,
LOUGHREA, CO GALWAY

TITLE:
SITE LIGHTING LAYOUT

CLIENT:
GALWAY COUNTY COUNCIL

MWP
ENGINEERING AND ENVIRONMENTAL CONSULTANTS
CORK | TRALEE | LONDON | LIMERICK
mwp.ie

DRAWN:	CHECKED:	APPROVED:
CK	FF	DA
PROJECT NUMBER:	DATE:	SCALE @ A1:
25141	2024.09.17	1:500@A1
STATUS DESCRIPTION:		STATUS:
FOR REVIEW		S3
DRAWING NUMBER:		REV:
25141 - MWP - 00 - 00 - DR - E - 9150		P01

DO NOT SCALE FROM THIS DRAWING.
USE FIGURED DIMENSIONS IN ALL CASES.
VERIFY DIMENSIONS ON SITE AND REPORT ANY DISCREPANCIES TO THE DESIGNERS IMMEDIATELY.
THIS DRAWING TO BE READ IN CONJUNCTION WITH THE DESIGNERS SPECIFICATION.

LEGEND

REV	DATE	DESCRIPTION	BY	APP
P01	2024-09-24	PLANNING ISSUE	CK	CK

PROJECT:
THE LONG POINT,
LOUGHREA, CO GALWAY

TITLE:
SITE LIGHTING LUX LEVELS

CLIENT:
GALWAY COUNTY COUNCIL

MWP
ENGINEERING AND ENVIRONMENTAL CONSULTANTS
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DRAWN:	CHECKED:	APPROVED:
CK	FF	DA
PROJECT NUMBER:	DATE:	SCALE @ A1:
25141	2024.09.17	1:500@A1
STATUS DESCRIPTION:		STATUS:
FOR REVIEW		S3
DRAWING NUMBER:		REV:
25141 - MWP - 00 - 00 - DR - E - 9155		P01