

# Ecological Impact Assessment

Proposed Fire Station,  
Maynooth, Co. Kildare





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# 1. INTRODUCTION

## 1.1 Background

MKO has been commissioned to conduct an Ecological Impact Assessment (EcIA) of a proposed Fire Station development, Maynooth, Co. Kildare (grid ref: N 94064 36341).

The EcIA includes an accurate description of all aspects of the proposed development during construction, operation and decommissioning (where relevant). It then provides a comprehensive description of the baseline ecological environment, 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 were undertaken on the 13<sup>th</sup> of June 2022 by Aran von der Geest Moroney (B.Sc.) and Rachel Walsh (B.Sc.) of MKO. This report has been prepared by Aran von der Geest Moroney (B.Sc.) and Rachel Walsh (B.Sc.). The report has been reviewed by Rachel Walsh, who has 2 years' experience in ecological assessment.

## 1.3 Relevant Guidance

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 2021).
- Guidelines on the information to be contained in Environmental Impact Statements (EPA, 2022).
- Environmental Impact Assessment of National Road Schemes –A Practical Guide (NRA, 2009).
- Guidelines for assessment of Ecological Impacts of National Road Schemes, (NRA, 2009).
- Environmental Assessment and Construction Guidelines (NRA, 2006).

## 2. DESCRIPTION OF PROPOSED DEVELOPMENT

### 2.1 Site Location

The proposed development site is located east of the Straffan Road Lidl and south of Carton Court, Maynooth, Co. Kildare (grid ref: N 94064 36341). The site is located in an urban landscape surrounded by existing and in progress residential infrastructure to the southeast, north and east. The proposed development site is accessible to the south via Mullen Park Road. The Rye Water Valley/ Carton SAC is located 2.3km northeast of the proposed development site.

The location in of the development site is shown in Figure 2-1.

### 2.2 Characteristics of Proposed Development

#### 2.2.1 Development Description

Planning Permission is sought by Kildare County Council for development on a site located at Straffan Road, Maynooth, Co. Kildare.

The development will consist of the following:

- > A Training tower,
- > Signage,
- > Landscaping,
- > Connections to existing services,
- > Public footpaths,
- > and all associated site development works.

The gross site area of the proposed development is 3,016.2 m<sup>2</sup>.

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

#### 2.2.2 Site Investigations

According to tests carried out by Site Investigations Ltd. at the Development Site, no groundwater was encountered to a depth of 1.8m.

The site is located over an area classed as having 'High' groundwater vulnerability (GSI), which comprises a water table between 3m and 10m below ground level.

The proposed formation levels for the Fire Station are 1m for the main structure and 1.5m for the training tower. Therefore, works will not be in contact with groundwater.

## 2.2.3 Surface water and wastewater management

### 2.2.3.1 Proposed Surface Water Management

It is proposed to cater for the new hard standing areas and paved surfaces of the development and the additional surface run-off created by incorporating swales, permeable surfacing to the car parks, rainwater harvesting from the roof and Tree Pits/ Bio retention areas.

In the case that the soft scape SuDs measures are overwhelmed by surface water runoff there are overflows provided into an underground pipe system and attenuation tank. The surface water that does not discharge via infiltration will pass through a petrol interceptor, a flow control device limiting the flow to 2L/s/ha and finally discharge to the existing surface water pipe outside Brian Noone Ltd. To the south west of the proposed development site.

The layout drawings of the proposed surface water drainage measures are shown in Appendix I.

### 2.2.3.2 Proposed Foul Water Management

It is intended to connect to the public network via an existing sewer to the south west of the proposed development site at Mullen Park Road. A pre-connection enquiry has been sent to Irish Water to request connection to this existing sewer in relation to water and wastewater flows from the development site. A confirmation of the capability for connection was received on the 8<sup>th</sup> of June 2022 and is attached to this report as Appendix II.

The layout drawings of the proposed new foul drainage measures as well as the location of the existing public sewer are shown in Appendix I.

## 2.2.4 Lighting

The lighting plan for the operational phase of the proposed development will take into consideration the following guidelines: 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.

The proposed light scheme is designed to help mitigate the effect of the artificial lighting on the local bat populations by incorporating the following:

- The Upward Light Output Ratio (ULOR) will be 0%. Lighting fixtures will be fitted with back-louvers on the columns to reduce light spill.
- The proposed light fixtures will be of colour temperature - Warm White (2700K/3000K).
- The public lighting will be designed to a Lighting class of P4 (EN13201) with a Dimming regime programme of 33% reduction between the hours of 00.00-06.00hrs (Dimming Profile 15B) i.e. reduced illuminance during hours of lower human activity
- The resulting light levels on the hedgerow to the north of the site will be <1 Lux

The proposed lighting layout and illuminance calculations are shown in Appendix III.

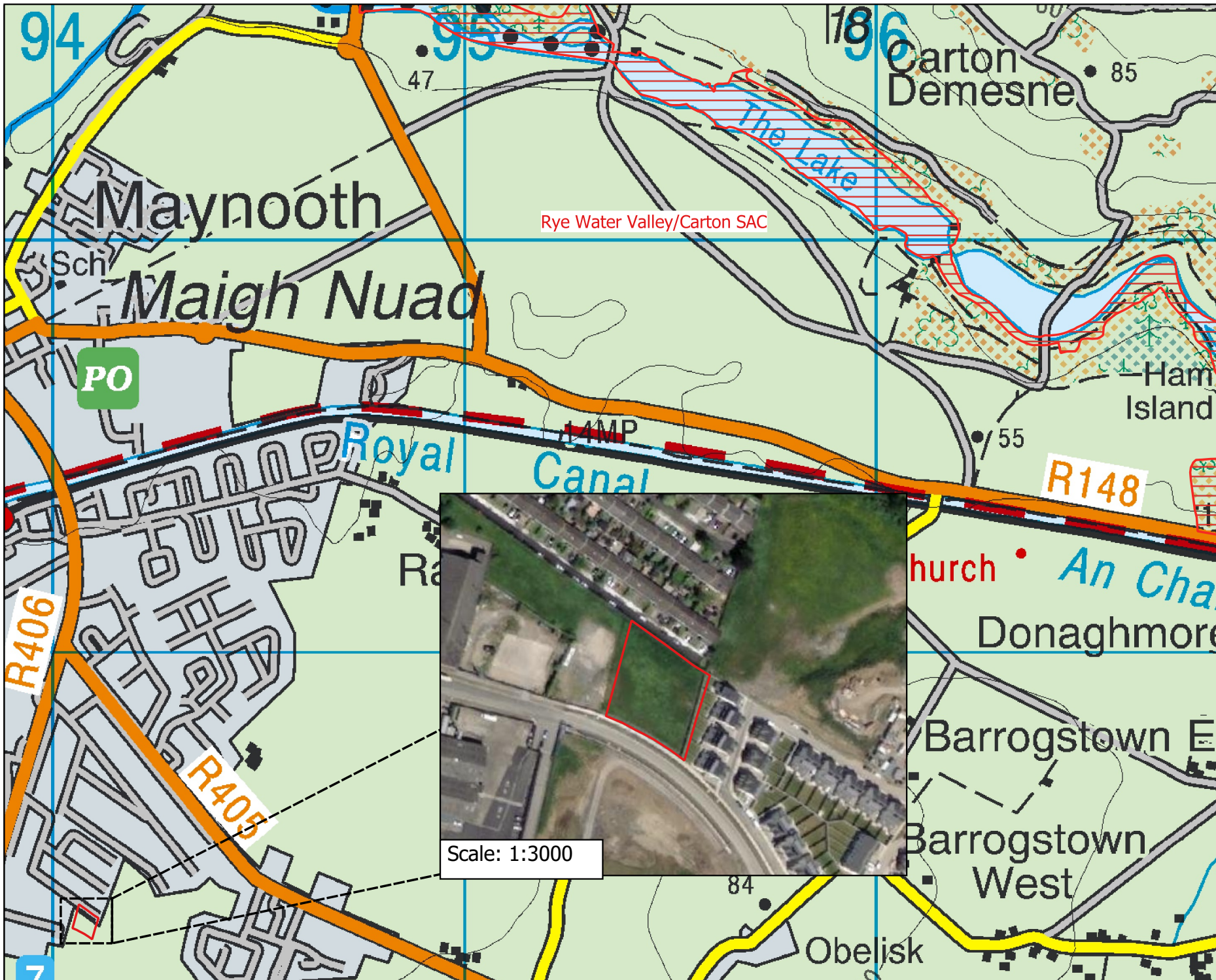
## 2.2.5 Landscaping

The margins of the proposed development site will consist of grassy areas. The hedgerow present at the northern boundary of the proposed development site will be retained. A fence will be erected between







the hedgerow currently on site and the rest of the proposed development. No loss of hedgerow will occur as a result of the proposed development.



Scale: 1:3000

Map Legend

-  Site Boundary
-  Special Area of Conservation (SAC)



Drawing Title

Site location

Project Title

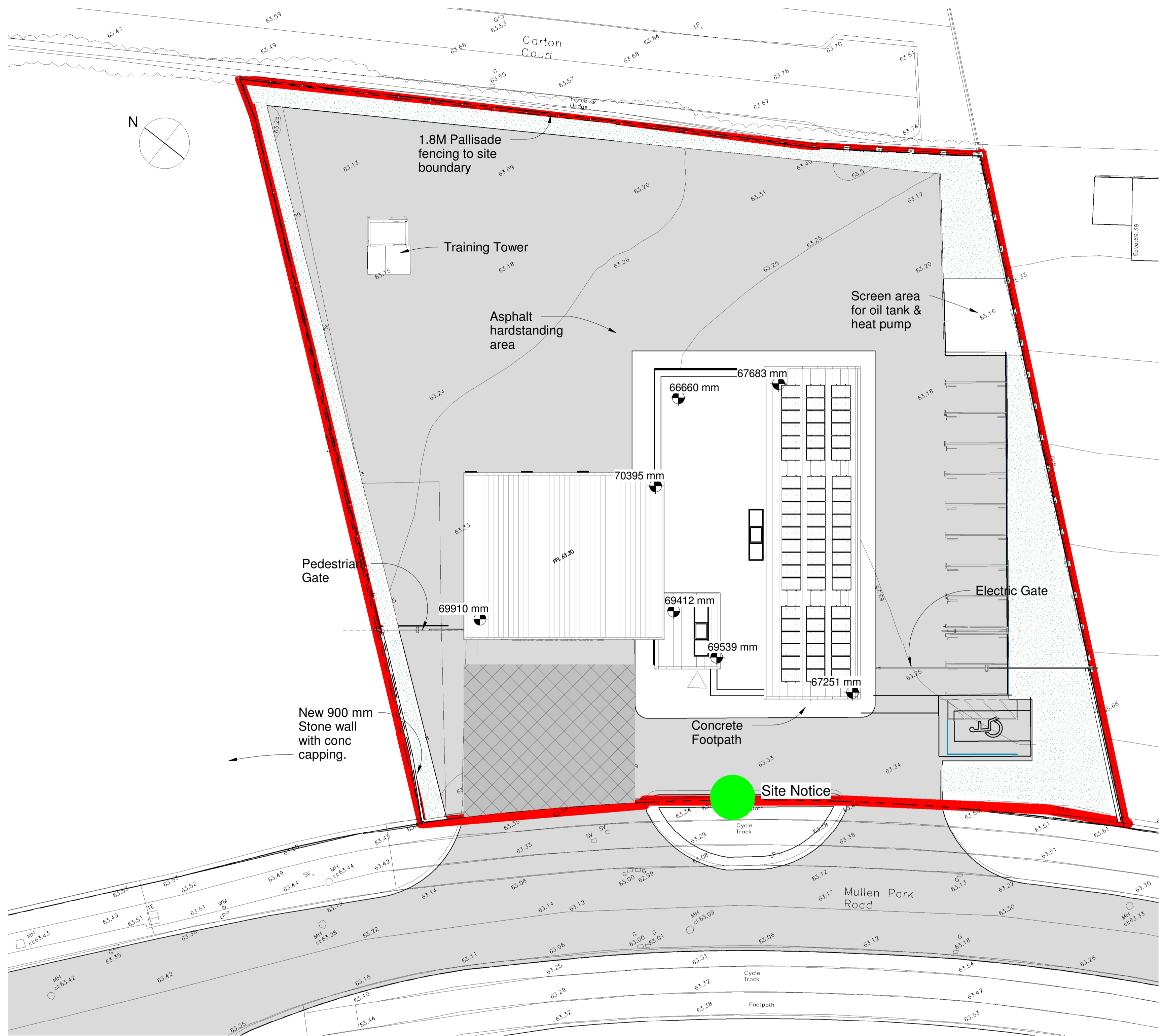
Maynooth Fire Station Development

Drawn By	AvdGM	Checked By	RW
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Scale	1:12015	Date	2022-08-19



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1 Proposed Site layout  
1 : 200



5 1 Ariel View



4 2 External View East



3 3 External View West

Figure 2-2

**NOTE:**

- ALL SERVICES, LEVELS AND STRUCTURE TO ENGINEERS DETAILS/SPECIFICATION.
- SEE SITE PLAN FOR FFL & ORIENTATION OF UNITS
- NOT FOR CONSTRUCTION PURPOSES.

**DRAFT PLANNING**

Rev	Description	By	Date
1	VINCENT HANNON ARCHITECTS Silgo Suite 4, Abbey Street North, Dublin Road, Silgo, F91 X260 E: info@vhaha.ie T: 071 915 0022	Galway Suite 4, Cloch Mhile, Dublin Road, Galway, H91 V97E T: 091 483 934	Maynooth Office 20, Block B, Maynooth Business Campus, Kildare T: 071 915 0022
Client: Kildare County Council		Project: Maynooth Fire Station	
Drawing Description: Site Plan		Scale: As indicated	
Status: Planning	Drawing No: 220211 - 1 - 100	Rev: 4	
Date: 07/06/22	Drawn by: HAN	Checked by: BF	

## 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, 2018).

### 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)
- Review of the publicly available National Biodiversity Data Centre web-mapper
- Review of specially requested records from the NPWS Rare and Protected Species Database for the hectad in which the Proposed Development is located.
- Review of NPWS Article 17 Metadata and GIS Database Files

#### 3.1.1 Multi-disciplinary ecological walkover surveys

Multi-disciplinary ecological walkover surveys were undertaken on the 13<sup>th</sup> of June 2022 by Aran von der Geest Moroney (B.Sc.) and Rachel Walsh (B.Sc.) of MKO, in accordance with NRA *Guidelines on Ecological Surveying Techniques for Protected Flora and Fauna on National Road Schemes* (NRA, 2009). The study area for the walkover survey included the proposed development site. This survey provided baseline data on the ecology of the study area and assessed whether further detailed habitat or species-specific ecological surveys were required. The multi-disciplinary ecological walkover survey comprehensively covered the entire study area.

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

Plant nomenclature for vascular plants follows 'New Flora of the British Isles' (Stace, 2010), while mosses and liverworts nomenclature follows 'Mosses and Liverworts of Britain and Ireland - a field guide' (British Bryological Society, 2010).

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.

A badger survey was conducted to determine the presence or absence of badger signs within and outside (areas of identified suitable habitat) the *Proposed Development* footprint and study area. This involved a search for all potential badger signs as per NRA (2009) (latrines, badger paths and setts). If encountered, setts would be classified as per the convention set out in NRA (2009) (i.e. Main, Annex, Subsidiary, Outlier).

A search for non-native invasive species was also undertaken. The survey focused on the identification of invasive species listed under the Third Schedule of the European Communities (Birds and Natural Habitats) Regulations 2011 (As Amended) (S.I. 477 of 2015).

Dedicated bat surveys were also carried out at the proposed development site. Details of these surveys can be found in the following subsection.

### 3.1.2 2022 Bat Surveys

During the multidisciplinary walkover survey, the hedgerow along the proposed development site northern boundary was assessed for its suitability for bats according to Collins, J. (ed.) (2016) which provides a grading protocol for roosting habitats and for commuting and foraging areas. Suitability categories are divided into *High*, *Moderate*, *Low* and *Negligible*.

#### 3.1.2.1 Dusk Activity Survey

A dusk activity survey was carried out on the 13<sup>th</sup> of June 2022. Two surveyors were equipped with an active full spectrum bat detector - a Batlogger M (Elekon, Lucerne, Switzerland), and walked a transect route within the site, focusing on potentially suitable habitat features for bats. 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.

The dusk survey commenced 10 minutes before sunset and was completed 2 hours after sunset. Conditions were suitable for bat survey as per Collins (2016); dry, mild (17° C at sunset) with only light air (Beaufort Scale Force 1). The moon was not visible, and cloud cover was 100% during the dusk survey.

April to September are within the suitable survey period for bat activity surveys, provided weather conditions are favourable (Collins, 2016). No limitations associated with seasonality, timing or weather conditions were identified.

#### 3.1.2.2 Static Detector Survey

One full spectrum bat detector (Song Meter Mini Bat, Wildlife Acoustics, Maynard, MA, USA), was deployed to record bat activity. The detector was deployed at a fixed location for 11 nights, between 13<sup>th</sup> of June and 23<sup>rd</sup> of June 2022. The detector location can be found in Section 5.2.1 and Figure 5.2.

The location of the static detector was selected to ascertain the usage of linear habitats within the site by bats. Settings used were those recommended by the manufacturer for bats, with minor adjustments in gain settings and band pass filters to reduce background noise when recording. Detectors were set to record from 30 minutes before sunset until 30 minutes after sunrise. The Song Meter automatically adjusts sunset and sunrise times using the Solar Calculation Method when provided with GPS coordinates.

All recordings were later analysed using bat call analysis software Kaleidoscope Pro v.5.1.9 (Wildlife Acoustics, MA, USA). Bat species were identified using established call parameters, to create site-specific custom classifiers. All identified calls were also manually verified.

## 3.2 Methodology for Assessment of Impacts and Effects

### 3.2.1 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.

### 3.2.2 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.

### 3.2.3 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 and the assessment is in accordance with those guidelines.

The terminology used in the determination of significance follows the suggested language set out in the Draft EPA Guidelines (2017) as shown in Table 3-1 below.

Table 3-1 Criteria for determining significance of effect, based on (EPA, 2017) guidelines

Effect Magnitude	Definition
No change	No discernible change in the ecology of the affected feature.
Imperceptible effect	An effect capable of measurement but without noticeable consequences.
Not Significant	An effect which causes noticeable changes in the character of the environment but without significant consequences.
Slight effect	An effect which causes noticeable changes in the character of the environment without affecting its sensitivities.
Moderate effect	An effect that alters the character of the environment that is consistent with existing and emerging trends.
Significant effect	An effect which, by its character, its magnitude, duration or intensity alters a sensitive aspect of the environment.
Very Significant	An effect which, by its character, magnitude, duration or intensity significantly alters most of a sensitive aspect of the environment.
Profound effect	An effect which obliterates sensitive characteristics.

As per TII (NRA, 2009) and CIEEM (2019) best practice guidelines the following key elements should also be examined when determining the significance of effects:

1. The likely effects on 'integrity' should be used as a measure to determine whether an impact on a site is likely to be significant (NRA, 2009)
2. A 'significant effect' is an effect that either supports or undermines biodiversity conservation objectives (CIEEM, 2019)

## Integrity

In the context of EcIA, 'integrity' refers to the coherence of the ecological structure and function, across the entirety of a site, that enables it to sustain all of the ecological resources for which it has been valued. Impacts resulting in adverse changes to the nature, extent, structure and function of component habitats and effects on the average population size and viability of component species, would affect the integrity of a site, if it changes the condition of the ecosystem to unfavourable.

## Conservation status

An impact on the conservation status of a habitat or species is considered to be significant if it will result in a change in conservation status. According to CIEEM (2019) guidelines the definition for conservation status in relation to habitats and species are as follows:

- Habitats – conservation status is determined by the sum of the influences acting on the habitat that may affect its extent, structure and functions as well as its distribution and its typical species within a given geographical area
- Species – conservation status is determined by the sum of influences acting on the species concerned that may affect its abundance and distribution within a given geographical area.

As defined in the EU Habitats Directive 92/43/EEC, the conservation of a habitat is favourable when:

- Its natural range, and areas it covers within that range, are stable or increasing
- The specific structure and functions which are necessary for its long-term maintenance exist and are likely to continue to exist for the foreseeable future
- The conservation status of its typical species is favourable.

The conservation of a species is favourable when:

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

According to the NRA/CIEEM methodology, if it is determined that the integrity and/or conservation status of an ecological feature will be impacted on, then the level of significance of that impact is related to the geographical scale at which the impact will occur (i.e. local, county, national, international).



## 4. DESK STUDY

### 4.1 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.

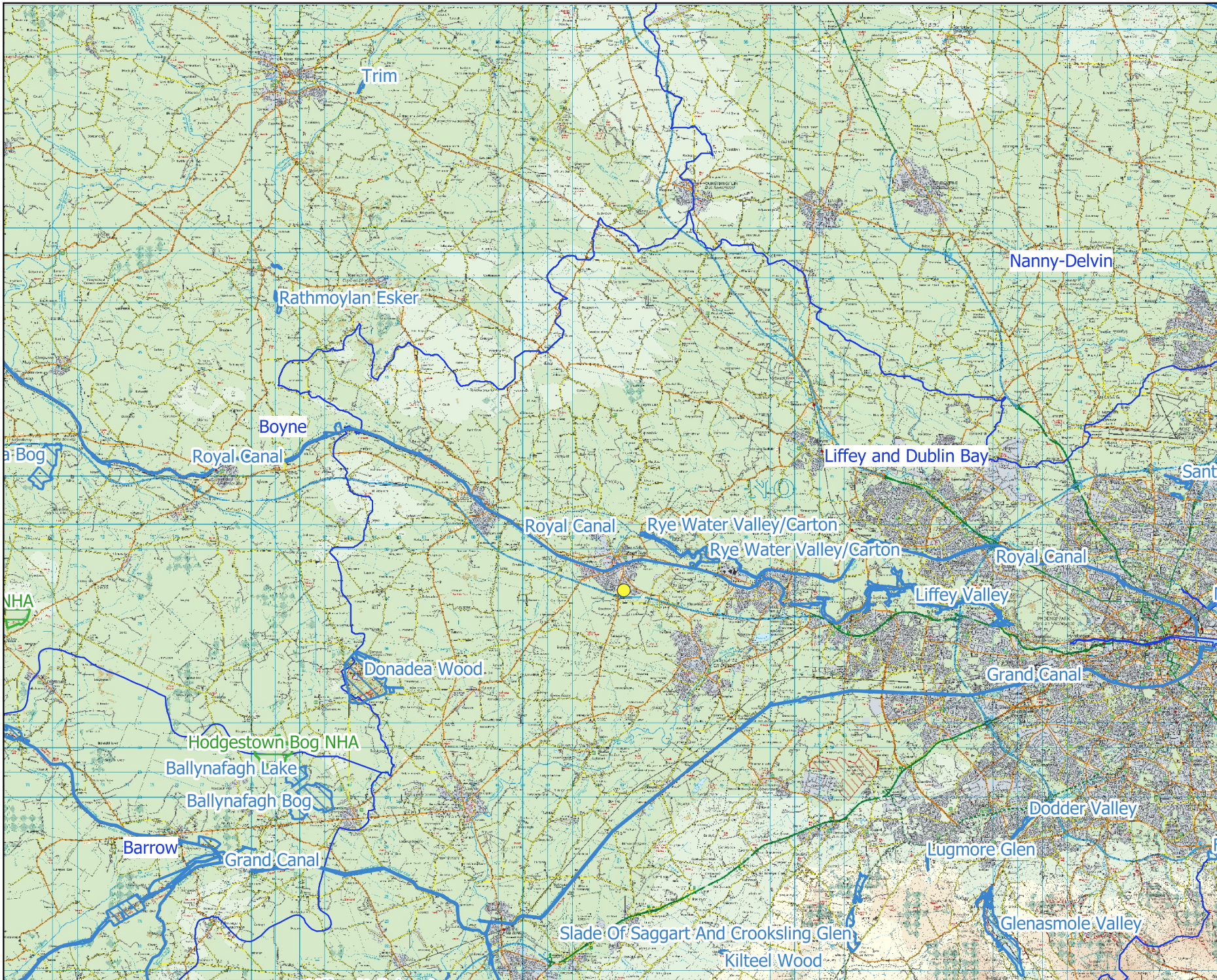
Special Areas of Conservation (SACs) and Special Protection Areas for Birds (SPAs) are designated under EU Habitats Directive and are collectively known as 'European Sites'. The potential for effects on European Sites is fully considered in the AA Screening Report that accompanies this application. No potential for significant effects were found for any European Sites.

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 Section 6.4.2 of this EcIA.

The following methodology was used to establish which nationally designated sites have the potential to be impacted by the proposed development:

- Initially the most up to date GIS spatial datasets for all nationally designated sites and water catchments were downloaded from the NPWS website ([www.npws.ie](http://www.npws.ie)) and the EPA website ([www.epa.ie](http://www.epa.ie)) on the 04/08/2022. The datasets were utilized to identify Designated Sites which could feasibly be affected by the proposed development.
- All Nationally Designated Sites that could potentially be affected were identified using a source-pathway - receptor model. To provide context for the assessment, Nationally Designated Sites within a distance of 15km surrounding the development site are shown on Figure 4-1. Sites that were further away from the proposed development were also considered. In this case, no potential for significant effect on sites more than 15km from the development site was identified.
- A map of all the Nationally Designated Sites around the Development Site is provided in Figure 4-1.
- Catchment mapping was used to establish or discount potential hydrological connectivity between the site of the proposed development and any Nationally Designated Sites. The hydrological catchments are also shown in Figure 4-1.
- Table 4-1 provides details of all relevant Nationally Designated Sites as identified in the preceding steps and assesses which, if any, are within the likely Zone of Impact.
- The site synopses for these sites, as per the NPWS website ([www.npws.ie](http://www.npws.ie)), were consulted and reviewed at the time of preparing this report.



- ### Map Legend
- Site Location
  - Natural Heritage Area (NHA)
  - Proposed Natural Heritage Area (pNHA)
  - WFD Catchments



Drawing Title  
**Site Location in relation to Nationally Designated Sites**

Project Title  
**Maynooth Fire Saton Development**

Drawn By	Checked By
AvdGM	RW
Project No.	Drawing No.
220424	Fig 4-1
Scale	Date
1:200000	2022-08-19

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Table 4-1 Identification of Designated sites within the Likely Zone of Impact.

Designated Sites and distance from proposed development	Likely Zone of Impact Determination
<b>Natural Heritage Areas (NHA)</b>	
<p>Hodgestown Bog NHA (001393)</p> <p><b>Distance:</b> 14.8km</p>	<p>The proposed development site is located completely outside of the NHA. Therefore, there is no potential for direct effects.</p> <p>There is no complete source-pathway-receptor chain for impact between the proposed development and this NHA as the NHA is designated for terrestrial habitats. Given the nature and scale of the proposed works and the separation in distance between the proposed site and these designated sites, there is no potential for significant indirect effect.</p> <p><b>These sites are not within the Likely Zone of Impact and no further assessment is required.</b></p>
<b>Proposed Natural Heritage Areas (pNHA)</b>	
<p>Royal Canal (002103)</p> <p><b>Distance:</b> 1km</p>	<p>There will be no direct effects as the project footprint is located entirely outside this pNHA.</p> <p>There are no surface water features present within or adjacent to the development site. The proposed development site is situated in an area of high groundwater vulnerability with a water table level at 3-10m depth (GSI) and within the same groundwater body as the pNHA. However, the formation level for the foundations will be 1m for the main structure and 1.5m for the training tower. In addition, during the Site Investigation works carried out on the proposed development site, no groundwater was encountered to a depth of 1.8m (Section 2.2.2). The depths of foundations on the proposed development site are outside the water table range as per GSI and Site investigations works. Therefore, no source-pathway-receptor chain for indirect effect was identified between the proposed development site and the pNHA.</p> <p><b>This site is not within the Likely Zone of Impact and no further assessment is required.</b></p>
<p>Rye Water Valley/Carton (001398)</p> <p><b>Distance:</b> 2.3km</p>	<p>There will be no direct effects as the project footprint is located entirely outside this pNHA.</p> <p>There are no surface water features present within or adjacent to the development site. The proposed development site is situated in an area of high groundwater vulnerability with a water table level at 3-10m depth (GSI) and within the same groundwater body as the pNHA. However, the formation level for the foundations will be 1m for the main structure and 1.5m for the training tower. In addition, during the Site Investigation works carried out on the proposed development site, no groundwater was encountered to a depth of 1.8m (Section 2.2.2). The depths of foundations on the proposed development site are outside the water table range as per GSI and Site investigations works. Therefore, no source-pathway-receptor chain for indirect effect was identified between the proposed development site and the pNHA.</p> <p><b>This site is not within the Likely Zone of Impact and no further assessment is required.</b></p>
<p>Liffey Valley (000128)</p>	<p>There will be no direct effects as the project footprint is located entirely outside this pNHA.</p>

Designated Sites and distance from proposed development	Likely Zone of Impact Determination
<p><b>Distance:</b> 6.8km</p>	<p>There are no surface water features present within or adjacent to the development site. The proposed development site is situated in an area of high groundwater vulnerability with a water table level at 3-10m depth (GSI) and within the same groundwater body as the pNHA. However, the formation level for the foundations will be 1m for the main structure and 1.5m for the training tower. In addition, during the Site Investigation works carried out on the proposed development site, no groundwater was encountered to a depth of 1.8m (Section 2.2.2). The depths of foundations on the proposed development site are outside the water table range as per GSI and Site investigations works. Therefore, no source-pathway-receptor chain for indirect effect was identified between the proposed development site and the pNHA.</p> <p><b>This site is not within the Likely Zone of Impact and no further assessment is required.</b></p>
<p>Grand Canal (002104)</p> <p><b>Distance:</b> 7.3km</p>	<p>There will be no direct effects as the project footprint is located entirely outside this pNHA.</p> <p>There are no surface water features present within or adjacent to the development site. The proposed development site is situated in an area of high groundwater vulnerability with a water table level at 3-10m depth (GSI) and within the same groundwater body as the pNHA. However, the formation level for the foundations will be 1m for the main structure and 1.5m for the training tower. In addition, during the Site Investigation works carried out on the proposed development site, no groundwater was encountered to a depth of 1.8m (Section 2.2.2). The depths of foundations on the proposed development site are outside the water table range as per GSI and Site investigations works. Therefore, no source-pathway-receptor chain for indirect effect was identified between the proposed development site and the pNHA.</p> <p><b>Zone of Impact and no further assessment is required.</b></p>
<p>Donadea Wood (001391)</p> <p><b>Distance:</b> 9.8km</p>	<p>The proposed development site is located completely outside of the pNHA. Therefore, there is no potential for direct effects.</p> <p>There is no complete source-pathway-receptor chain for impact between the proposed development and this pNHA as the pNHA is designated for terrestrial habitats. Given the nature and scale of the proposed works and the separation in distance between the proposed site and these designated sites, there is no potential for significant indirect effect.</p> <p><b>These sites are not within the Likely Zone of Impact and no further assessment is required.</b></p>
<p>Ballyfanagh Bog (000391)</p> <p><b>Distance:</b> 14.4km</p>	<p>The proposed development site is located completely outside of the pNHA. Therefore, there is no potential for direct effects.</p> <p>There is no complete source-pathway-receptor chain for impact between the proposed development and this pNHA as the pNHA is designated for terrestrial habitats. Given the nature and scale of the proposed works and the separation in distance between the proposed site and these designated sites, there is no potential for significant indirect effect.</p> <p><b>These sites are not within the Likely Zone of Impact and no further assessment is required.</b></p>

Designated Sites and distance from proposed development	Likely Zone of Impact Determination
<p>Ballyfanagh Lake (001387)</p> <p><b>Distance:</b> 14.7km</p>	<p>There will be no direct effects as the project footprint is located entirely outside this pNHA.</p> <p>There is no hydrological connectivity between the designated site and the development site as the development site is located within a separate catchment to the pNHA. There is no potential for indirect effects.</p> <p><b>This site is not within the Likely Zone of Impact and no further assessment is required.</b></p>
<p>Slade of Saggart and Crooksling Glen (000211)</p> <p><b>Distance:</b> 14.8km</p>	<p>There will be no direct effects as the project footprint is located entirely outside this pNHA.</p> <p>There is no hydrological connectivity between the designated site and the development site as the development site is located within a separate catchment to the pNHA. There is no potential for indirect effects.</p> <p><b>This site is not within the Likely Zone of Impact and no further assessment is required.</b></p>

## 4.2

## 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 square in which the study site is situated (N93), during the 1987-1999 atlas survey. The results of the search are included in the Table below

Table 4-2 Records of species listed under the Flora Protection Order 2015 or the Irish Red Data Book for Vascular Plants [N93].

Common Name	Scientific Name	Status
Shepherd's-needle	<i>Scandix pecten-veneris</i>	Red list (RE)
Green-winged Orchid	<i>Orchis morio</i>	Red list (VU)
Red Hemp-needle	<i>Galeopsis angustifolia</i>	Red list (VU)
Hairy St John's-wort	<i>Hypericum hirsutum</i>	Red list (VU)
Hairy Violet	<i>Viola hirta</i>	Red list (VU)
Erect Brome	<i>Bromopsis erecta</i>	Red list (NT)
Greater Knapweed	<i>Centaurea scabiosa</i>	Red list (NT)
Autumn Gentian	<i>Gentianella amarella</i>	Red list (NT)
Corn Marigold	<i>Chrysanthemum segetum</i>	Red list (NT)

Opposite-Leaved Pondweed	<i>Groenlandia densa</i>	Red list (NT)
Henbane	<i>Hyoscyamus niger</i>	Red list (NT)
Pale Flax	<i>Linum bienne</i>	Red list (NT)
Common Gromwell	<i>Lithospermum officinale</i>	Red list (NT)
Tubular Water-dropwort	<i>Oenanthe fistulosa</i>	Red list (NT)
Green Figwort	<i>Scrophularia umbrosa</i>	Red list (NT)
Green Field Speedwell	<i>Veronica agrestis</i>	Red list (NT)

## 4.3

## Biodiversity Ireland Database

The National Biodiversity Data centre database was accessed on 04/08/2021 and the following information was obtained. Table 4-3 lists the protected faunal species (excluding birds) recorded within the hectad which pertains to the current study area (N93). The database was also searched for records of Third Schedule non-native invasive species within the hectad. Table 4-4 lists the non-native invasive species recorded within the hectad. Table 4-5 lists all the protected bird species recorded within the hectad which pertains to the current study area.

Table 4-3 NBDC records for protected flora/fauna records (excl. birds) for hectad N93.

Common Name	Scientific Name	Status
Otter	<i>Lutra lutra</i>	Annex II, Annex IV, Wildlife Acts
Pine Marten	<i>Martes martes</i>	Annex V, Wildlife Acts
Smooth Newt	<i>Lissotriton vulgaris</i>	Wildlife Acts
Brown Long-eared Bat	<i>Plecotus auratus</i>	Annex IV, Wildlife Acts
Daubenton's Bat	<i>Myotis daubentoniid</i>	Annex IV, Wildlife Acts
Natterer's Bat	<i>Myotis natterei</i>	Annex IV, Wildlife Acts
Pipistrelle	<i>Pipistrellus pipistrellus</i>	Annex IV, Wildlife Acts
Freshwater White-clawed Crayfish	<i>Austropotamobius pallipes</i>	Annex II, V; Wildlife Acts
Desmoulin's Whorl Snail	<i>Vertigo (Vertigo) moulinsiana</i>	Annex II, Wildlife Acts
Eurasian Badger	<i>Meles meles</i>	WA
Common Frog	<i>Rana temporaria</i>	Annex V Wildlife Acts
Narrow-mouthed Whorl Snail	<i>Vertigo (Vertilla) angustior</i>	Annex II WA
Eurasian Pygmy Shrew	<i>Sorex minutus</i>	WA
Lesser Noctule	<i>Nyctalus leisleri</i>	Annex IV, WA

Common Name	Scientific Name	Status
Red Squirrel	<i>Sciurus vulgaris</i>	Wildlife Acts
Irish Hare	<i>Lepus timidus subsp. hibernicus</i>	Annex V Wildlife Acts
Irish Stoat	<i>Mustela erminea subsp. hibernica</i>	Wildlife Acts
Hedgehog	<i>Erinaceus europaeus</i>	Wildlife Acts
Red Deer	<i>Cervus Elaphus</i>	WA
Whiskered Bat	<i>Myotis mystacinus</i>	Annex IV, WA

Annex II, Annex IV, Annex V – Of EU Habitats Directive, WA – Irish Wildlife Acts (1976-2017) FPO= Flora Protection Order.

Table 4-4 NBDC records for Invasive species for hectad N93.

Common Name	Scientific Name
Canadian waterweed	<i>Elodea canadensis</i>
Giant Hogweed	<i>Heracleum mantegazzianum</i>
Indian Balsam	<i>Impatiens glandulifera</i>
Japanese knotweed	<i>Fallopia japonica</i>
Rhododendron ponticum	<i>Rhododendron ponticum</i>
Three-cornered Garlic	<i>Allium triquetrum</i>
Harlequin Ladybird	<i>Harmonia axyridis</i>
American Mink	<i>Mustela vison</i>
Brown Rat	<i>Rattus norvegicus</i>
Eastern Grey Squirrel	<i>Sciurus carolinensi</i>

Table 4-5 NBDC Records for Birds for hectad N93.

Common Name	Scientific Name	Status
Little Egret	<i>Egretta garzetta</i>	Annex I EU Birds Directive
Peregrine Falcon	<i>Falco peregrinu</i>	
Corn Crake	<i>Crex crex</i>	Annex I EU Birds Directive Red List
Kingfisher	<i>Alcedo atthis</i>	Annex I, EU Birds Directive, Amber List
Hen Harrier	<i>Circus cyaneus</i>	
Common Kestrel	<i>Falco tinnunculus</i>	Red List

Common Name	Scientific Name	Status	
Curlew	<i>Numenius arquata</i>		
Barn Owl	<i>Tyto alba</i>		
Meadow Pipit	<i>Anthus pratensis</i>		
Northern Lapwing	<i>Vanellus vanellus</i>		
Eurasian Woodcock	<i>Scolopax rusticola</i>		
Grey Partridge	<i>Perdix perdix</i>		
Grey Wagtail	<i>Motacilla cinerea</i>		
Herring Gull	<i>Larus argentatus</i>		
Yellowhammer	<i>Emberiza citronella</i>		
Common Swift	<i>Apus apus</i>		
Black-headed Gull	<i>Larus ridibundus</i>		
Stock Pigeon	<i>Columba oenas</i>		Amber List
Goldcrest	<i>Regulus regulus</i>		
House Sparrow	<i>Passer domesticus</i>		
House Martin	<i>Delichon urbicum</i>		
Lesser Black-backed Gull	<i>Larus fuscus</i>		
Great Cormorant	<i>Phalacrocorax carbo</i>		
Great Crested Grebe	<i>Podiceps cristatus</i>		
Mute Swan	<i>Cygnus olor</i>		
Eurasian Teal	<i>Anas crecca</i>		
Barn Swallow	<i>Hirundo rustica</i>		
Common Coot	<i>Fulica atra</i>		
Common Linnet	<i>Carduelis cannabina</i>		
Tree Sparrow	<i>Passer montanus</i>		
Common Starling	<i>Sturnus vulgaris</i>		
Tufted Duck	<i>Aythya fuligul</i>		
House Martin	<i>Delichon urbicum</i>		



Common Name	Scientific Name	Status
Sand Martin	<i>Riparia riparia</i>	
Spotted Flycatcher	<i>Muscicapa striata</i>	
Sky Lark	<i>Alauda arvensis</i>	
Common Grasshopper Warbler	<i>Locustella naevia</i>	
Common Snipe	<i>Gallinago gallinago</i>	
Eurasian Woodcock	<i>Scolopax rusticola</i>	
Little Grebe	<i>Tachybaptus ruficollis</i>	
Mew Gull	<i>Larus canus</i>	
Mute Swan	<i>Cygnus olor</i>	
Red Kite	<i>Milvus milvus</i>	
Water Rail	<i>Rallus aquaticus</i>	

Annex I – Of EU Birds Directive, Red List, Amber List – Birds of Conservation Concern in Ireland (Population for which the species is red, or amber listed in brackets).

## 4.4 NPWS Data

A data request was sent to the NPWS and data received in relation to the 10km grid square N93 on the 04/07/2022. Table 4-6 lists the rare and protected species records obtained from the NPWS during this study.

Table 4-6 Records for rare and protected species, NPWS.

Common Name	Scientific Name	Status	Hectad(s)
Smooth Newt	<i>Lissotriton vulgaris</i>	WA	N93
Irish Stoat	<i>Mustela erminea subsp. hibernica</i>	Annex II, IV	N93
West European Hedgehog	<i>Erinaceus europaeus</i>	WA	N93
Hairy St John's-wort	<i>Hypericum hirsutum</i>	FPO	N93
Eurasian Badger	<i>Meles meles</i>	WA	N93
Irish Hare	<i>Lepus timidus subsp. hibernicus</i>	WA	N93
Common Frog	<i>Rana temporaria</i>	WA, Annex V	N93

Common Name	Scientific Name	Status	Hectad(s)
Narrow-mouthed Whorl Snail	<i>Vertigo angustior</i>	Annex II	N93
Desmoulin's Whorl Snail	<i>Vertigo moulinsiana</i>	Annex II	N93
Green Figwort	<i>Scrophularia umbrosa</i>	N/A	N93
Gentianella amarella subsp. hibernica	<i>Gentianella amarella subsp. hibernica</i>	N/A	N93
White-clawed Crayfish	<i>Austropotamobius pallipes</i>	Annex II, IV; WA	N93
Green-winged Orchid	<i>Orchis morio</i>	Formerly protected by the FPO	N93
Red Hemp-nettle	<i>Galeopsis angustifolia</i>	FPO	N93
Shepherd's-needle	<i>Scandix pecten-veneris</i>	Extinct	N93

Annex II, Annex IV, Annex V - Of EU Habitats Directive, WA - Irish Wildlife Acts (1976-2017), BoCCI Red List - Birds of Conservation Concern in Ireland (Population for which the species is red listed in brackets).

## 4.5 Water Quality

### 4.5.1 EPA Water Quality Data

The EPA Envision map viewer was consulted on the 4<sup>th</sup> of August 2022 regarding the water quality status of watercourses surrounding the proposed development. 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 proposed development site is located entirely within the Liffey and Dublin Bay Catchment, Hydrometric Area 09 and within Lyreen\_SC\_010 sub-catchment and the LYREEN\_020 sub-basin.

There are no hydrological features within or adjacent to the development site. The Taghadoe stream [EPA Code: 09T05] is located approx. 690m west of the proposed development site. The Taghadoe flows into the Lyreen 09 River [EPA Code: 09L02]. Lyreen River flows in a north easterly direction, until it meets the Rye Water and flows in an easterly direction before joining the River Liffey.

There are five EPA water quality stations along the Lyreen River/Rye Water within the vicinity of the site (Table 4-7).

Table 4-7 EPA Water Quality Data.

Watercourse Name	Sampling Station	Location	Sampling Year	Q-Value & Water Quality Status
Lyreen River [EPA Code: 09L02]	Lyreen- - U/s Br in Maynooth	E293664.89, N237740.87	1994	Q2 - Bad

	Mill Street Bridge	E 293786.97, N 237915.25	2019	Q3 - Poor
	Just u/s Rye Water confluence	E294316, N238709	2016	Q3 - Poor
Rye Water [EPA Code: 09R01]	RYE WATER - Just u/s Lyreen R confluence	E294366, N238733	1991	Q3 - Poor
	Kildare Bridge	E294740.86, N238560.97	2019	Q3-4 - Moderate

The Dublin groundwater catchment within which the proposed development is located has a current status of 'Review' under the Water Framework Directive.

#### 4.6

### Geological Survey Ireland (GSI)

The development site is located within a Locally Important Aquifer - Bedrock which is Moderately Productive only in Local Zones. The GSI groundwater vulnerability for the entirety of the site is regarded as 'High'.

## 5. FIELD STUDY

### 5.1 Habitats within the site

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 2018).

A multidisciplinary ecological walkover survey of the site was conducted on the on the 13<sup>th</sup> of June 2022 in line with NRA (2009) guidelines (Ecological Surveying Techniques for Protected Flora and Fauna during the Planning of National Road Schemes) by Aran von der Geest Moroney (B.Sc.) and Rachel Walsh (B.Sc.). The ecological survey was undertaken within the optimal time of year to undertake a habitat and flora survey (Smith *et. al.*, 2011).

The proposed development site consists of rank grassland habitat classified as **Dry meadows and grassy verges (GS2)** (Plate 5-1). Species include cocks foot (*Dactylis glomerata*), Yorkshire fog (*Holcus lanatus*), rough meadow grass (*Poa trivialis*), perennial rye grass (*Lolium perenne*), creeping buttercup (*Ranunculus repens*), meadow buttercup (*Ranunculus acris*), dandelion (*Taraxacum officinale agg.*), broad-leaved dock (*Rumex obtusifolius*), curly dock (*Rumex crispus*), spear thistle (*Cirsium vulgare*), creeping thistle (*Cirsium arvense*), common sorrel (*Rumex acetosa*), nettle (*Urtica dioica*), false oat-grass (*Arrhenatherum elatius*), meadow foxtail (*Alopecurus pratensis*) and willowherb (*Epilobium spp.*). Small areas of the proposed development site consist of recolonising disturbed ground classified as **Recolonising bare ground (ED3)** (Plate 5-2). The western boundary of the development site consists of further **Dry meadows and grassy verges (GS2)** habitat separated by a metal fence classified as **Buildings and artificial surfaces (BL3)** (Plate 5-3). The development site is separated from a public footpath to the south by hoarding which extends along the entire southern boundary of the proposed development site (Plate 5-4). The eastern boundary of the proposed development site is comprised of a concrete block wall classified as **Buildings and artificial surfaces (BL3)** with a newly developed housing estate beyond the wall (Plate 5-5). The northern boundary of the development site is separated from a housing development by a hawthorn (*Crataegus monogyna*) **Hedgerow (WL1)** (Plate 5-6).

No species or habitats designated for nearby European designated sites were recorded during the multidisciplinary walkover survey.

No species listed as a Third Schedule Invasive Alien Species (IAS) of the European Communities Regulations 2011 (S.I. 477 of 2015) was recorded within the development site boundary.



Plate 5-1 Dry meadows and grassy verges (GS2) habitat present within the proposed development site.



Plate 5-2 Area of Recolonising bare ground (ED3) habitat in the foreground.



*Plate 5-3 Metal fence at the border to the west of the proposed development site.*



*Plate 5-4 Hoarding present along the southern boundary of the proposed development site.*







*Plate 5-5 looking eastward at northern boundary of proposed development site with concrete block wall and newly constructed residential development in background.*



*Plate 5-6 Hawthorn Hedgerow (WL1) running along the northern boundary of the proposed development site.*



### Map Legend

-  Site Boundary
-  Buildings and Artificial Surfaces (BL3)
-  Hedgerows (WL1)
-  Recolonising bare ground (ED3)
-  Dry meadows and grassy verges (GS2)



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Drawing Title

### Habitat Map

Project Title

Maynooth Fire Sation Development

Drawn By

AvdGM

Checked By

RW

Project No.

220424

Drawing No.

Fig 5-1

Scale

1:600

Date

2022-08-19



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## 5.2 Fauna

### 5.2.1 Bat Surveys

#### 5.2.1.1 Bat Habitat Appraisal

With regard to foraging and commuting bats, the exposed areas of dry meadows and grassy verges (GS2) habitats were considered Negligible suitability, i.e., negligible habitat features on site likely to be used by commuting or foraging bats. (Collins, 2016). The hedgerow (WL1) along the north of the site was assessed as being of Low to Moderate suitability, due to its providing connectivity with similar habitats across the wider area but being within an urban, well-lit setting surrounded by residential and commercial areas. Existing streetlights are present which illuminate the hedgerow (Plate 5-7).



Plate 5-7 Existing streetlights adjacent to the hedgerow to the north of the site.

With regard to roosting bats, the area was assessed for and potential roosting features and their suitability to support roosting bats. No signs of roosting bats were observed during the ground level survey. Features within the site were assessed as having Negligible bat roosting suitability (Collins, 2016).

#### 5.2.1.2 Dusk Activity Survey

Overall, bat activity during the dusk activity survey on the 13<sup>th</sup> June 2022 was low with a total of 68 bat passes recorded across the survey.

Activity comprised Common pipistrelle (*Pipistrellus pipistrellus*) n=68. This species is common and widespread across Ireland. One bat was heard during the survey but was not seen. No bats were observed emerging or re-entering any of the areas within the site. Plate 5-8 below shows species composition across the site during the dusk activity survey.

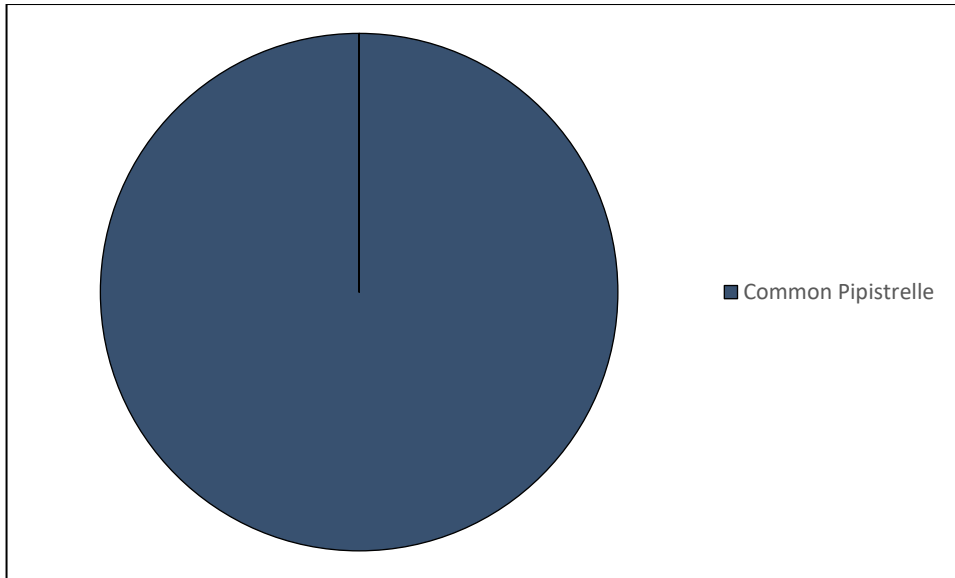


Plate 5-8 Species Composition - 13th June 2022 Dusk surveys

### 5.2.1.3 Static Detector Survey Results

One static detector was deployed on the site for 11 nights in June 2022. The detector was located within the northwest corner of the site adjacent to the hedgerow. The location is shown in Figure 5-3. The detector allowed a specified look into species composition, commuting and foraging activities within the site.

All recordings were later analysed using bat call analysis software Kaleidoscope Pro v.5.4.0 (Wildlife Acoustics, MA, USA). Bat species were identified using established call parameters, to create site-specific custom classifiers. All identified calls were also manually verified. In total, 601 bat passes were recorded. Overall, bat activity recorded at the site across the 11 nights was low.

Analysis of the detector recordings positively identified three bats to species. Bat species included: Leisler's bat (*Nyctalus leisleri*) (n=373), Common pipistrelle (*Pipistrellus pipistrellus*) (n=222) and Soprano pipistrelle (*Pipistrellus pygmaeus*) which was heard less frequently (n=6). The species composition recorded is shown in Plate 5-9.

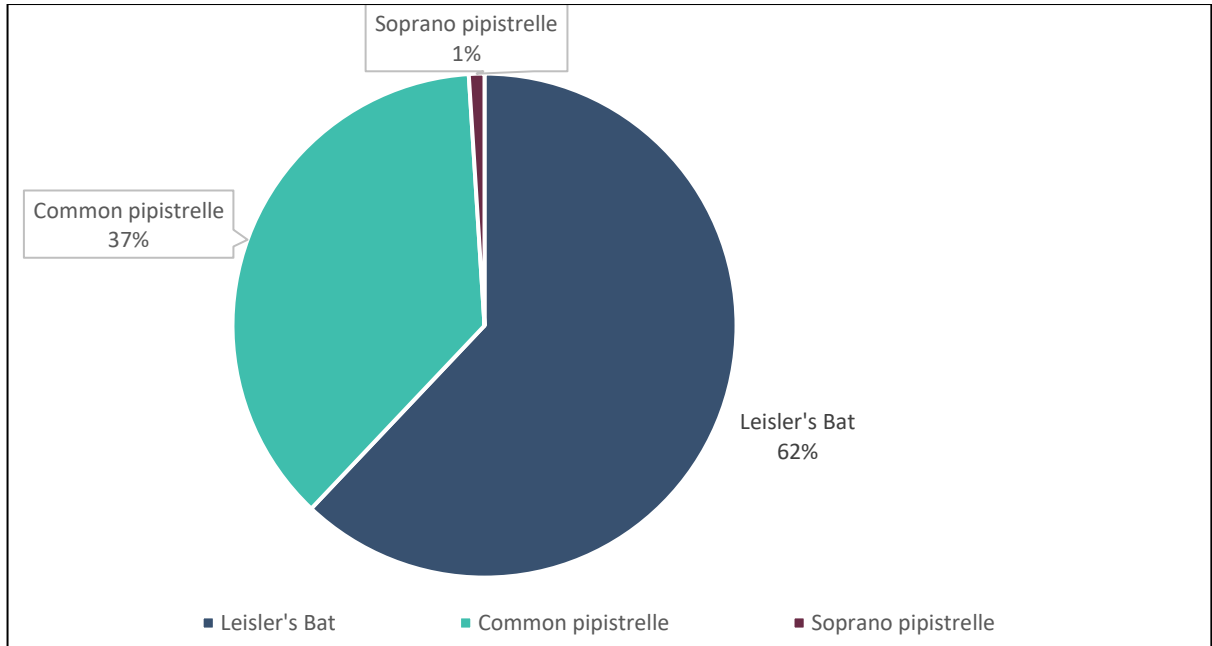


Plate 5-9 Species Composition – Static Detector Results

Analysis of the detector recordings also highlighted the total bat passes per night. Species composition per night is shown in Plate 5-10. Activity varied greatly throughout the nights of the survey. Higher activity was seen on nights 9, 10 and 11. The graph demonstrates that Leisler’s Bat and Common pipistrelle species were the most recorded species during the survey period. These species are common and widespread across Ireland.

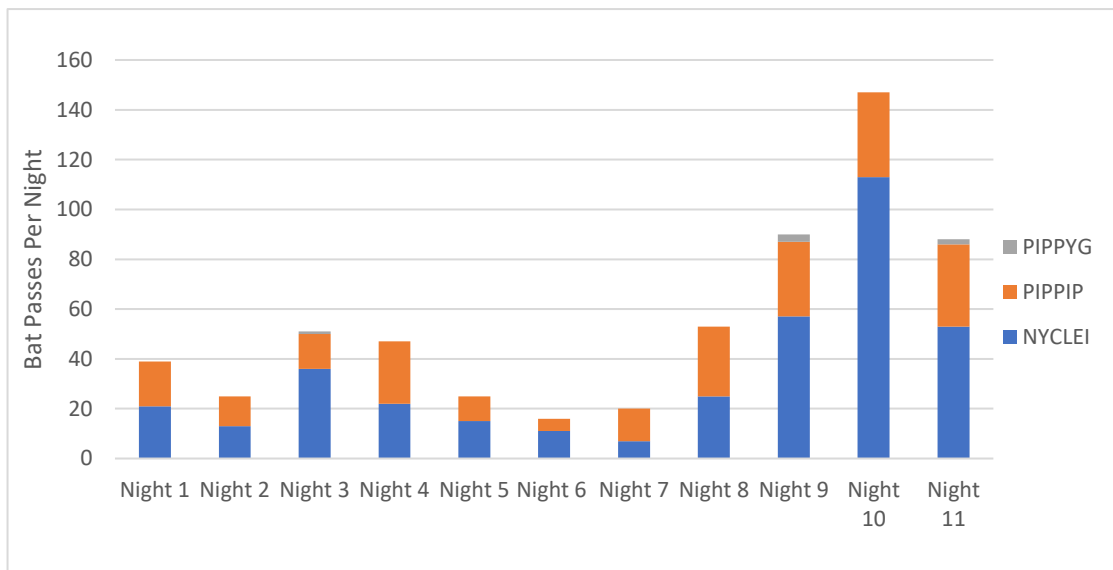


Plate 5-10 Bat Passes Per Night



### Map Legend

- Site Boundary
- Transect Route
- Common pipistrelle



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Drawing Title

**Bat Transect map**

Project Title

Maynooth Fire Saton Development

Drawn By	Checked By
AvdGM	RW

Project No.	Drawing No.
220424	Fig 5-2

Scale	Date
1:600	2022-08-19

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### Map Legend

-  Site Boundary
-  Static Detector



Map Displays Esri Satellite Imagery Data  
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Drawing Title

Static Detector Location

Project Title

Maynooth Fire Saton Development

Drawn By	Checked By
AvdGM	RW

Project No.	Drawing No.
220424	Fig 5-3

Scale	Date
1:600	2022-08-19



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## 5.2.2 Birds

No bird species associated with any European Sites were recorded within the proposed development site during the site survey. Birds recorded within the site included an assemblage of widespread species.

## 5.2.3 Mammals

The development site was comprehensively surveyed for mammals. No mammal signs were observed within the development area. No evidence of badger was found within the proposed development site boundary, i.e., there were no setts, mammal tracks, snuffle holes or latrines recorded. There are no drains or other watercourses within the development site and no suitable habitat for otter. The site is surrounded by residential developments and has limited potential to support mammals.

## 5.2.4 Other Faunal Taxa

No evidence of any other protected faunal taxa was recorded within the site of the proposed development. The habitats within the site are common throughout the wider landscape and have limited potential to support protected faunal species.

5.3

## Importance of Ecological Receptors

Table 5-1 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, species and designated sites that are Key Ecological Receptors.

Table 5-1 Importance of Ecological Receptors.

Habitat and Geographic Importance	KER Y/N	Rationale
<b>Habitats</b>		
Hedgerow (WL1)  Local importance (higher value)	No	This habitat provides potential connectivity and ecological corridors between features of ecological value in the surrounding environment and is therefore of Local Importance (Higher value). However, this habitat will be retained and is therefore not included as a KER.
Habitats of Local importance (lower value):  <ul style="list-style-type: none"> <li>➤ Dry meadows and grassy verges (GS2)</li> <li>➤ Buildings and Artificial surfaces (BL3)</li> <li>➤ Recolonising Bare Ground (ED3)</li> </ul>	No	These habitats are classified as of <i>Local Importance (Lower value)</i> as they are highly modified and/or are common and widespread in a local, national and international context.  These habitats are therefore not included as KERs.
<b>Fauna</b>		
<b>Bats</b>  Local importance (higher value)	<b>Yes</b>	Hedgerows within the site provide connectivity to the wider environment and are considered to be of <i>Low to Moderate</i> suitability for commuting and foraging bat species and <i>Negligible</i> suitability for roosting bat species (Collins, 2016).  Although bat activity at the site is low and the site is within an existing well-lit setting, taking a precautionary approach, local populations of bats are included as a KER due to the potential for disturbance due to additional lighting at the site during operation of the development.
Birds  Local importance (higher value)	No	The site does not provide significant suitable habitat for rare or protected bird species and there will be no loss of nesting habitat as a result of the development. Birds are therefore not included as KERs.

## 6. ECOLOGICAL IMPACT ASSESSMENT

### 6.1 Do Nothing Impact

The site of the proposed development consists predominantly of grassland habitat with pockets of recently disturbed land and a hedgerow on the northern boundary. If the proposed development were not to go ahead, it is likely that the development site would remain under its current low to non-existent management regime.

### 6.2 Impacts during Construction

#### 6.2.1 Habitats

##### 6.2.1.1 Loss of Habitats of Local importance (lower value)

The development footprint will result in the permanent loss of approx. 2,985m<sup>2</sup> of dry meadows and grassy verges (GS2), and approx. 30m<sup>2</sup> of recolonising bare ground (ED3).

These are common habitat types in a local and national context and have been assigned Local importance (lower value).

The loss of habitats of local importance (lower value) is not significant at any geographical scale.

#### Mitigation

No mitigation is required.

#### Residual Impact

No significant effects are predicted.

##### 6.2.1.2 Loss of Habitats of Local Importance (Higher Value)

The hedgerow (WL1) habitat within the site is considered to be of local importance (higher value). The proposed development will not result in any reduction in hedgerow habitat as all hedgerow habitat on the site will be retained. Therefore, significant effects are not anticipated at any geographic scale.

#### Mitigation

No mitigation is required.

#### Residual Impact

No significant effects are predicted.



## 6.2.2 Impacts on Fauna

### 6.2.2.1 Faunal Habitat Loss

The proposed development site has limited potential to support protected fauna.

The site has Negligible suitability for roosting bats. The hedgerow to the north of the site as Low to Moderate potential for commuting and foraging bats. However, this hedgerow will be retained.

There will be no loss of nesting bird habitat.

#### Mitigation

None required

#### Residual Impact

No significant effects are predicted.

### 6.2.2.2 Displacement and/or Disturbance to Fauna

The development site has limited potential to support protected fauna, therefore, significant impacts via disturbance of fauna during construction of the development are not predicted. However, the following best practice measures will be in place:

#### Best Practice Measures

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

#### Residual Impact

Significant effects via disturbance to fauna are not anticipated.

## 6.2.3 Deterioration of Water Quality

There is no potential for significant effects on water quality as a result of the development. The closest surface water body to the development site is the Taghadoe stream [EPA Code: 09T05] located approx. 690m west of the proposed development site which is completely buffered from the site by existing developments. As described in Section 2.2.2, the proposed works are not likely to come into contact with groundwater. Therefore, there is no potential for significant effects on water quality during construction of the proposed development.

#### Mitigation

None required

#### Residual Impact

Significant effects to water quality during construction phase are not anticipated.

## 6.3 Operational Phase

### 6.3.1 Impacts on Habitats

There will be no additional habitat loss associated with the operational phase of the proposed development. No significant effects are anticipated.

### 6.3.2 Impacts on Fauna

The operational phase of the proposed development will be permanent. This will result in increased activity including increased lighting and noise. However, the proposed development is within an urban setting and is surrounded by existing residential and commercial developments. The development site and wider areas have low potential to support protected fauna.

During bat surveys of the development site (Section 5.2.1), low levels of bat commuting activity were recorded across the site. The site is currently well-lit due to existing street lighting and developments adjacent to the site. However, taking a precautionary approach, the following measures will be in place in relation to the lighting regime (see Appendix III):

#### Mitigation

- The Upward Light Output Ratio (ULOR) will be 0%. Lighting fixtures will be fitted with back-louvers on the columns to reduce light spill.
- The proposed light fixtures will be of colour temperature - Warm White (2700K/3000K).
- The public lighting will be designed to a Lighting class of P4 (EN13201) with a Dimming regime programme of 33% reduction between the hours of 00.00-06.00hrs (Dimming Profile 15B) i.e. reduced illuminance during hours of lower human activity
- The resulting light levels on the hedgerow to the north of the site will be <1 Lux.

The lighting plan will take into consideration the following guidelines: 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).

#### Residual Impact

With the implementation of best practice, no significant impacts via disturbance of fauna during operation of the development are predicted.

### 6.3.3 Impacts on Water Quality

Indirect effects during the operational stage of the development are not anticipated. As described in Section 2.2.3, the proposed development will connect to the existing foul sewer network and Irish Water have confirmed that there is capacity to accept wastewater from the proposed development (Appendix II). The surface water drainage for the proposed development has been designed in accordance with the principles of Sustainable Urban Drainage Systems (SuDS) as embodied in the recommendations of the Greater Dublin Strategic Drainage Study (GSDSDS).

Following the best practice procedures incorporated within the project design, no impacts on water quality are expected and no further mitigation is required.

## 6.4 Impacts on Designated Sites

### 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 it 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).

An Appropriate Assessment Screening Report has been carried out with respect to the proposed development.

The Appropriate Assessment Screening concluded as follows:

*‘It can be concluded beyond reasonable scientific doubt, in view of best scientific knowledge, on the basis of objective information and in light of the conservation objectives of the relevant European sites, that the proposed development, individually or in combination with other plans and projects, will not have a significant effect on any European Site.*

*There is no requirement for Appropriate Assessment.’*

### 6.4.2 Impacts on Nationally Designated Sites

As described in Section 4, the closest Nationally Designated Sites to the development site include Royal Canal (002103), Rye Water Valley/Carton (001398), Liffey Valley (000128) and Grand Canal (002104).

The proposed development site is not within any Nationally Designated Site. There are no surface water features present within or adjacent to the development site. The proposed development site is situated in an area of high groundwater vulnerability with a water table level at 3-10m depth (GSI) and within the same groundwater body as the pNHA. However, the formation level for the foundations will be 1m for the main structure and 1.5m for the training tower. In addition, during the Site Investigation works carried out on the proposed development site, no groundwater was encountered to a depth of 1.8m (Section 2.2.2). The depths of foundations on the proposed development site are outside the water table range as per GSI and Site investigations works.

No source-pathway-receptor chain for indirect effect was identified between the proposed development site and any Nationally Designated Site.

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

### Other Projects

The online planning system for Kildare County Council was consulted on the 03/08/2022. Projects identified within the wider area included minor alterations or extensions to single dwelling houses and commercial buildings as well as changes in use of commercial buildings. Other projects identified in the wider area within the last 5 years include:

- Permission for amendments to planning permission reference 20/1066 (relating to the demolition of the existing Discount Food store and construction of a new single storey mono-pitch Discount Food store with ancillary off-licence use). The proposed development comprises: (1) The construction of a revised single storey part flat part mono-pitch Discount Food store (with ancillary off-licence use) with enclosed delivery loading bay, with an increased total gross floor space of 2,495 sqm and an increased net retail sales area of 1,645 sqm (in lieu of 2,235 sqm and 1,420 sqm respectively permitted under 20/1066); (2) Associated reconfiguration of site layout, and all other associated and ancillary development and modifications to 20/1066 above and below ground level; and, (3) The construction/erection of 3 No. Photovoltaic Solar Panel Array structures within the site (pl ref: 22220),
- Permission for a 5m high concrete hurling wall and 5m high ball stop fence to the rear of the existing school site and associated sundry other site works (pl ref: 21664),
- Appealed Status: Permission for a development on this 1.99 ha site, approximately, at lands adjoining an existing residential development (Rockfield Court), Railpark, Celbridge Road, Maynooth, Co. Kildare. (This forms Phase 2 of a residential masterplan for some 105 No. units in total on a wider c. 3.26 ha landholding under the Applicant's control). The proposed Phase II development will consist of: Construction of a residential development comprising 47 No. dwellings in total, consisting of 11 No. two-bedroom two storey houses and 10 No. three-bedroom three storey houses (21 No. houses in total) including rear private open spaces; 13 No. one bedroom apartments and 13 No. two-bedroom apartments (26 No. three storey duplex apartments in total), including balconies and a single storey crèche facility (c.261 sqm). The development will also include: new vehicular, cyclist and pedestrian access from Celbridge Road via currently undeveloped lands to the southwest (Phase 1); a new pedestrian footpath and bicycle track along the site frontage to Celbridge Road; the provision of future access connection points to adjacent lands to the southwest (Phase 1), north and the southeast; works to facilitate connections to existing services infrastructure in Rockfield Park to the west. The development will also comprise internal roads, footpaths, cycle tracks, public open spaces, children's play area and bicycle store areas; parking at surface level (95 No. total spaces for car parking and 33 No. bicycles spaces); drainage attenuation; all hard and soft landscaping; boundary treatments; removal of the existing hedgerows adjacent to Celbridge Road; changes in levels; and all ancillary site development works and site services provision (including wayleave to the north-east) above and below ground (pl ref: 21156),
- Appealed Status: Permission for a development on this 2.18 ha site, approximately, at lands adjoining an existing residential development (Rockfield Park), Railpark, Celbridge Road, Maynooth, Co. Kildare. (This forms Phase 1 of a residential masterplan for some 105 no. units in total on a wider c. 3.26 ha landholding under the Applicant's control). The

proposed Phase 1 development will consist of: Construction of a residential development comprising 58 no. dwellings in total, consisting of 18 no. two-bedroom two storey houses, 14 no. three-bedroom three storey houses and 2 no. four-bedroom three storey houses (34 no. houses in total) including rear private open spaces; 12 no. one-bedroom apartments and 12 no. two-bedroom apartments (24 no. three storey duplex apartments in total), including balconies. The development will also include: new vehicular, cyclist and pedestrian access from Celbridge Road; a new pedestrian footpath and cycle track along the main site frontage to Celbridge Road; the provision of future access connection points to adjacent lands to the northeast (Phase 2), northwest and the southeast; works to facilitate connections to existing services infrastructure to the northeast via Phase 2 lands. The development will also comprise internal roads, footpaths, cycle tracks, public open spaces, and bicycle store areas; parking at surface level (117 no. total spaces for car parking and 30 no. bicycles spaces); drainage attenuation; all hard and soft landscaping; boundary treatments; removal of the existing hedgerows adjacent to Celbridge Road, changes in levels; and all ancillary site development works and site services provision (including wayleave to the north-east) above and below ground (pl ref: 21155),

- Permission for construction of a new Discount Food store Supermarket with ancillary off-licence sales on an extended site. The proposed development comprises: (1) The demolition of existing single storey Discount Food store (with ancillary off-licence use) measuring 1,753sqm gross floor space with a net retail sales area of 1,286sqm; (2) The construction of a single storey (with mezzanine plant deck) mono-pitch (with flat roof loading bay) Discount Food store (with ancillary off-licence use) measuring 2,268sqm gross floor space with a net retail sales area of 1,420sqm; (3) Redevelopment/reconfiguration of existing and extended site layout and car parking with revised vehicular access junction, and additional pedestrian access to Straffan Road; and (4) Provision and renewal of boundary treatments, free standing and building mounted signage, covered trolley bay, refrigeration and air conditioning plant and equipment, hard and soft landscaping, public lighting, electric vehicle charging infrastructure, roof mounted solar panels, cycle parking, modification and extension of existing drainage, utility and services infrastructure and connections, relocation of substation, and all other associated and ancillary development and works above and below ground level. Revised by Significant Further Information which consists of submission of a revised noise and vibration impact assessment; adjustment of delivery hours to formally omit night time deliveries; enhancement of boundary treatments and associated acoustic barrier; removal and internalising of the external plant/equipment compound within the building; relocation of ESB Substation; enhancement of pedestrian and cycle facilities have been enhanced within the site and along the link road; and enhancement of hard and soft landscaping and public lighting (pl ref: 201066),
- Permission for a Brams Gourmet Frites restaurant unit, which includes the sale of hot and cold food for consumption on and off the premises. It comprises of a bespoke Serving Container, Double-Decker Seating Container and Storage Container, External Seating area with Parasols and All Ancillary Site Works (pl ref: 20749),
- Permission to alter the existing Moneycooly-Kilcock 38kV line at Mullen Park, Straffan Road, Greenfield, Co. Kildare. The proposed alteration will be carried out over the Townland of Moneycooly, Co. Kildare and will involve undergrounding sections of the above mentioned overhead 38kV line to facilitate the development of a previously permitted housing development Ref: 18/761 & 18/762. The proposed alteration will comprise of One (1) lattice steel tower, of maximum height 15 metres. The existing overhead line consists of three overhead steel reinforced aluminium conductors. Four (4) existing wooden pole sets and the associated overhead wires will be removed as part of the alteration (pl ref: 2011),
- Permission for The proposed development will consist of the construction of 1 no. 3 and 4 storey office building consisting of 2 no. blocks with a central glazed atrium area and a screened plant area, solar panels and equipment at roof level, providing a total GFA of 12,641m<sup>2</sup>. The proposed road infrastructure, and site services as per the previously approved ref. ref 99/2073. Minor amendments to reg. ref. 99/2073 to include rearrangement of previously approved parking, the addition of 12 no. total car parking spaces, 200 no.

cycles parking spaces, landscaping consisting of new tree planting, and grass planting, public lighting, and footpaths, ESB substation and switch room, and all associated site and infrastructural works. Revised by significant further information consisting of: Provision of a basement level car park (131 no spaces), access ramp and consequent revisions to the ground floor layout, site layout plans and minor amendments to the rear elevation (pl ref: 181382),

- **Permission for a revision to previously approved development under Reg. Ref. 16/1153 and will consist of the omission of portion of lands to the north west and change of house type from that previously approved. This development (Section A) will consist of the construction of 83 No. dwellings, 1 No. two storey crèche 380sqm with external bin store, link street (Objective TRO 2(a) Maynooth LAP) new boundary wall to rear of proposed housing along western boundaries, new paladin fencing to boundary with “General Development” zoned lands to the north west, provision for pedestrian and cycle link to Carton Court, external bin store to House No. 148 and all associated site works. The housing breakdown is as follows: 2 No. House type A (4 bed, 2.5 storey, 151.7sqm); 19 No. House Type B (3 bed, 2 storey, 114.5sqm); 8 No. House Type F (2 bed, 2 storey, 89.6sqm); 7 No. House Type G (3 bed, 2.5 storey, 132.2sqm) and 47 No. House Type G1 (4 bed, 2.5 storey, 135.9sqm). Total No. of dwellings is 83. Revised by significant further information consisting of; revised layout plan, revised bicycle and bin store to crèche, revised housing mix to include 4 no. 1 bed units and an increase in the total number of units from 83 to 84. The revised housing breakdown is as follows; 3 No. House Type A ( 4 bed, 2.5 storey, 151.7sqm); 18 No. House Type B ( 3 bed, 2 storey, 114.5sqm); 1 No. House Type C ( 3 bed, 2 Storey, 117.7sqm); 6 No. House Type F (2 bed, 2 storey, 89.6sqm); 7 No. House Type G (3 Bed, 2.5 Storey, 132.2sqm); 45 No. House Type G1 (4 bed, 2.5 storey, 135.9sqm), 2 No. House Type J (1 bed, first floor maisonette, 45sqm) & 2 No. House Type K (1 bed, ground floor maisonette, 51 sqm). This is an increase of 1 no. units to a total of 84 (pl ref: 18761),**
- **Permission for a revision of previously approved development under Reg. Ref. 16/1153 and will consist of the omission of portion of lands to the north west and change of house type from that previously approved. The development (Section B) will consist of the construction of 91 No. dwellings, link street (Objective TRO 2(a) Maynooth LAP), new boundary wall to replace existing boundary wall with Carton Court on western side of public open space, new boundary wall to rear of proposed housing along northern boundary with Greenfield Drive and Maynooth Park, provision for pedestrian and cycle link to Greenfield drive, external bin stores to House Nos. 2 and 71 and all associated site works. The housing breakdown is as follows: 36 No. House Type B (3 bed, 2 storey, 114.5sqm); 4 No. House Type C (3 bed, 2 storey, 117.7sqm); 10 No. House Type F (2 bed, 2 storey, 89.6sqm); 8 No. House Type G (3 bed, 2.5 storey, 132.2sqm) and 33 No. House Type G1 (4 bed, 2.5 storey, 135.9sqm). Total No. of dwellings is 91. Revised by significant further information consisting of; extended red line boundary of application site, revised site layout plan, revised hosing mix to include 4 no. 1 bed units and an increase in the total number of units from 91 to 93. The revised housing breakdown is as follows; 36 No. House Type B (3 bed, 2 storey, 114.5sqm); 3 No. House Type C (3 bed, 2 storey, 117.7sqm); 10 No. House Type F (2 bed, 2 storey, 89.6sqm); 8 No. House Type G (3 bed, 2.5 storey, 132.2sqm), 32 No. House Type G1 (4 bed, 2.5 storey, 135.9sqm), 2 No. House Type J (1 bed, first floor maisonette, 45sqm) & 2 No. House Type K (1 bed, ground floor maisonette, 51sqm). This is an increase of 2 no. units to a total of 93 (pl ref: 18762),**
- **Permission for the construction of a new gated vehicular access onto the L5054 Ballygoran Local Road along the southern boundary of the existing business campus development and all associated site works (pl ref: 171370).**

The review of plans and projects that is described above did not reveal any additional potential pathways for effect on European Sites that may have arisen as a result of those plans or projects.

## 7.1.1 Conclusion of Cumulative Assessment

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.

## 8. DEVELOPMENT CONTEXT - ECOLOGICAL PLANS AND POLICIES

The Policies and Objectives of the following plans were reviewed and considered as part of this assessment:

- Kildare County Council Development Plan 2017-2023
- Maynooth Local Area Plan 2013 to 2019 (incorporating Amendment no. 1)
- National Biodiversity Action Plan 2017-2021

Plans	Key Policies/Issues/Objectives Directly Related to European Sites	Assessment of development compliance with policy
<b>Kildare County Council Development Plan 2017-2023</b>	NH3: Require compliance with Article 10 of the Habitats Directive with regard to encouraging the management of features in the landscape which are of major importance for wild fauna and flora. Such features are those which, by virtue of their linear and continuous structure (such as rivers with their banks or the traditional systems for marking field boundaries) or their function as stepping stones (such as ponds or small woods), are essential for the migration, dispersal and genetic exchange of wild species.	There is no potential for the proposed development to result in significant effects on the Qualifying Interests or Special Conservation Interests associated with any Natura 2000 sites, including the Rye Water Valley/Carton SAC.  The proposed development has been designed in such a way so as to prevent significant impact on ecological features including wildlife corridors.
	NH4: Support the conservation and enhancement of Natura 2000 Sites including any additional sites that may be proposed for designation during the period of this Plan and to protect the Natura 2000 network from any plans and projects that are likely to have a significant effect on the coherence or integrity of a Natura 2000 Site.	
	NH5: Prevent development that would adversely affect the integrity of any Natura 2000 site located within and immediately adjacent to the county and promote favourable conservation status of habitats and protected species including those listed under the Birds Directive, the Wildlife Acts and the Habitats Directive.	
	NH6: Ensure an Appropriate Assessment, in accordance with Article 6(3) and Article 6(4) of the Habitats Directive and with DEHLG guidance (2009), is carried out in respect of any plan or project not directly connected with or necessary to the management of a Natura 2000 site to determine the likelihood of the	



Plans	Key Policies/Issues/Objectives Directly Related to European Sites	Assessment of development compliance with policy
	<p>plan or project having a significant effect on a Natura 2000 site, either individually or in combination with other plans or projects and to ensure that projects which may give rise to significant cumulative, direct, indirect or secondary impacts on Natura 2000 sites will not be permitted (either individually or in combination with other plans or projects) unless for reasons of overriding public interest.</p> <p>NH8: Ensure that any proposal for development within or adjacent to a Natural Heritage Area (NHA), Ramsar Sites and Nature Reserves is designed and sited to minimise its impact on the biodiversity, ecological, geological and landscape value of the site, particularly plant and animal species listed under the Wildlife Acts and the Habitats and Birds Directive including their habitats.</p> <p>NH11: Ensure that development does not have a significant adverse impact on rare and threatened species, including those protected under the Wildlife Acts 1976 and 2012, the Birds Directive 1979 the Habitats Directive 1992 and the Flora Protection Order species.</p> <p>NH12: Ensure that, where evidence of species that are protected under the Wildlife Acts 1976-2012, the Birds Directive 1979 and the Habitats Directive 1992 exists, appropriate avoidance and mitigation measures are incorporated into development proposals as part of any ecological impact assessment. In the event of a proposed development impacting on a site known to be a breeding or resting site of species listed in the Habitats Regulations or the Wildlife Acts 1976 -2012 a derogation licence, issued by DAHRRGA, may be required.3.8</p>	

Plans	Key Policies/Issues/Objectives Directly Related to European Sites	Assessment of development compliance with policy
	<p>NH14: Promote best practice with respect to minimising the spread of invasive species in the carrying out of development and to support measures for the prevention and / or eradication of invasive species within the county.</p> <p>NH15: Require, as part of the planning application process, the eradication/control of invasive introduced species including Japanese Knotweed, when identified on a site or in the vicinity of a site, in accordance with Regulation 49 of the European Communities (Birds and Natural Habitats) Regulations 2011 to 2015.</p>	
<p><b>Maynooth Local Area Plan 2013 to 2019 (Incorporating Amendment no.1)</b></p>	<p>NH 1: To protect all designated wildlife sites, including any additions or amendments to these, from any development that would adversely affect their conservation value.</p> <p>NH 2: To ensure that any development proposal within the vicinity of or having an effect on a designated site, or adjacent to/within an SAC will provide sufficient detail illustrating how it will limit any possible impact upon the designated site and will include proposals for appropriate amelioration. Any proposed development which has the potential to impact on a Natura Site will be screened for Appropriate Assessment. In all such cases the developer shall consult with the National Parks and Wildlife Section of the DoAHG</p> <p>NH 3: To identify, protect, conserve, and enhance, wherever possible, wildlife habitats and species of local importance, not otherwise protected by legislation. Such habitats may include woodland, river, grassland areas and field boundaries (hedgerows, stone walls and ditches). Such features form part of a network of habitats and corridors, which allow wildlife to exist and flourish. Once a locally important habitat has been identified it shall be surveyed to establish its significance and a site-specific conservation plan prepared to establish development guidelines for the area.</p>	<p>There is no potential for the proposed development to result in significant effects on the Qualifying Interests or Special Conservation Interests associated with any Natura 2000 sites, including the Rye Water Valley/Carton SAC.</p> <p>The proposed development has been designed in such a way so as to prevent significant impact on ecological features including wildlife corridors.</p>

Plans	Key Policies/Issues/Objectives Directly Related to European Sites	Assessment of development compliance with policy
	<p>NH 6: To conserve and protect the natural habitats in the local river systems Planning applications must;</p> <p>(a) Identify all ecological habitats and corridors, which are present on the proposed development lands (including hedgerows and masonry stone walls) that are likely to be affected by the development proposal.</p> <p>(b) Identify any losses to these habitats and corridors, which would result if the application in question was granted. (c) Show that such losses would be fully offset if the application was to be granted through the replacement of the relevant corridors, with corridors composed of similar species prior to any losses to the existing corridors. (d) Show that habitat loss will either be offset should the application be granted or is not locally important to the area.</p>	
<p><b>National Biodiversity Action Plan 2017-2021</b></p>	<p><b>Target 6.2</b> - Sufficiency, coherence, connectivity, and resilience of the protected areas network substantially enhanced by 2020.</p>	<p>The National Biodiversity Action Plan was comprehensively reviewed with particular focus on policies and objectives related to the Natura 2000 network. No negative impacts were identified with regard to the proposed development.</p>

9.

## CONCLUSION

Following consideration of the residual effects (post incorporation of best practice measures) it is concluded that there will be no significant impacts on biodiversity given the nature, scale and design of the proposal.

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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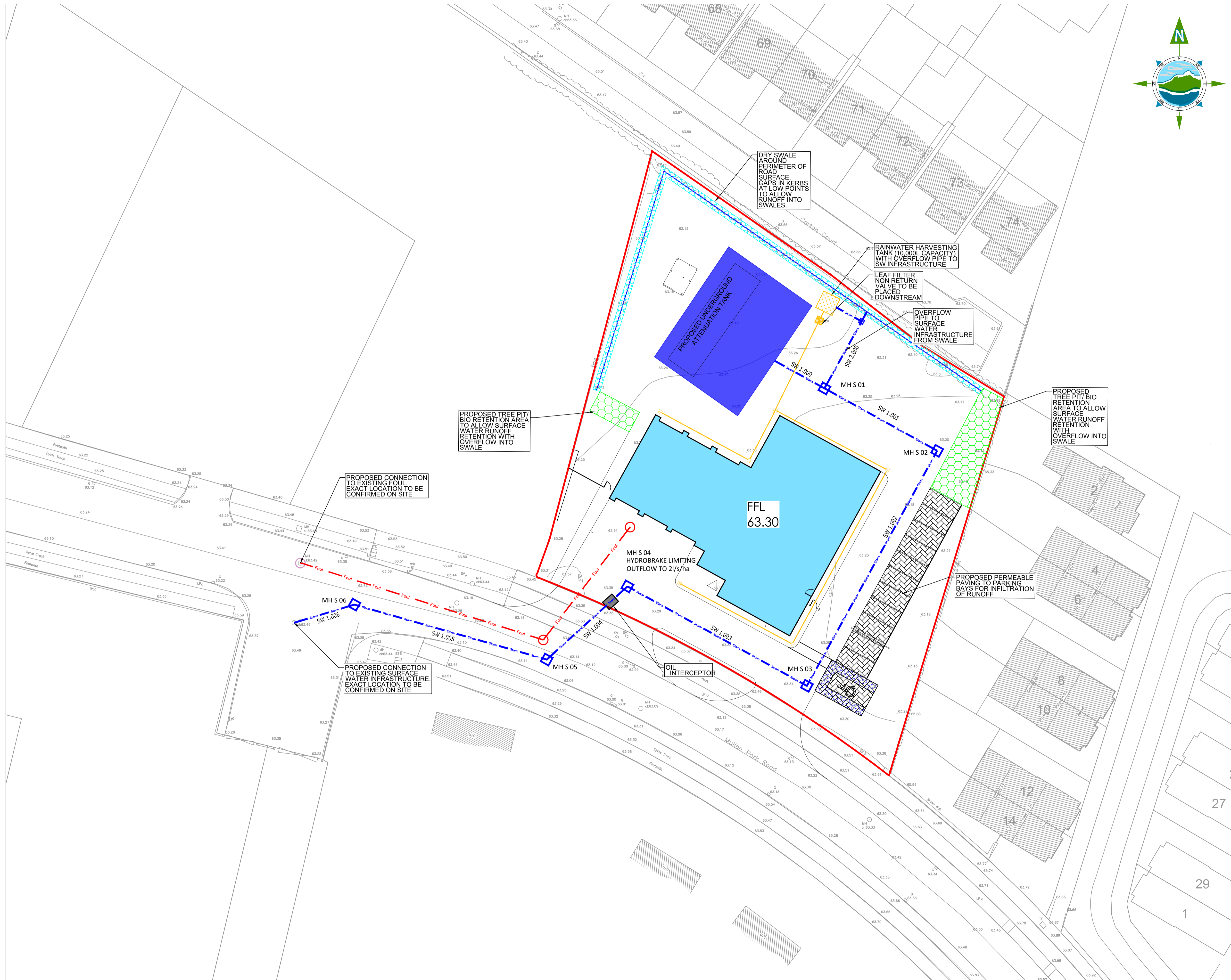
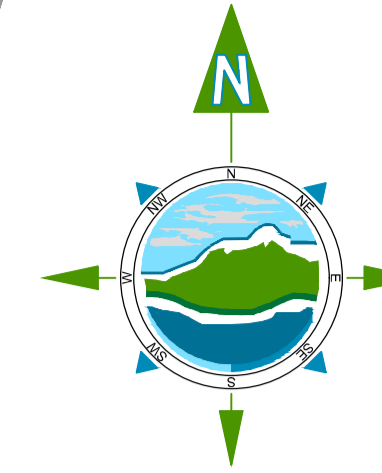
Water status data available on <http://www.epa.ie> and <http://www.wfdireland.ie>

Wildlife Act 1976 and Wildlife (Amendment) Act 2000.



## **APPENDIX I**

### **PROPOSED DRAINAGE LAYOUT DRAWINGS**



NOTES:

1. FIGURED DIMENSIONS ONLY TO BE TAKEN FROM THIS DRAWING.
2. ALL DRAWINGS TO BE CHECKED BY THE CONTRACTOR ON SITE
3. ENGINEER/EMPLOYERS REPRESENTATIVE, AS APPROPRIATE, TO BE INFORMED BY THE CONTRACTOR OF ANY DISCREPANCIES BEFORE ANY WORK COMMENCES
4. THE CONTRACTOR SHALL UNDERTAKE A THOROUGH CHECK FOR THE ACTUAL LOCATION OF ALL SERVICES/UTILITIES, ABOVE AND BELOW GROUND, BEFORE ANY WORK COMMENCES
5. ALL LEVELS SHOWN RELATE TO ORDNANCE SURVEY DATUM AT MALIN HEAD

Rev	Date	Description	By	Chkd.
P1.1	18/07/2022	ISSUED FOR INFORMATION	PF	AC

Client:  
KILDARE COUNTY COUNCIL

Project:  
MAYNOOTH FIRE STATION  
KILDARE  
CO. KILDARE

Title:  
DRAINAGE LAYOUT

Scale @ A1: 1:250  
Prepared by: P. Fanning  
Checked: A. Connors  
Date: July 2022  
Project Director: BRIAN CARROLL  
Drawing Status: FOR INFORMATION

**TOBIN**  
CONSULTING ENGINEERS  
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fax: +353-(0)1-8030409  
e-mail: dublin@tobin.ie  
www.tobin.ie

Revision:  
Drawing No.: SK-01 P1.1





## **APPENDIX II**

### **IRISH WATER CONFIRMATION OF FEASIBILITY**

Aoife O'Sullivan  
 Block 10-4  
 Blanchardstown Corporate Park  
 Dublin  
 D15X98N

Uisce Éireann  
 Bosca OP 448  
 Oifig Sheachadta na  
 Cathrach Theas  
 Cathair Chorcaí

Irish Water  
 PO Box 448,  
 South City  
 Delivery Office,  
 Cork City.

[www.water.ie](http://www.water.ie)

8 June 2022

**Re: CDS22003271 pre-connection enquiry - Subject to contract | Contract denied**

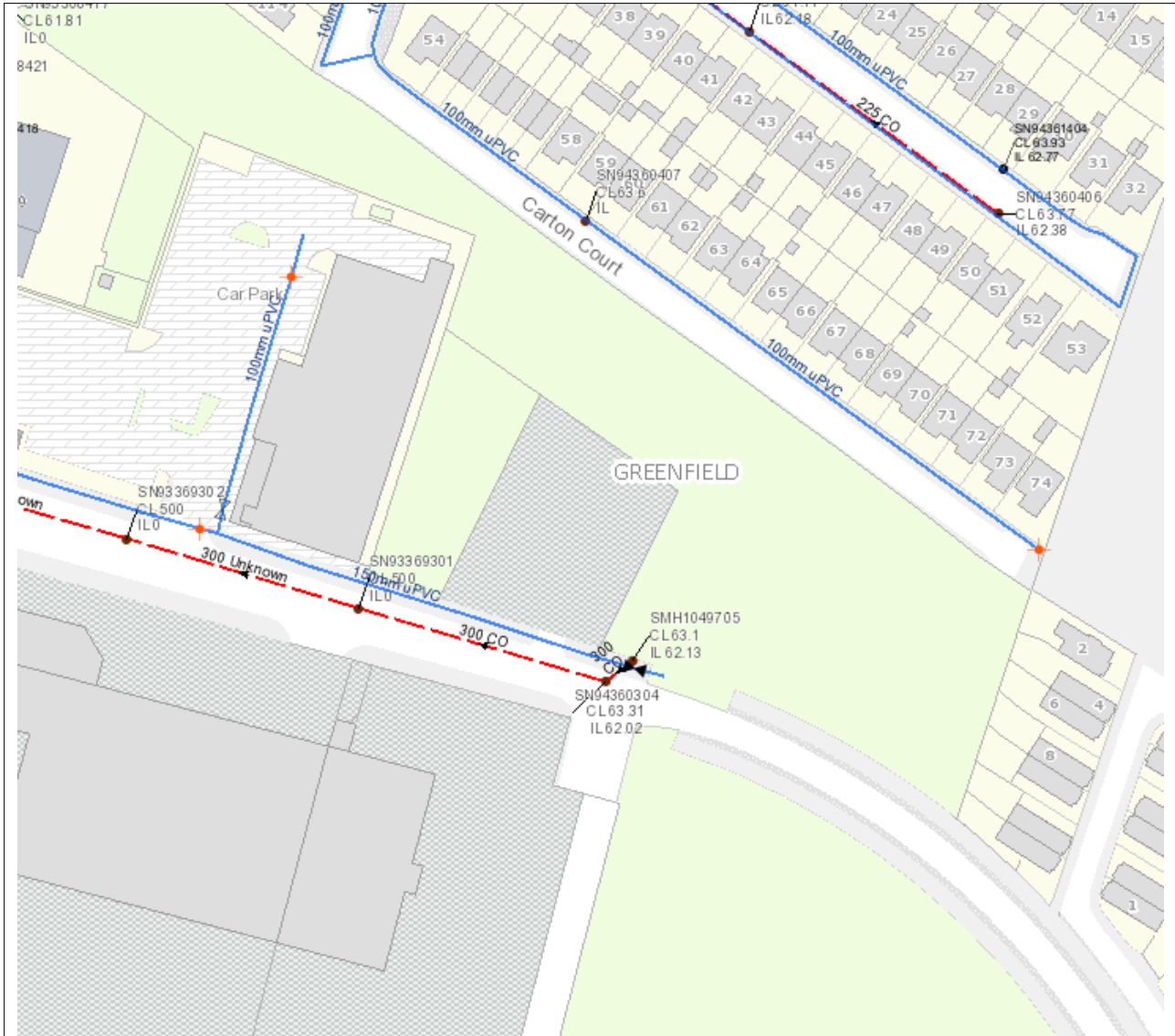
**Connection for Business Connection of 1 unit(s) at Straffan Road, Greenfield, Maynooth, Kildare**

Dear Sir/Madam,

Irish Water has reviewed your pre-connection enquiry in relation to a Water & Wastewater connection at Straffan Road, Greenfield, Maynooth, Kildare (the **Premises**). Based upon the details you have provided with your pre-connection enquiry and on our desk top analysis of the capacity currently available in the Irish Water network(s) as assessed by Irish Water, we wish to advise you that your proposed connection to the Irish Water network(s) can be facilitated at this moment in time.

SERVICE	<b>OUTCOME OF PRE-CONNECTION ENQUIRY</b> <b><u>THIS IS NOT A CONNECTION OFFER. YOU MUST APPLY FOR A CONNECTION(S) TO THE IRISH WATER NETWORK(S) IF YOU WISH TO PROCEED.</u></b>
Water Connection	Feasible without infrastructure upgrade by Irish Water
Wastewater Connection	Feasible without infrastructure upgrade by Irish Water
<b>SITE SPECIFIC COMMENTS</b>	
<p>The design and construction of the Water &amp; Wastewater pipes and related infrastructure to be installed in this development shall comply with the Irish Water Connections and Developer Services Standard Details and Codes of Practice that are available on the Irish Water website. Irish Water reserves the right to supplement these requirements with Codes of Practice and these will be issued with the connection agreement.</p>	

The map included below outlines the current Irish Water infrastructure adjacent to your site:



Reproduced from the Ordnance Survey of Ireland by Permission of the Government. License No. 3-3-34

Whilst every care has been taken in its compilation Irish Water gives this information as to the position of its underground network as a general guide only on the strict understanding that it is based on the best available information provided by each Local Authority in Ireland to Irish Water. Irish Water can assume no responsibility for and give no guarantees, undertakings or warranties concerning the accuracy, completeness or up to date nature of the information provided and does not accept any liability whatsoever arising from any errors or omissions. This information should not be relied upon in the event of excavations or any other works being carried out in the vicinity of the Irish Water underground network. The onus is on the parties carrying out excavations or any other works to ensure the exact location of the Irish Water underground network is identified prior to excavations or any other works being carried out. Service connection pipes are not generally shown but their presence should be anticipated.


#### General Notes:

- 1) The initial assessment referred to above is carried out taking into account water demand and wastewater discharge volumes and infrastructure details on the date of the assessment. **The availability of capacity may change at any date after this assessment.**

- 2) This feedback does not constitute a contract in whole or in part to provide a connection to any Irish Water infrastructure. All feasibility assessments are subject to the constraints of the Irish Water Capital Investment Plan.
- 3) The feedback provided is subject to a Connection Agreement/contract being signed at a later date.
- 4) A Connection Agreement will be required to commencing the connection works associated with the enquiry this can be applied for at <https://www.water.ie/connections/get-connected/>
- 5) A Connection Agreement cannot be issued until all statutory approvals are successfully in place.
- 6) Irish Water Connection Policy/ Charges can be found at <https://www.water.ie/connections/information/connection-charges/>
- 7) Please note the Confirmation of Feasibility does not extend to your fire flow requirements.
- 8) Irish Water is not responsible for the management or disposal of storm water or ground waters. You are advised to contact the relevant Local Authority to discuss the management or disposal of proposed storm water or ground water discharges
- 9) To access Irish Water Maps email [datarequests@water.ie](mailto:datarequests@water.ie)
- 10) All works to the Irish Water infrastructure, including works in the Public Space, shall have to be carried out by Irish Water.

If you have any further questions, please contact Tinus van der Walt from the design team at [twalt@water.ie](mailto:twalt@water.ie) For further information, visit [www.water.ie/connections](http://www.water.ie/connections).

Yours sincerely,



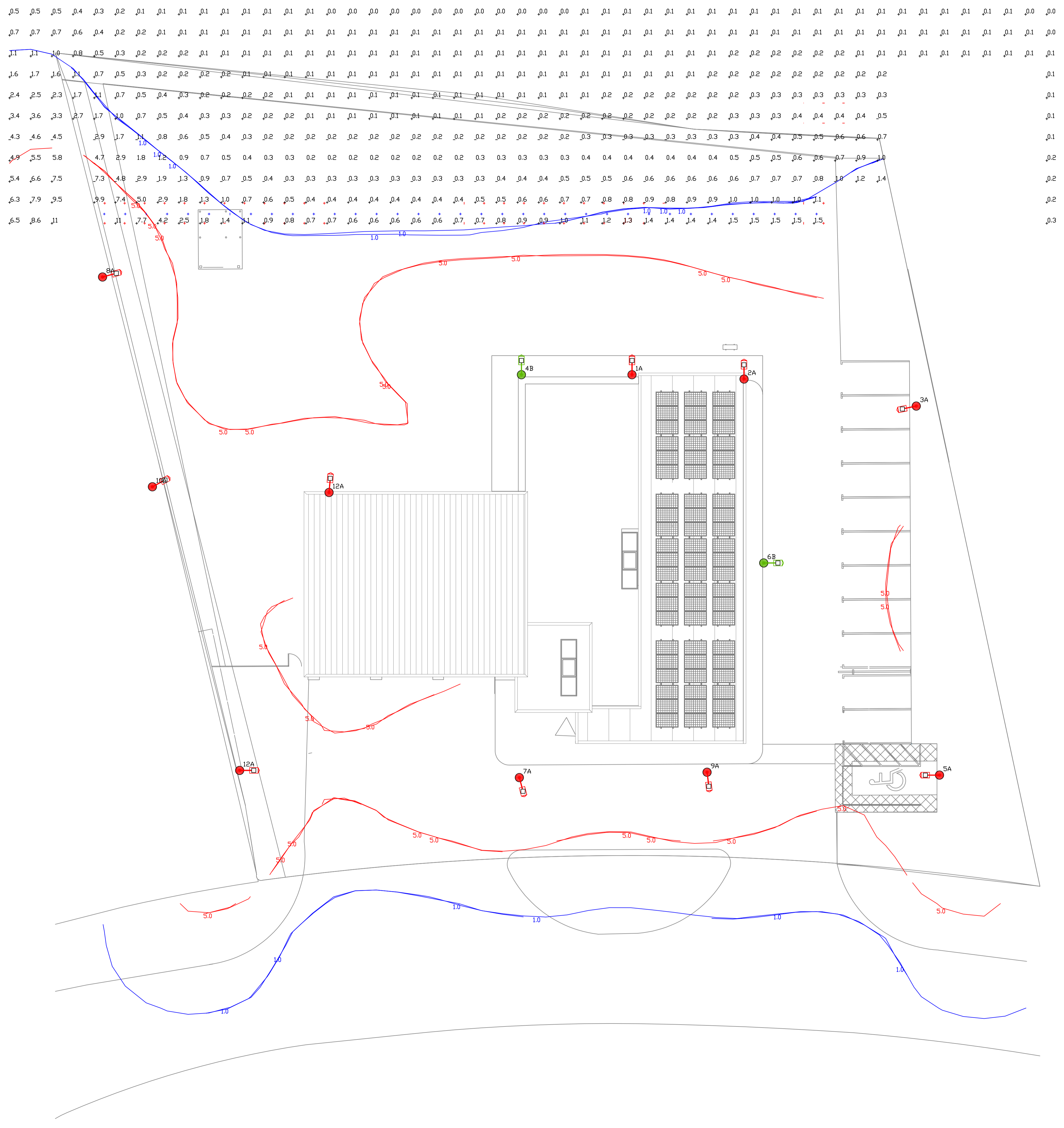
**Yvonne Harris**

**Head of Customer Operations**



## **APPENDIX III**

### **PROPOSED LIGHTING LAYOUT**



THIS DRAWING IS THE PROPERTY OF DELAP & WALLER AND MAY ONLY BE USED WITH THEIR WRITTEN APPROVAL.  
 DO NOT SCALE FROM THIS DRAWING.  
**GENERAL NOTES.**  
 THIS DRAWING TO BE READ IN CONJUNCTION WITH ALL OTHER RELEVANT DRAWINGS AND SPECIFICATIONS. ALL DIMENSIONS ARE IN MILLIMETRES UNLESS OTHERWISE STATED.  
 THIS DRAWING IS NOT AN INSTALLATION DRAWING. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE PRODUCTION OF FABRICATION AND INSTALLATION DRAWINGS, SHALL BE FAMILIAR WITH OTHER WORKS PACKAGES WHICH DIRECTLY INTERFERE WITH HIS PACKAGE AND COORDINATE WITH THE FABRICATION AND INSTALLATION DRAWINGS ACCORDINGLY.  
 THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE DESIGN, SUPPLY AND INSTALLATION OF SUPPORTS, BRACKETING SYSTEMS, AND SECONDARY STEELWORK SUPPORTS REQUIRED FOR THIS WORKS PACKAGE, UNLESS OTHERWISE STATED.  
 SHOULD ANY DISCREPANCIES BE APPARENT IN THIS DRAWING, THE ENGINEER SHALL BE MADE AWARE OF THIS FOR FURTHER ACTION.

P	22.08.2022	PRELIMINARY ISSUE	CD	CD
Revision	Date	Details	Drn	Chkd

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Antrim  Dublin  London

ARCHITECT  
**VHA ARCHITECTS**

PROJECT  
**MAYNOOTH FIRE STATION**

TITLE  
**EXTERNAL SITE LIGHTING**

DESIGNED	DATE	FLOOR
CD	AUGUST 2022	
DRAWN	SCALE	
CD	1:150	

DRG No. **22018-MAY-E-PL** DRG REV. **P**

DRG STATUS  
**PRELIMINARY**