# NATURA IMPACT STATEMENT

**FOR**

SHD Residential Development

**AT**

Balscadden, Howth,

Co. Dublin.

**ON BEHALF OF**

Balscadden GP3 Ltd

Prepared by
Enviroguide Consulting

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# 1 INTRODUCTION

## 1.1 Project Scope

Enviroguide Consulting was commissioned by Balscadden GP3 Ltd. to prepare a Natura Impact Statement for a Proposed SHD Residential Development at Balscadden, Howth, Co. Dublin.

## 1.2 Legislative Context

The Habitats Directive (92/43/EEC) seeks to conserve natural habitats and wild fauna and flora by the designation of Special Areas of Conservation (SACs) and the Birds Directive (2009/147/EC) seeks to protect birds of special importance by the designation of Special Protected Areas (SPAs). It is the responsibility of each member state to designate SPAs and SACs, both of which will form part of Natura 2000, a network of protected sites throughout the European Community.

Member States are required to designate SACs and SPAs under the EU Habitats and Birds Directives, respectively. SACs and SPAs are collectively known as "Natura 2000" or "European" sites. SACs are selected for the conservation of Annex I habitats (including priority types which are in danger of disappearance) and Annex II species (other than birds). SPAs are selected for the conservation of Annex I birds and other regularly occurring migratory birds and their habitats. The annexed habitats and species for which each site is selected correspond to the qualifying interests of the sites; from these the conservation objectives of the site are derived.

An 'Appropriate Assessment' (AA) is an assessment required prior to the grant of planning permission to determine whether a plan or project, based on best scientific knowledge, will have an adverse effect on the integrity of a European site, either alone or in combination with other plans and projects. It is required for any plan or project not directly connected with or necessary to the management of a site but likely to have a significant effect on it.

An Appropriate Assessment is required under Article 6 of the Habitats Directive where a project or plan may give rise to significant effects upon a Natura 2000 site. Paragraph 3 states that:

"*6(3) Any plan or project not directly connected with or necessary to the management of the site but likely to have a significant effect thereon, either individually or in combination with other plans or projects, shall be subject to appropriate assessment of its implications for the site, in view of the site's conservation objectives. In the light of the conclusions of the assessment of the implications for the site and subject to the provisions of paragraph 4, the competent national authorities shall agree to the plan or project only after having ascertained that it will not adversely affect the integrity of the site concerned and, if appropriate, after having obtained the opinion of the general public."*

These obligations in relation to Appropriate Assessment have been implemented in Ireland under Part XAB of the Planning and Development Act 2000, as amended ("the 2000 Act"), and in particular Section 177T and Section 177V thereof in relation to Natura Impact

Statements and Appropriate Assessment. The relevant provisions of Section 177T and 177V are set out below:

"***177T.—*** *(1) In this Part— (a) A Natura impact report means a statement for the purposes of Article 6 of the Habitats Directive, of the implications of a Land use plan, on its own or in combination with other plans or projects, for one or more than one European site, in view of the conservation objectives of the site or sites.*

*(b) A Natura impact statement means a statement, for the purposes of Article 6 of the Habitats Directive, of the implications of a proposed development, on its own or in combination with other plans or projects, for one or more than one European site, in view of the conservation objectives of the site or sites.*

*(2) Without prejudice to the generality of subsection (1), a Natura impact report or a Natura impact statement, as the case may be, shall include a report of a scientific examination of evidence and data, carried out by competent persons to identify and classify any implications for one or more than one European site in view of the conservation objectives of the site or sites."*

*(3) …*

*(4) The applicant for consent for proposed development may, or if directed in accordance with subsection (5) by a competent authority, shall furnish a Natura impact statement to the competent authority in relation to the proposed development.*

*(5) At any time following an application for consent for proposed development a competent authority may give a notice in writing to the applicant concerned, directing him or her to furnish a Natura impact statement.*

*(6) ...*

*(7) ( a ) Without prejudice to subsection (1) a Natura impact report or a Natura impact statement shall include all information prescribed by regulations under section 177AD .*

*( b ) Where appropriate, a Natura impact report or a Natura impact statement shall include such other information or data as the competent authority considers necessary to enable it to ascertain if the draft Land use plan or proposed development will not affect the integrity of the site."*

***"177V.—*** *(1) An appropriate assessment carried out under this Part shall include a determination by the competent authority under Article 6.3 of the Habitats Directive as to whether or not a draft Land use plan or proposed development would adversely affect the integrity of a European site and an appropriate assessment shall be carried out by the competent authority, in each case where it has made a determination under section 177U(4) that an appropriate assessment is required, before—*

*(a) the draft Land use plan is made including, where appropriate, before a decision on appeal in relation to a draft strategic development zone is made, or*

*(b) consent is given for the proposed development.*

*(2) In carrying out an appropriate assessment under subsection (1) the competent authority shall take into account each of the following matters:*

*(a) the Natura impact report or Natura impact statement, as appropriate;*

*(b) any supplemental information furnished in relation to any such report or statement;*

*(c) if appropriate, any additional information sought by the authority and furnished by the applicant in relation to a Natura impact statement;*

*(d) any additional information furnished to the competent authority at its request in relation to a Natura impact report;*

*(e) any information or advice obtained by the competent authority;*

*(f) if appropriate, any written submissions or observations made to the competent authority in relation to the application for consent for proposed development;*

*(g) any other relevant information.*

*(3) Notwithstanding any other provision of this Act, or, as appropriate, the Act of 2001, or the Roads Acts 1993 to 2007 and save as otherwise provided for in sections 177X, 177Y, 177AB and 177AC, a competent authority shall make a Land use plan or give consent for proposed development only after having determined that the Land use plan or proposed development shall not adversely affect the integrity of a European site.*

*(4) Subject to the other provisions of this Act, consent for proposed development may be given in relation to a proposed development where a competent authority has made modifications or attached conditions to the consent where the authority is satisfied to do so having determined that the proposed development would not adversely affect the integrity of the European site if it is carried out in accordance with the consent and the modifications or conditions attaching thereto.*

*(5) ...*

*(6) …."*

## 1.3 Stages of AA

The AA process is a four-stage process, with issues and tests at each stage. An important aspect of the process is that the outcome at each successive stage determines whether a further stage in the process is required.

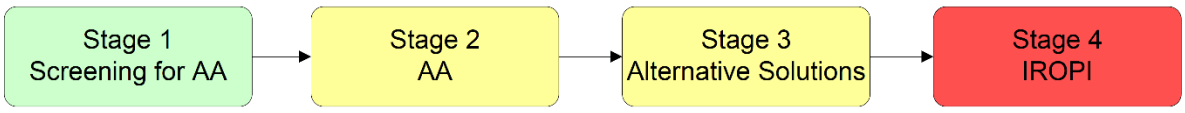


**FIGURE 1. THE FOUR STAGES OF THE APPROPRIATE ASSESSMENT PROCESS (DEHLG, 2010 REVISION).**

The four stages of an AA can be summarised as follows:

- Stage 1: *Screening*. The first stage of the AA process is to determine the likelihood of significant effects of the proposal.
- **Stage 2: Appropriate Assessment (AA).** The second stage of the AA requires the competent authority to determine whether the project or plan (either alone or in combination with other projects or plans) will have an adverse effect on the integrity of

the European site, having regard to the conservation objectives of the site and its ecological structure and function. The developer must provide a Natura Impact Statement (NIS) to the competent authority to inform the AA, which is a statement, for the purposes of Article 6 of the Habitats Directive, of the implications of a proposed development, on its own or in combination with other plans or projects, for one or more than one European site, in view of the conservation objectives of the site or sites. It must include a report of a scientific examination of evidence and data, carried out by competent persons to identify and classify any implications for one or more than one European site in view of the conservation objectives of the site or sites. The competent authority must consult with the public in relation to any plan or project that requires AA. If the competent authority determines that the plan or project would have an adverse effect on the integrity of any European site, it can only grant consent after proceeding through steps 3 and 4.

- Stage 3: *Assessment of alternative solutions*. If the outcome of Stage 2 is negative, i.e. adverse impacts to the sites cannot be scientifically ruled out, despite mitigation, the plan or project should proceed to Stage 3 or be abandoned. This stage examines alternative solutions to the proposal.
- Stage 4: *Assessment where no alternative solutions exist and where adverse impacts remain.* The final stage is the main derogation process examining whether there are imperative reasons of overriding public interest (IROPI) for allowing a plan or project to adversely affect a European site, where no less damaging solution exists.

The Habitats Directive promotes a hierarchy of avoidance, mitigation, and compensatory measures. First the project should aim to avoid any negative effects on European sites by identifying possible effects early in the planning stage and designing the project to avoid such effects. Second, mitigation measures should be applied, if necessary, during the AA process to the point where no adverse impacts on the site(s) remain. If the project is still likely to result in adverse effects, and no further practicable mitigation is possible, a refusal for planning permission may be recommended. In this case, the project will generally only be considered where no alternative solutions are identified and the project is required for imperative reasons of overriding public interest (IROPI test), or, in the case of priority habitats, considerations of health or safety, or beneficial consequences of primary importance for the environment or to other imperative reasons of overriding public interest. Then compensation measures are required for any remaining adverse effects.

## 1.4 Guidance

This NIS has been undertaken in accordance with the following guidance:

- *Appropriate Assessment of Plans and Projects in Ireland - Guidance for Planning Authorities.* (Department of Environment, Heritage and Local Government, 2010 revision);
- *Appropriate Assessment under Article 6 of the Habitats Directive: Guidance for Planning Authorities.* Circular NPW 1/10 & PSSP 2/10;
- *Assessment of Plans and Projects Significantly Affecting Natura 2000 sites: Methodological Guidance on the Provisions of Article 6(3) and (4) of the Habitats Directive 92/43/EEC* (European Commission, 2001);

- *Communication from the Commission on the precautionary principle* (European Commission, 2000); and,
- *Managing Natura 2000 Sites: The Provisions of Article 6 of the Habitat's Directive 92/43/EEC* (European Commission, 2019).

# 2 STAGE 1: APPROPRIATE ASSESSMENT SCREENING

An Appropriate Assessment (AA) Screening Report was prepared for the Proposed Development by Enviroguide Consulting.

The conclusion of the AA Screening Report is as follows:

"*The Proposed SHD Residential Development at Balscadden, Howth, Co. Dublin has been assessed taking into account:*

- *the nature, size and location of the proposed works and possible impacts arising from the construction works.*
- *the qualifying interests and conservation objectives of the European sites.*
- *the potential for in-combination effects arising from other plans and projects.*

*In conclusion, upon the examination, analysis and evaluation of the relevant information and applying the precautionary principle, it is concluded by the authors of this report that, on the basis of objective information; the possibility* ***may be excluded*** *that the Proposed Development will have a significant effect on any of the European sites listed below:*

- *Rockabill to Dalkey Island SAC (003000)*
- *Baldoyle Bay SAC (000199)*
- *Ireland's Eye SAC (002193)*
- *North Dublin Bay SAC (000206)*
- *Malahide Estuary SAC (000205)*
- *South Dublin Bay SAC (000210)*
- *Lambay Island SAC (000204)*
- *Rogerstown Estuary SAC (000208)*
- *Ireland's Eye SPA (004117)*
- *North Bull Island SPA (004006)*
- *Baldoyle Bay SPA (004016)*
- *Malahide Estuary SPA (004025)*
- *South Dublin Bay and River Tolka Estuary SPA*
- *Lambay Island SPA (004069)*
- *Rogerstown Estuary SPA*
- *Dalkey Islands SPA (004172)*

*In carrying out this AA screening, mitigation measures have not been taken into account. Standard best practice construction measures which could have the effect of mitigating any effects on any European Sites have similarly not been taken into account.*

*On the basis of the screening exercise carried out above, it can be concluded, on the basis of the best scientific knowledge available, that the possibility of any significant effects on the above listed European sites, whether arising from the project itself or in combination with other plans and projects, can be excluded.*

*However, upon examination of the relevant information including in particular the nature of the potential impact pathways associated with the Proposed Development,* ***the possibility can-***

***not be excluded*** *that the Proposed Development will have a likely significant effect on the European sites listed below:*

- *Howth Head SAC (000202)*
- *Howth Head Coast SPA (004113)*

*As the likelihood of significant effects on European sites cannot be excluded a Natura Impact Statement (NIS) will be prepared for the Proposed Development. The NIS will assess the impact of the project (alone and in combination with other projects) on the integrity of the European sites, having regard to the conservation objectives of the sites. The NIS will describe proposed mitigation measures to avoid and reduce significant effects and will provide objective scientific information to enable the competent authority to carry out an Appropriate Assessment of the Proposed Development."*

As such, this NIS will focus on the potential effects of the Proposed Development on **Howth Head SAC** and the **Howth Head Coast SPA**.

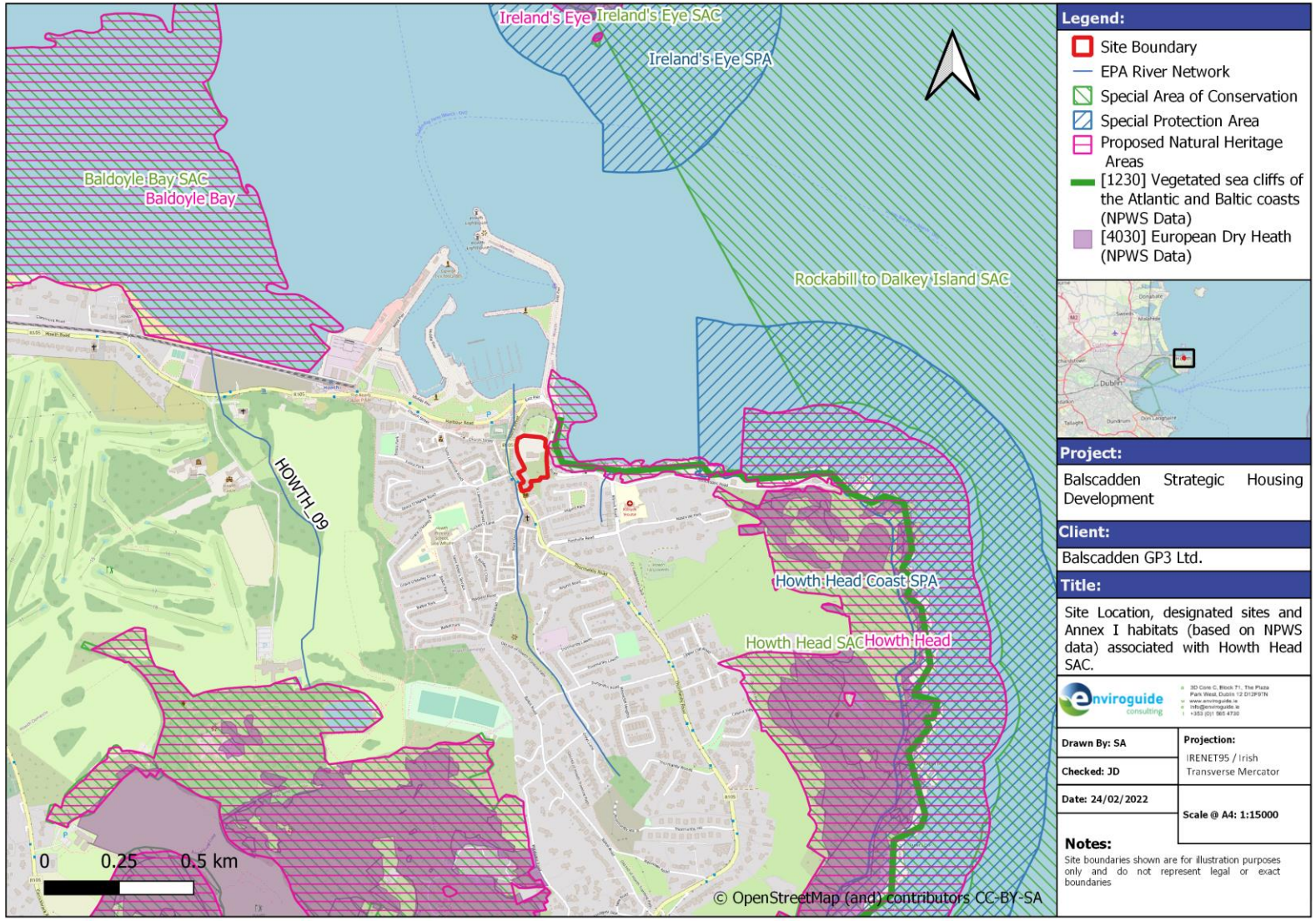


**FIGURE 2. SITE LOCATION.**

# 3 DESCRIPTION OF THE PROJECT

## 3.1 Description of the Development

### *3.1.1 Location and Size*

The Site occupies an area of approximately 1.43 hectares (ha) and is located within Howth village. The Site lies immediately south of the Martello Town, to the west of Balscadden Road and to the east of Abbey Street. The Site comprises areas of scrub, grassland, hardstanding and an abandoned warehouse.

### *3.1.2 General Description*

The Proposed Development relates to lands located to the south of the Martello Tower on Balscadden Road & the former Baily Court Hotel, Main Street, Howth, County Dublin. The Development will consist of the demolition of existing structures on the proposed site including the disused sports building and the former Baily Court Hotel buildings and the construction of a residential development set out in 4 no. residential blocks, ranging in height from 2 to 5 storeys to accommodate 180 no. apartments with associated internal residential tenant amenity and external courtyards and roof terraces, 1 no. retail unit and 2 no. café/retail units. The site will accommodate car parking spaces at basement level and bicycle parking spaces at basement and surface level. Landscaping will include new linear plaza which will create a new pedestrian link between Main St and Balscadden Rd to include the creation of an additional 2 no. new public plazas and also maintains and upgrades the pedestrian link from Abbey Street to Balscadden Road below the Martello Tower. Please see the accompanying Statutory Notices for a more detailed description.

### *3.1.3 Construction Phase*

The following is extracted from the Outline Construction Management Plan (Waterman Moylan, 2021):

The following outlines the construction phase sequence of works:

- Demolition of the existing EDROS Building & former Baily Court Hotel.
- Removal of site vegetation and installation of site set-up.
- Installation of temporary silt trench to eastern boundary to protect Howth Head SAC/pNHA as required under the Preliminary Environmental Management Plan
- Provision of a temporary piling mat and berms between levels.
- Secant piled walls installed to allow for the bulk excavation and reduced level dig.
- Temporary works installed to temporarily restrain the secant piled walls during excavation.
- Basement battered open-cut excavation to the North and East boundaries with a safe angle of repose.
- Installation of the building raft foundation and basement retaining walls.
- Tower crane installation for the construction of the building frame.
- Bottom-up construction sequence of the floor slabs and vertical elements.
- Elements of the building frame may be premanufactured off site in precast construction for speed of construction, less formworks and on-site waste.

- Temporary scaffolding may be required around each building during the construction of the building envelope.
- Elements of the building facade may be premanufactured off site using modular construction for speed of construction and less on-site waste.

### *3.1.4 Proposed Foul and Surface Water Networks*

The following is extracted from the Engineering Assessment Report (Waterman Moylan, 2021).

It is proposed to discharge wastewater from the site by gravity to the existing foul water sewer in Main Street. Irish Water issued a Confirmation of Feasibility letter for the proposal on 3rd August 2021 (reference number CDS21002487). The letter notes that connection to the existing wastewater network is feasible subject to upgrade works. The required upgrades comprise approximately 100m of network extension, from the site to the existing 300mm sewer in Abbey Street. This upgrade is not currently on Irish Water's investment plan, and the applicant will therefore be required to fund the upgrade works.

A Statement of Design Acceptance (dated 14th February 2022) has also been received from Irish Water for the proposed development.

It is proposed to discharge surface water from the Site by gravity to the existing surface water sewer in Main Street.

The Proposed Development will be designed to incorporate best drainage practice. Surface water discharging to the public network will be restricted to the greenfield equivalent runoff rate via a Hydrobrake or similar approved flow control device. The surface water network will be designed to accommodate the 1-in-5 year storm, with attenuation storage provided for the 1-in-100 year storm.

It is proposed to incorporate a Storm Water Management Plan through the use of various SuDS techniques to treat and minimise surface water runoff from the site. The methodology involved in developing a Storm Water Management Plan for the subject site is based on recommendations set out in the Greater Dublin Strategic Drainage Study (GDSDS) and in the SuDS Manual (Ciria C753).

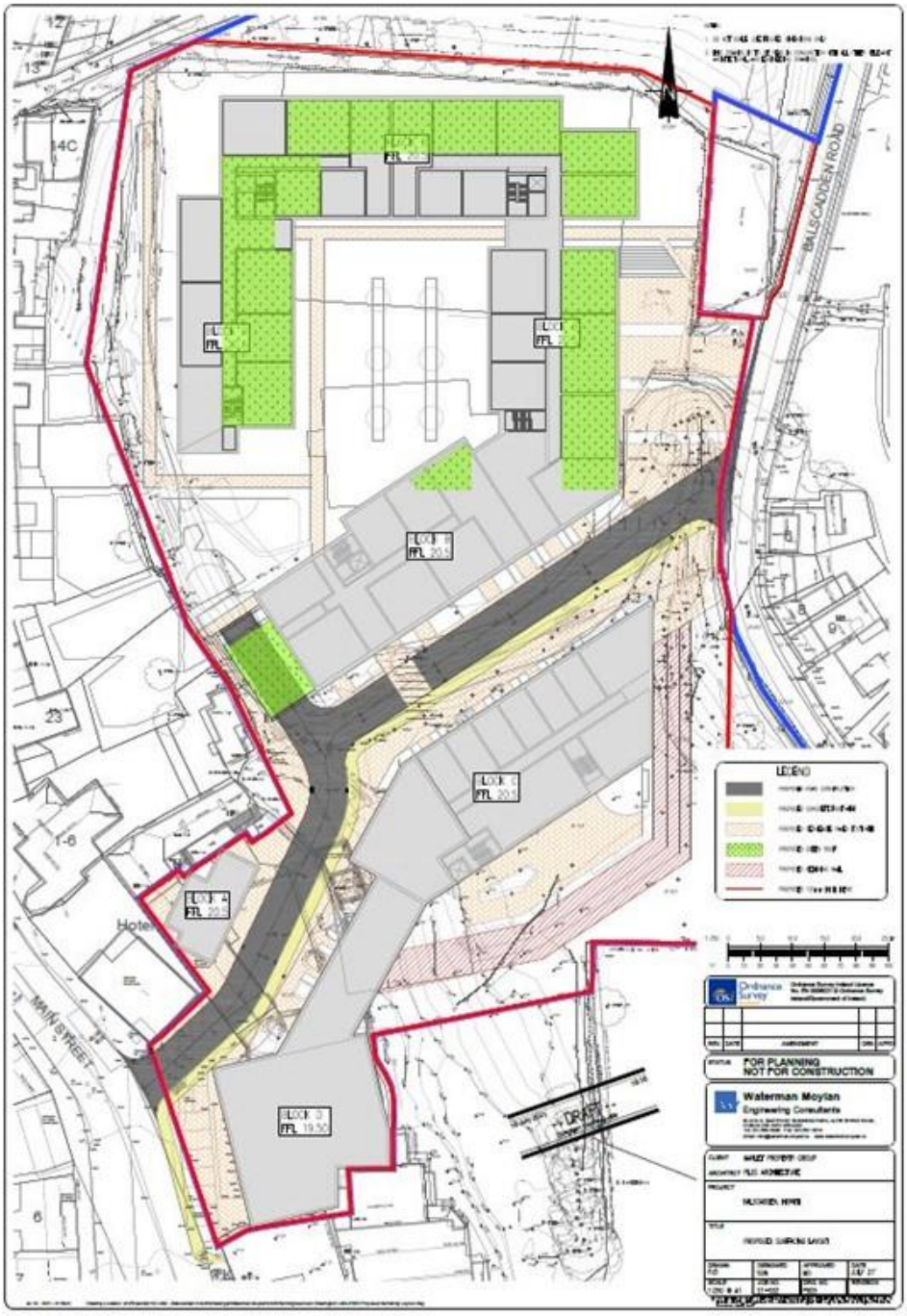


**FIGURE 3. PROPOSED SURFACING LAYOUT (WATERMAN MOYLAN, 2021).**

## 3.2 Existing Environment

The Site of the Proposed Development is within the Liffey and Dublin Bay catchment and Mayne_SC_010 sub catchment (EPA, 2021).

A small stream (Gray's Brook Stream, IE_EA_09H230880) is located approx. 20-25m to the west of the Site. This stream rises on Thornamby Hill and flows in a northerly direction towards Howth Harbour. The stream appears to enter a culvert at Balglass Road, and flows through this culvert along Main Street and Abbey Street before discharging into Howth Harbour. A second, very short coastal stream is located approx. 155-160m to the east of the Site (Coolcur

Brook Stream, IE_EA_09H230880). The Water Framework Directive status of these streams is “unassigned”.

The Site of the Proposed Development is situated on the Dublin (IE_EA_G_008) groundwater body. Two bedrock aquifer types and a fault line are in the Site area. The bedrock aquifer at the north of the Site is a *Locally Important Aquifer - Bedrock which is Moderately Productive only in Local Zones.* The bedrock aquifer to the south of the Site is a *Poor Aquifer - Bedrock which is Generally Unproductive except for Local Zones* (GSI, 2021). The groundwater rock units underlying the aquifer are classified as *Dinantian Lower Impure Limestones* and *Cambrian Metasediments*. The level of vulnerability to groundwater contamination from human activities is *High* at the western boundary of the Site, *Extreme* within the centre and east of the Site and *X – Rock at or Near the Surface* at the eastern boundary of the Site.

The subsoil is predominately *man made*, with a small area of *Bedrock at Surface* to the east of the Site (EPA, 2021). The soil is predominantly *urban* (GSI, 2021).

# 4 METHODOLOGY

## 4.1 Desk Study

A desktop study was carried out to collate and review available information, datasets and documentation sources relevant for the completion of the Natura Impact Statement. The desk-top study, completed in February 2022, relied on the following sources:

- Information on the network of European sites, relevant boundaries, qualifying interests and conservation objectives, obtained from the National Parks and Wildlife Service (NPWS) at *www.npws.ie* ;
- Information on the status of EU protected habitats and species in Ireland, obtained from the NPWS Article 17 reports;
- Text summaries of the relevant European sites taken from the respective Standard Data Forms and Site Synopses for each site, available at *www.npws.ie*
- Information on species records and distributions, obtained from the National Biodiversity Data Centre (NBDC) at *www.maps.biodiversityireland.ie* ;
- Information on waterbodies, catchment areas and hydrological connections obtained from the Environmental Protection Agency (EPA) at www.*gis.epa.ie* ;
- Information on bedrock, groundwater, aquifers and their statuses, obtained from Geological Survey Ireland (GSI) at *www.gsi.ie* ;
- Satellite imagery and mapping obtained from various sources and dates including Google, Digital Globe, Bing and Ordnance Survey Ireland;
- Information on the extent, nature and location of the Proposed Development, provided by the applicant and their design team.
- Previous ecological assessments of the Site and environs carried out by Altemar (2019a and 2019b).

A comprehensive list of all the specific documents and information sources consulted in the completion of this report is provided in Section 10, References.

## 4.2 Field Surveys

A range of field surveys have been carried out at the Site of the Proposed Development to inform this NIS. The following sections provide details of the field surveys carried out and a summary of ecological surveys is provided in Table 1.

**TABLE 1. SUMMARY OF ECOLOGICAL SURVEYS CARRIED OUT AT THE SITE.**

| Survey | Survey Date(s) | Surveyor |
|---|---|---|
| Habitat and Flora Surveys | 16th August 2021 | Enviroguide Consulting |
| Non-volant Mammal Surveys | 16th August 2021 | Enviroguide Consulting |
| Bat Surveys | 12th to 25th August 2021 | Dr Tina Aughney |
| Breeding Bird Surveys | 27nd July 2021 | Eric Dempsey |
| Flight-Line Bird Surveys | 13th and 25th November 2020<br>9th and 16th December 2020<br>6th, 13th, 20th, 26th January 2021<br>3rd, 10th, 17th, 24th February 2021<br>3rd, 12th, 19th, 30th March 2021<br>25th November 2021<br>2nd,14th, 28th December 2021<br>4th, 13th, 17th, 27th January 2022<br>2nd, 8th, 17th, 23rd February 2022<br>1st,8th March 2022 | Enviroguide Consulting |

### *4.2.1 Bird Surveys*

Expert Ornithologist Eric Dempsey carried out a breeding bird survey of the Site on the 27nd July 2021. Flightline surveys were carried out at the Site of the Proposed Development between the 13th of November 2020 and 30th March 2021, and between the 25th November 2021 and 8th March 2022 by Enviroguide Consulting. The objective of these surveys was to determine the composition, numbers, frequency and heights of species in passage over the Site of the Proposed Development, if any, in order to inform decisions on potential disturbance to flight-lines of birds commuting to/from roost sites and/or between feeding sites as a result of the construction of the Proposed Development. Each survey day commenced at either dawn or 6 hours prior to dusk and continued for a minimum of 15-minute intervals every hour for 6 hours. Surveys were concentrated at dawn and dusk to gather information on potential flight-lines of birds commuting to/from roost sites and/or between feeding sites. A total of 180 fifteen minute to 1-hour observations were undertaken from a pre-determined vantage point over a total of 30 days throughout the 2020/21 and 2021/22 survey periods (Table 1). The full survey report is available in Appendix II of the AA Screening Report.

### *4.2.2 Bat Surveys*

A range of bat surveys of the Site were carried out by Bat Eco Services between the 12th and 25th August**.**

### *4.2.3 Habitat*

A habitat survey was undertaken on the 16th August 2021. Habitats were identified and classified according to Fossitt (2000) and Smith et al. (2011).

### *4.2.4 Mammal Surveys*

Mammal surveys of the Site were carried out in conjunction with the habitat and bird surveys. The Site was searched for tracks and signs of mammals. The habitat types recorded throughout the survey area were used to assist in identifying the fauna considered likely to utilise the area. During this survey, the Site was searched for tracks and signs of mammals as per Bang and Dahlstrom (2001).

### *4.2.5 Invasive Species Surveys*

The Site was assessed for the presence of invasive plant species during the habitat surveys undertaken on the 16th of August 2021.

# 5 SUMMARY OF RELEVANT EUROPEAN SITES

The following is extracted from the Natura 2000 Standard Data Form for Howth Head SAC and Howth Head Coast SPA.

## 5.1 Howth Head SAC [000202]

Howth is a peninsula of cambrian quartzite and slate linked to the mainland by a raised beach. Most of the coast is sheer with many 30m or higher cliffs. Its climate is dry and warm by Irish standards and this is reflected in it's flora and fauna. The proposed SAC occupies the eastern portion and summit of Howth. Much of the remaining area is urbanized or used for amenity. The greater part of the site consists of heathland and cliff.

The climate and landforms of Howth combined with proximity to Dublin have resulted in a site of great scientific and education interest. The flora is very diverse with several Red data book species and species of very restricted Irish distribution. The dry heath and sea cliff vegetation is extensive and well developed. A wide variety of seabirds nest on the marine cliffs. Many important scientific studies of the area have been published.

## 5.2 Howth Head Coast SPA [004113]

Howth Head is a rocky headland situated on the northern side of Dublin Bay. The peninsula is composed of Cambrian rock of the Bray Group, the most conspicuous component being quartzite. The site comprises approximately 3 km of sea cliff, which vary between about 60 m and 90 m in height. A typical maritime cliff flora occurs. Where the gradient allows, shallow glacial drift supports a typical maritime flora and there is a fringe of coastal heath on the cliff tops. The marine area to a distance of 500 m from the cliff base, where seabirds bathe, socialise and feed, is included within the site.

Howth Head has important colonies of breeding seabirds, with nationally important populations of *Rissa tridactyla*, *Alca torda* and *Cepphus grylle*, and a regionally important population of *Uria aalge*. The colony has been monitored at intervals since the Operation Seafarer project in 1969/70 and most populations have increased since then. The cliffs also support a breeding pair of *Falco peregrinus*, a species listed on Annex I of the E.U. Birds Directive. The site is easily accessible and has important amenity and educational value due to its proximity to Dublin City.

**TABLE 2. QUALIFYING INTERESTS OF EUROPEAN SITES WITH THE POTENTIAL TO BE AFFECTED BY THE PROPOSED DEVELOPMENT.**

| Natura 2000 Site | Distance (km) to Site | Qualifying Interests |
|---|---|---|
| Howth Head SAC (000202) | Adjacent to the Proposed Development Site boundary (approximately 10 metres to the east of the Site at the closest point) | • [1230] Vegetated sea cliffs of the Atlantic and Baltic coasts<br>• [4030] European dry heaths |
| Howth Head Coast SPA (004113) | 0.5 km | • [A188] Kittiwake Rissa tridactyla |

## 5.3 Conservation Objectives

As per the Habitats Directive, the focus of the AA at this second stage should be on the integrity of European sites *in light of their conservation objectives*.

The "favourable conservation status" of a habitat or species is defined by Articles 1(e) and 1(i) of the Habitats Directive as follows:

"*The conservation status of a natural habitat is the sum of the influences acting on it and its typical species that may affect its long-term natural distribution, structure and functions as well as the long-term survival of its typical species. The conservation status of a natural habitat will be taken as favourable when:*

- *its natural range, and area it covers within that range, are stable or increasing, and*
- *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, and*
- *the conservation status of its typical species is favourable.*

*The conservation status of a species is the sum of the influences acting on the species that may affect the long-term distribution and abundance of its populations. The conservation status will be taken as '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, and*
- *the natural range of the species is neither being reduced nor is likely to be reduced for the foreseeable future, and*
- *there is, and will probably continue to be, a sufficiently large habitat to maintain its populations on a long-term basis.*

The conservation objectives of each qualifying interest of Howth Head SAC and Howth Head Coast SPA, which are defined by various attributes and targets are outlined in Table 3 below.

**TABLE 3. QUALIFYING INTERESTS AND CONSERVATION OBJECTIVES FOR RELEVANT EUROPEAN SITES**

| Site Name | Qualifying Interest | Conservation Objective | Attribute and Target |
|---|---|---|---|
| Howth Head SAC | [1230] Vegetated sea cliffs of the Atlantic and Baltic coasts | To maintain the favourable conservation condition of Vegetated sea cliffs of the Atlantic and Baltic coasts in Howth Head SAC | **Habitat Length** - Area stable, subject to natural processes, including erosion. Total length of cliff: 8.22km<br><br>**Habitat Distribution** - No decline, subject to natural processes.<br><br>**Physical structure: functionality and hydrological regime** - No alteration to natural functioning of geomorphological and hydrological processes, including groundwater quality, due to artificial structures<br><br>**Vegetation structure: zonation** - Maintain range of sea cliff habitat zonations including transitional zones, subject to natural processes including erosion and succession<br><br>**Vegetation structure: vegetation height** - Maintain structural variation within sward<br><br>**Vegetation composition: typical species and subcommunities** - Maintain range of subcommunities with typical species listed in the Irish Sea Cliff Survey (Barron et al., 2011)<br><br>**Vegetation composition: negative indicator species** - Negative indicator species (including non-natives) to represent less than 5% cover<br><br>**Vegetation composition: bracken and woody species** - Cover of bracken (*Pteridium aquilinum*) on grassland and/or heath less than 10%. Cover of woody species on grassland and/or heath less than 20% |
| | [4030] European dry heaths | To maintain the favourable conservation condition of European dry heaths in Howth Head SAC | **Habitat area** - Area stable or increasing, subject to natural processes<br><br>**Habitat distribution** - No decline, subject to natural processes<br><br>**Ecosystem function: soil nutrients** - Maintain soil nutrient status within natural range<br><br>**Community diversity** - Maintain variety of vegetation communities, subject to natural processes<br><br>**Vegetation composition: lichens and bryophytes** - Number of bryophyte or non-crustose lichen species present at each monitoring stop is at least three, excluding *Campylopus* and *Polytrichum* mosses |

| Site Name | Qualifying Interest | Conservation Objective | Attribute and Target |
|---|---|---|---|
| | | | **Vegetation composition: number of positive indicator species** - Number of positive indicator species present at each monitoring stop is at least two<br><br>**Vegetation composition: cover of positive indicator species** - Cover of positive indicator species at least 50% for siliceous dry heath and 50- 75% for calcareous dry heath<br><br>**Vegetation composition: dwarf shrub composition** - Proportion of dwarf shrub cover composed collectively of bog-myrtle (*Myrica gale*), creeping willow (*Salix repens*) and western gorse (*Ulex gallii*) is less than 50%<br><br>**Vegetation composition: negative indicator species** - Total cover of negative indicator species less than 1%<br><br>**Vegetation composition: nonnative species** - Cover of non-native species less than 1%<br><br>**Vegetation composition: native trees and shrubs** - Cover of scattered native trees and shrubs less than 20%<br><br>**Vegetation composition: bracken** - Cover of bracken (*Pteridium aquilinum*) less than 10%<br><br>**Vegetation composition: soft rush** - Cover of soft rush (*Juncus effusus*) less than 10%<br><br>**Vegetation structure: senescent ling** - Senescent proportion of ling (*Calluna vulgaris*) cover less than 50%<br><br>**Vegetation structure: signs of browsing** - Less than 33% collectively of the last complete growing season's shoots of ericoids showing signs of browsing<br><br>**Vegetation structure: burning** - No signs of burning in sensitive areas<br><br>**Vegetation structure: growth phases of ling** - Outside sensitive areas, all growth phases of ling (*Calluna vulgaris*) should occur throughout, with at least 10% of cover in the mature phase<br><br>**Physical structure: disturbed bare ground** - Cover of disturbed bare ground less than 10%<br><br>**Indicators of local distinctiveness** - No decline in distribution or population sizes of rare, threatened or scarce species associated with the habitat |

| Site Name | Qualifying Interest | Conservation Objective | Attribute and Target |
|---|---|---|---|
| Howth Head Coast SPA | A188 Kittiwake *Rissa tridactyla* | To maintain or restore the favourable conservation condition of the bird species listed as Special Conservation Interests for this SPA | n/a – conservation objectives are generic for this SPA. |

# 6 IMPACT PREDICTION

## 6.1 Overview of the Site

The main ecological value of the Proposed Development Site is the value of the semi natural habitats at the Site (dry meadows and grassy verges and scrub) to local passerine bird populations as nesting and foraging habitat and as foraging and commuting habitat for bat species.

Four bat species were recorded at the Site. The Proposed Development Site is used as a foraging and commuting habitat for local bat populations. However, the level of bat activity and the number of bat encounters do not indicate that the Proposed Development Site is an important area for local bat populations. No badger signs (setts, latrines, snuffle holes) were recorded at the Site. However, common and widespread species are likely to occur at the Site including hedgehog, pygmy shrew and the common lizard. All these species are protected under the Wildlife Act.

Altemar (2019) detected Three Cornered Leek *Allium triquetrum* at the Site on the slopes facing the Baily Court Hotel during their Site surveys. This species is listed in Schedule III of the *European Communities (Birds and Natural Habitats) Regulations* 2011 (SI 477 of 2011, as amended). No other invasive species listed on Schedule III of the above-mentioned regulations were found at the Site by Altemar (2019). It is likely that Three Cornered Leek was not re-found in the August 2021 surveys as this species flowers early in the year with plants dying back completely by June and July[1].

Overall, the Proposed Development Site has been evaluated as of *Local value (lower value)* having regard for the conservation evaluation scheme (NRA 2009) as a site "*containing small areas of semi-natural habitat that are of some local importance to wildlife*".

Data available from the NPWS website[2] indicates that the Annex I habitat *[1230] vegetated sea cliffs of the Atlantic and Baltic coasts* occurs along the slope towards Balscadden Bay to the east of the Site (Figure 2). The Fingal County Council Development Plan Map Viewer 2017-2023 indicates that an Annex I habitat (referred to as "Rocky Sea Cliffs") occurs 380m east of the Site. A detailed assessment of the slope towards Balscadden Bay to the east of the Site was not carried out as part of the field surveys undertaken in August 2021 by Enviroguide Consulting. However, Altemar (2019a) assessed this slope as per Barron et al (2011) on the 13th May 2019. It should be noted that the author of the Altemar report was involved in the Survey Plan to Assess the Conservation Status of Irish Sea Cliffs (MERC, 2019) and carried out GIS elements for the National Survey and Assessment of the Conservation Status of Irish Sea Cliffs (Barron et al., 2011) (Altemar, 2019a).

The following description of the slope is extracted from Altemar (2019a):

*"A site visit was carried out on 13/05/19 to assess this easterly facing slope. There were no typical sea cliff habitats such as splash zone (concrete structure was present), crevice and ledge, ungrazed grassland on hard cliffs, grazed grassland on hard cliffs, soft cliff pioneer,*

[1] https://species.biodiversityireland.ie/profile.php?taxonId=28150&taxonDesignationGroupId=26#Species_Biology

[2] https://www.npws.ie/maps-and-data/habitat-and-species-data/article-17/2019/habitats/coastal-habitats

*flush on soft cliff or coastal heath present. In addition, as outlined by Barron et al. (2011) in relation to coastal grassland on soft cliffs, "This habitat type should only be considered for unstable soft cliffs. It is quite distinct from grasslands on hard cliffs and grasslands which develop on unconsolidated material lying on top of hard cliffs". The habitat on the slope leading to Balscadden Bay is not coastal grassland as the slope is a stable and soil based i.e. not "on top of hard cliffs", that shows no signs of erosion and is protected by the concrete protection works at its base. The habitats on site were relatively uniform with no distinct zones. It is more reminiscent of a terrestrial habitat of primarily Scrub (WS1) within intertwined GS2 Dry meadows and grassy verges. As the site was relatively uniform, no distinct zones relevés were recorded.*

*Species observed on the slope were relatively uniform across the slope and consisted of bramble (*Rubus fruticosus *agg.), ground elder (*Aegopodium podagraria*), nettle (*Urtica dioica*), cow parsley (*Anthriscus sylvestris*), goat's beard (*Tragopogon pratensis*), common knapweed (*Centaurea nigra*), cleavers (*Galium aparine*), monbretia (*Crocosmia x crocosmiflora*), bluebell (*Hyacinthoides non-scripta*), dandelion (*Taraxacum *spp.), creeping buttercup (*Ranunculus repens*), plantains (*Plantago *spp.), thistles (*Cirsium arvense *and* C. vulgare*), dock (*Rumex *spp.), hedge bindweed (*Calystegia sepium*), three-cornered garlic (*Allium triquetrum*), red valerian (*Centranthus ruber*), New Zealand flax (*Phormium *sp.) and several sycamore (*Acer pseudoplatanus*). Towards the base of the slope, several Sea Beet (*Beta vulgaris *ssp.* Maritima) *and common scurvygrass (*Cochlearia officinalis) *were noted.*

*The habitat Dry Heath [4030] (feature of interest of Howth Head SAC) was not present. The base of the slope ends in the terrestrial above the high-water mark. A concrete wall and platform are present across the shore in this area. The structures appear to have been in place in this area since early 1900's where postcards of the site show a dwelling on the shore. The SAC was designated November 1996. As the "base of the slope is neither intertidal (littoral) or subtidal (sublittoral)" (as defined by NPWS (2016) and Barron et al. (2011), this is therefore not a Vegetated Sea Cliff. Therefore, the features of interest of Howth Head SAC are not located in this immediate area."*

According to Altemar (2019b) the true sea cliffs are not located behind the houses on Balscadden Road. Rather, they occur where the houses cease and the cliffs are more northerly facing i.e., 42m from where the redline boundary is at the Balscadden Road.

According to the metadata accompanying the NPWS data mentioned above, the distribution of the NPWS sea cliffs data is based on a number of different sources, which are outlined in NPWS (2019) "The Status of EU Protected Habitats and Species in Ireland. Volume 2: Habitat Assessments.". The temporal range of the data is 2005 – 2011. The following is extracted from NPWS (2019):

*Barron et al. (2011) and Browne (2005) were used as the basis for the distribution map for 1230 vegetated sea cliffs provided by the NPWS. Oblique photographs, derived from video imagery captured in 2003, were examined by Barron et al. (2011) to draw up a list of 'potential sea cliffs'. Physical characteristics were further assessed using aerial photographs (2005 series) and OSI Discovery Series maps, information on soils from Teagasc soil and parent material maps, and information on bedrock from the Geological Survey of Ireland bedrock maps. The resulting sea cliff locations were transferred to the County boundary line developed from OSI six-inch maps of Ireland. A further 10 cliffs identified by Browne (2005), for which no*

*remote imagery was available, are included in the distribution. These are referred to as 'undocumented sites'.*

As the assessment carried out by Altemar (2019a) is more recent and is based on field data, this Biodiversity Chapter draws on the conclusion of Altemar (2019a and 2019b) that the features of interest of Howth Head SAC are not located in the immediate area of the Proposed Development.

## 6.2 Howth Head SAC

### *6.2.1 Effects due to hydrogeological pathways*

The Site of the Proposed Development is situated on the Dublin (IE_EA_G_008) groundwater body. Two bedrock aquifer types and a fault line are in the Site area. The bedrock aquifer at the north of the Site is a *Locally Important Aquifer - Bedrock which is Moderately Productive only in Local Zones.* The bedrock aquifer to the south of the Site is a *Poor Aquifer - Bedrock which is Generally Unproductive except for Local Zones* (GSI, 2021). The groundwater rock units underlying the aquifer are classified as *Dinantian Lower Impure Limestones* and *Cambrian Metasediments*. The level of vulnerability to groundwater contamination from human activities is *High* at the western boundary of the Site, *Extreme* within the centre and east of the Site and *X – Rock at or Near the Surface* at the eastern boundary of the Site.

Given the extent of groundworks required for the Proposed Development coupled with the existing groundwater vulnerability at the Site, hydrogeological links via groundwater potentially exist between the Site and Howth Head Coast SAC. Therefore, in the absence of standard, appropriate mitigation measures, there is potential for pollutants from the Site to enter Howth Head SAC via groundwater flows during the Construction Phase of the Proposed Development. The likelihood of significant effects arising from groundwater contamination on Howth Head SAC cannot be ruled out.

### *6.2.2 Effects due to hydrological pathways*

There are two potential hydrological pathways linking surface water discharges from the Site to Howth Head SAC. The first is via a surface water sewer located on Abbey St. to the west of the Site, and the second is via the gullies located on Balscadden Road to the east of the Site. It is noted that a clarification was requested by Fingal Co. Co. for a previous application (SHD00419, application date: 4th November 2019) at the Proposed Development Site regarding the drainage network within Howth Village. The following was requested "*clarification should be provided on where specifically the drainage network in Howth village discharges to, or at least clarification of whether this discharges into any part of the Howth Head SAC or any other European site*". In response to this request, Irish Water drawings were consulted and a CCTV survey on all the gullies on Balscadden Road at and downhill of the proposed development (SHD00419) was carried out in August 2019. The Irish Water drawings indicated that there was no surface water sewer on Balscadden Road. According to the CCTV survey, the gullies drained eastwards towards Balscadden Bay and Howth Head SAC. The main series of 4 no. gullies drained (29m) to the base of the steps at the beach in Balscadden Bay and not across the terrestrial habitat (Altemar, 2019a).

Therefore, in the absence of standard, appropriate mitigation measures, there is potential for sediments/pollutants from the Site to enter Howth Head SAC via surface water run-off during the Construction and/or Operational Phases of the Proposed Development. This could result

in impacts on water quality in this Site. The main contaminants arising from construction run-off include silt/sediment, spillages of concrete or other cement-based products, accidental spillages of hydrocarbons from plant and storage areas and contamination from inadequate treatment of on-site toilet and washing facilities. Mitigation is required to address these potential impacts. However, as none of the Qualifying Interests of Howth Head SAC occur along the slope to the east of the Site or to the north of the Site, impacts to these Qualifying Interests are not anticipated from surface water discharges. Construction phase impacts to water quality are likely to be temporary in nature.

### *6.2.3 Effects due to air pathways*

There is potential for impacts on Howth Head SAC due to the excavation, demolition and construction works associated with the Proposed Development, as well as haulage routes which could pass through the SAC. Excavation, demolition and construction works could result in dust emissions, which, if unmitigated, could affect habitats by potentially smothering sensitive habitats or plant species. It is likely that construction traffic will traverse 196m of Howth Head SAC during the Construction Phase of the Proposed Development. Two HGV route options were considered. Route 1 via Howth Road and Route 2 via Greenfield Road/Howth Head as per Figure 4 below. Route 1 is the shortest route measuring approximately 3.5km from Sutton Cross to the proposed site and is identified as having a good quality carriageway. However, following consultation with Fingal Council, in order to minimise the impact of the construction vehicles at Howth Harbour, the emerging preferred route is Route 2 (c. 7.5km). Route 2 is identified as suitable for construction vehicles and also with potential to reduce the risk of accident with pedestrian and other vehicles. This route traverses 196m of Howth Head SAC. The potential effect of both routes in considered below.

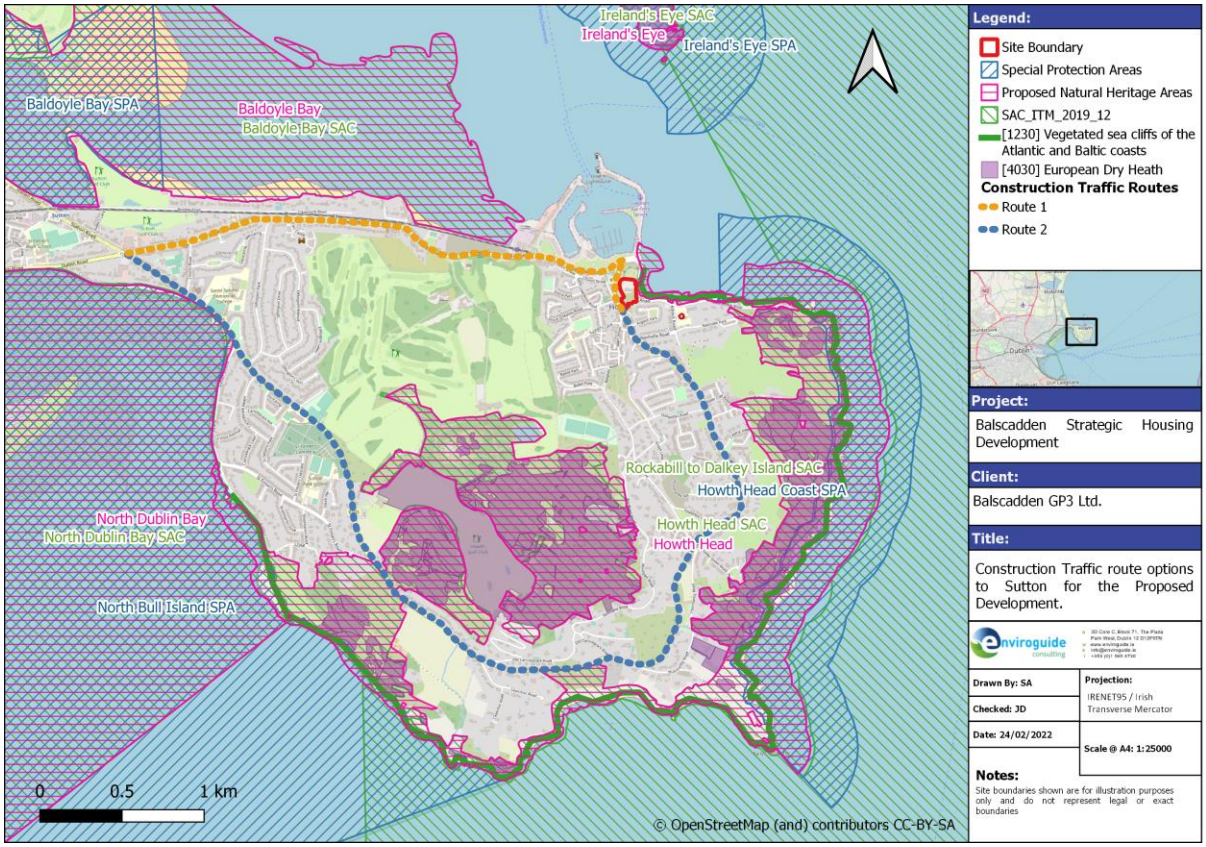


**FIGURE 4. CONSTRUCTION TRAFFIC ROUTE OPTIONS TO SUTTON FOR THE PROPOSED DEVELOPMENT.**

In order to assess the potential impact of construction phase dust and emissions on Howth Head SAC, Chapter 8 Air Quality & Climate and Microclimate of the EIAR was consulted. The following is extracted from Chapter 8:

"*There is potential for construction related air emissions to impact on local air quality as a result of the Proposed Development. Potential impacts are expected to be short-term and of a temporary nature. The main air quality impacts that may arise during construction activities are:*

- *Dust deposition;*
- *Elevated particulate matter concentrations ($PM_{10}$ and $PM_{2.5}$) as a result of dust generating activities on Site; and*
- *An increase in concentrations of airborne particles, volatile organic compounds, nitrogen oxides, and sulphur oxides due to exhaust emissions from diesel powered vehicles and equipment on Site (non-road mobile machinery) and vehicles accessing the Site.*

*The greatest potential impact on air quality during this phase is from construction dust emissions and the potential for nuisance dust. The dust emissions from a construction site that may result in air quality impacts generally depend on:*

- *Site activities and duration;*

- *The size of the site;*
- *The meteorological conditions;*
- *The proximity of receptors to the activities;*
- *The adequacy of applied mitigation measures; and*
- *The sensitivity of receptors to dust.*

*The primary sources of dust identified include soil excavation works, demolition, bulk material transportation, loading and unloading, stockpiling materials, cutting and filling, and vehicular movements (HGVs and on-site machinery).”*

According to the Air Quality Chapter, wind direction is most likely to prevail from the southwest. Therefore, in the absence of mitigation, it is considered that there is potential for dust impacts to occur at Howth Head SAC, which is located to the northeast and east of the Site.

According to the Air Quality Chapter, “*Air pollutants may increase marginally due to construction-related traffic and machinery from the Proposed Development. However, any such increase is not considered significant and will be well within relevant ambient air quality standards. According to TII (2011), the significance of impacts due to vehicle emissions during the Construction Phase will be dependent on the number of additional vehicle movements, the proportion of HGVs and the proximity of sensitive receptors to Site access routes. If construction traffic would lead to a significant change (> 10%) in Annual Average Daily Traffic (AADT) flows near to sensitive receptors, then concentrations of nitrogen dioxide, $PM_{10}$ and $PM_{2.5}$ should be predicted in line with the methodology as outlined within TII guidance. Construction traffic is not expected to result in a significant change (> 10%) in AADT flows near to sensitive receptors. Therefore, a detailed air quality assessment is not required*.”

As such, the main air quality related impact on Howth Head SAC during the Construction Phase will be due to localised dust deposition within the SAC which constitutes a potentially significant, negative, short-term impact. In addition, if unmitigated, some localised dust deposition could arise due to construction vehicles traversing the SAC if route 2 via Greenfield Road/Howth Head is used for construction traffic. Route 1 does not traverse Howth Head SAC and therefore, if this route was used, no dust deposition within the SAC would arise due to construction vehicles traversing the SAC. There is no risk of significant effects on Howth Head SAC arising as a result of the usage of route 1 by construction traffic.

In order to assess the potential impact of operational phase traffic emissions on Howth Head SAC, Chapter 8 Air Quality & Climate and Microclimate was consulted. The impact of the Proposed Development has been determined by modelling traffic-related air emissions resulting from the presence or absence of Proposed Development. According to this Chapter, “*As per the Traffic and Transport Assessment which has been detailed in Chapter 12, Section 12.1, the criteria presented in Table 8-8 have not been met by the Proposed Development; it is therefore considered unlikely for significant air quality impacts to occur as a result of increased traffic flow, and an associated air quality assessment is not required*”. Given that there are no Annex I habitats potentially sensitive to air emissions (e.g., European Dry Heaths, Vegetated Sea Cliffs) within the immediate vicinity of the Proposed Development Site, Operational Phase air quality impacts are deemed to be negligible.

### *6.2.4 Effects due to spread of Invasive Alien Plant Species*

Given the proximity of the Proposed Development Site to Howth Head SAC, there is a slight risk that invasive alien plant species within the Site (Sycamore *Acer pseudoplatanus*, Butterfly Bush *Buddleia davidii* and Three Cornered Leek *Allium triquetrum*) could spread to the SAC as a result of soil disturbance and clearance activities at the Site.

### *6.2.5 Effects due to increased visitor numbers to Howth Head*

Howth Head SAC contains a number of popular walking trails, namely the Cliff Path Loop. Erosion of habitats arising from walking and horse-riding activities is highlighted in the Site Synopsis for Howth Head SAC (NPWS, 2013). The Proposed Development will result in an increase of a potential c. 320 inhabitants in the local area (based on Fingal County Council population estimates (for open space requirements)). This increase in population has the potential to increase recreational users within the SAC and could result in further erosion of habitats within the SAC, namely the Annex I habitats vegetated sea cliffs [1230] and European dry heath [4030]. However, in the assessment of the potential impact of increased visitors to Howth Head SAC, the Howth Head SAAO, along with the Howth Head SAAO Operational Plan must be taken into consideration.

The Proposed Development is located immediately adjacent to the Special Amenity Area boundary and occurs within the Special Amenity Area Buffer Zone. According to Map B of the Howth SAAO, the Special Amenity Area Buffer Zone is to be designated in the County Development Plan. According to the Fingal Development Plan (2017-2023) the Site lands are zoned as “RS – Residential” with the objective to “*provide for residential development and protect and improve residential amenity*”.

An Operational Plan (2021-2025) has been prepared for Howth SAAO, with 59 actions listed under 10 different headings namely Wetlands, Redrock Management Plan, Invasive Species control, Heathland Management, Wildfire management, Irelands Eye Management plan, Planning and Development, Visitor Management, Communication and outreach and Resource Allocation. Of relevance to this application are the actions relating to visitor management (outlined in Table 4 below), as the Proposed Development could lead to an increase in visitor numbers to Howth Head.

**TABLE 4. ACTIONS RELATING TO VISITOR MANAGEMENT EXTRACTED FROM THE HOWTH SAAO OPERATIONAL PLAN 2021-2025. ACTIONS HIGHLIGHTED IN GREEN ARE THE PRIORITY ACTIONS FOR THE NEXT 5 YEARS AS DETERMINED BY THE SAAO COMMITTEE AND FINGAL COUNTY COUNCIL. KEY PERFORMANCE INDICATORS (KPI'S) WILL BE USED TO INDICATE THE SUCCESS OF EACH TARGETED ACTION.**

| No. | Action | Once off or Ongoing | Year | Project lead | KPI |
|---|---|---|---|---|---|
| **Visitor Management** | | | | | |
| 46 | Conduct a review of the footpath network with specific regard to areas of erosion, particularly at Bellinghams Farm/Redrock | Ongoing | 2022 | Biodiversity Officer | Pathway review carried out and recommendations implemented. |
| 47 | Upgrade pathway network where necessary | Ongoing | yearly | Parks and Landscape officer OPS | Number of pathway locations upgraded per year in report format |
| 48 | Add additional signage along pathway network and remove obsolete signage where necessary | Ongoing | yearly | Parks and Landscape officer OPS | Number of new signs installed and excessive signs removed |
| 49 | Restore heathland where damaged by excessive trampling | Ongoing | 2024-2025 | Biodiversity Officer | Acreage of heathland restored |
| 50 | Pedestrian Counter Balscadden | Once off | 2021 | Parks and Landscape officer OPS | Counter installed and number of visitors monitored |
| 51 | Balscadden beach access study | Once off | 2021 | Senior Engineer, Transportation | Study completed and presented to SAAO committee |
| 52 | Assess impacts of new pathways and determine what options are available to stop new pathways being created | Once off | | Biodiversity Officer | Impact Assessment carried out and report prepared |
| 53 | Liaise with horse owners on a regular basis | Ongoing | | Chair subcommittee | At least 4 meetings with horse owners per year |
| 54 | Carry out a study on how to address mountain biking on Howth | Once off | | Biodiversity Officer | Study carried out and report prepared |

The following priority actions for the next 5 years as determined by the SAAO committee and Fingal County Council, and outlined in the Howth Head SAAO Operational Plan (2021-2025), will serve to reduce the Operational Phase impacts of increased visitor numbers within the SAC:

**Action 46.** Conduct a review of the footpath network with specific regard to areas of erosion, particularly at Bellinghams Farm/Redrock. To be carried out in 2022 and implemented by the Biodiversity Officer.

**Action 47.** Upgrade pathway network where necessary. To be carried out yearly and implemented by the Parks and Landscape officer OPS.

**Action 48.** Add additional signage along pathway network and remove obsolete signage where necessary. To be carried out yearly and implemented by the Parks and Landscape officer OPS.

**Action 49.** Restore heathland where damaged by excessive trampling. To be carried out in 2024-2025 and implemented by the Biodiversity Officer.

Taking into consideration the above actions to be implemented by Fingal County Council which will serve as mitigation measures to protect Howth Head, **the impact of a potential increase in c. 320 inhabitants in the area will not result in significant effects on Howth Head SAC.**

## 6.3 Howth Head Coast SPA

### *6.3.1 Effects due to hydrological pathways*

The hydrological pathway linking surface water discharges from the Site to Howth Head Coast SPA is via the gullies located on Balscadden Road to the east of the Site. According to the CCTV survey, these gullies drain eastwards towards Balscadden Bay. The main series of 4 no. gullies drained (29m) to the base of the steps at the beach in Balscadden Bay and not across the terrestrial habitat (Altemar, 2019a).

Therefore, in the absence of standard, appropriate mitigation measures, there is potential for sediments/pollutants from the Site to enter Balscadden Bay and potentially Howth Head Coast SPA, which is located approximately 500m east of the Site via surface water run-off during the Construction and/or Operational Phases of the Proposed Development. This could result in impacts on water quality in this Site. Whereas impacts are unlikely to be significant due to the marine water buffer and potential for dilution in the marine environment, the impact is considered here as a precautionary measure.

### *6.3.2 Effects due to increased visitor numbers to Howth Head*

Taking into consideration the range of actions to be implemented by Fingal County Council which will serve as mitigation measures to protect Howth Head from increased visitor numbers (see section 6.2.5 above), the impact of increased visitor numbers on Howth Head Coast SPA as a result of the Proposed Development will not result in significant effects on Howth Head Coast SPA.

## 6.4 In-combination Effects

A search of planning applications located within c.150m of the Site of the Proposed Development was conducted using online planning resources such as the National Planning Application Database (NPAD) (MyPlan.ie) and Fingal Co. Co.'s Planning Application Map. In addition, a search for any large-scale residential developments on the Howth Peninsula was carried out. Any planning applications listed as granted or decision pending from within the last five years were assessed for their potential to act in-combination with the Proposed Development and cause likely significant effects on the relevant European Sites. Long-term developments granted outside of this time period were also considered where applicable.

It is noted that the majority of developments within the vicinity of the Site of the Proposed Development are applications granted more than 5 years ago and that have since been completed. The larger, more recent applications are detailed below:

**F18A/0023, located approximately 100m north of the Proposed Development Site:** (1) Demolition of existing family dwelling (7 East Pier) and its replacement with 12 guestrooms and storage areas in a 2.5 storey building (2) Reconfiguration of the roof to the existing guesthouse (3) Reconfiguration of the existing internal layout of stairs, kitchens and stores including the installation of a lift (4) Addition of storage areas at first floor behind the restaurant (5) Addition of an extra guestroom on the flat roof above the restaurant and (6) All associated site works. (Decision: Grant Permission. Decision Date: 19/06/2018)

**F19A/0405, located approximately 150m east of the Proposed Development Site:** Development will consist of 1) Demolition of existing 3 storey dwelling house. 2) Construction of a new 3 storey over basement apartment development consisting of 8 no. 2 bedroom apartments. 3) New vehicular entrance, roads, footpaths, landscaping, services consisting of storm and foul water disposal, mains water supply and all associated site works. (Decision: Grant Permission. Decision date: 04/03/2020. Appeal Decision: Grant Permission. Appeal Decision Date: 26/03/2021)

**SHD/009/19, located approximately 750m west of the Proposed Development Site:** Demolition of all structures on site (c8,162sq.m. GFA) and excavation of a basement. The proposed development comprises of the provision of a mixed-use development of residential/retail/restaurant/cafe uses and a creche in 4 no. blocks (A to D), over part basement Blocks A, B, C and D with a height up to a maximum of seven storeys of apartments over lower ground floor and basement car parking levels (a total of eight storeys over basement level). The residential component will consist of 512 no. residential units. (Decision: Grant Permission. Decision date: 03/04/2020)

**SHD/009/20, located approximately 1050m west of the Proposed Development Site:** The development will consist of 162 no. residential units distributed across 3 no. blocks (A, B & C) ranging in height from 5-6 storeys, with a cumulative gross floor area (GFA) of 13,337.10 sq.m. (Decision: Grant Permission. Decision date: 21/09/2021).

The above-listed Strategic Housing Developments are accompanied by Natura Impact Statements as well as EIAR Biodiversity Chapters, which will ensure no significant negative effects on local ecology and designated sites will occur as a result of the developments. The NIS for SHD/009/19 concluded "*This Natura Impact Statement details the findings of the Stage 2 Appropriate Assessment conducted to further examine the potential direct and indirect*

*impacts of the proposed development planning application at Claremont, Howth on the following Natura 2000 sites:*

- *Baldoyle Bay SAC [000199]*
- *Howth Head SAC [000202]*
- *Ireland's Eye SPA [004117]*
- *North Bull Island SPA [004006]*
- *Baldoyle Bay SPA [004016]*
- *Malahide Estuary SPA [004025]*
- *Lambay Island SPA [004069]*
- *South Dublin Bay and River Tolka Estuary SPA [004024]*
- *Rogerstown Estuary SPA [004015]*

*The above sites were identified by a screening exercise that assessed likely significant effects of a range of effects that may arise from the proposed development. The Appropriate Assessment investigated the potential direct and indirect impacts of the proposed works, both during construction and operation on the integrity and qualifying interests of the above Natura 2000 sites, alone and in combination with other plans and projects, taking into account the site's structure, function and conservation objectives.*

*Where potentially significant adverse impacts were identified, a range of mitigation and avoidance measures have been suggested to help offset them. As a result of this Appropriate Assessment it has been concluded that, ensuring the avoidance and mitigation measures are implemented as proposed, the proposed development at Claremont, Howth will not have a significant adverse impact on the above Natura 2000 sites*."

The NIS for SHD/009/20 concluded *"It has been objectively concluded by Scott Cawley Ltd., following an examination, analysis and evaluation of the relevant information, including in particular the nature of the predicted impacts from the proposed development, that the proposed development will not adversely affect (either directly or indirectly) the integrity of any European site, either alone or in combination with other plans or projects*."

The Biodiversity Chapter of SHD/009/19 concludes "*It is considered that, provided mitigation measures proposed are carried out in full, there will not be any significant negative impact to any valued habitats, designated sites or individual or group of species as a result of the Proposed Development.*" Similarly, the Biodiversity Chapter of SHD/009/20 concludes with the full and successful implementation of the mitigation measures outlined in the chapter, no long-term significant residual impacts are predicted on any ecological receptors. The Chapter also concludes "*As there are no residual impacts predicted for European sites, nationally designated sites, habitats, bats, terrestrial mammals (excluding bats), breeding birds or wintering birds, there is no potential for them to act in combination with any other plans or projects to form cumulative effects*".

Following a review of the above listed projects, it can be concluded that there is no potential for cumulative impacts with the above listed projects on any designated European sites as a

result of disturbance/displacement of species, changes in population density, impacts on water quality and habitat fragmentation. However, the potential impact of an increase in footfall within Howth Head SAC and Howth Head Coast SPA arising as a result of the Proposed Development in combination with large scale residential developments granted permission in Howth (i.e. SHD/009/20 and SHD/009/19) needs to be assessed further.

The potential in-combination effects of increased visitor numbers to Howth Head SAC and Howth Head Coast SPA are assessed below. As noted earlier, Howth Head contains a number of popular walking trails, namely the Cliff Path Loop. The Proposed Development, in combination with other developments in the area (as described above) could result in an increase in visitor numbers to Howth Head SAC and Howth Head Coast SPA and could result in further erosion of habitats within the SAC, namely the Annex I habitats vegetated sea cliffs [1230] and European dry heath [4030], and disturbance of SCI species (Kittiwake) listed for Howth Head Coast SPA. However, in the assessment of the potential impact of increased visitors to Howth Head, the Howth Head SAAO, along with the Howth Head SAAO Operational Plan must be taken into consideration.

Approximately 8,000 residents and approximately 750,000 visitors/tourists use/visit the area[3].

An Operational Plan (2021-2025) has been prepared for Howth SAAO, with 59 actions listed under 10 different headings as outlined above in section 6.2.5. Of relevance to this application are the actions relating to visitor management (outlined in Table 4 above), as the Proposed Development could lead to an increase in visitor numbers to Howth Head.

The following priority actions for the next 5 years as determined by the SAAO committee and Fingal County Council, and outlined in the Howth Head SAAO Operational Plan (2021-2025), will serve to reduce the Operational Phase impacts of increased visitor numbers within the SAC:

**Action 46.** Conduct a review of the footpath network with specific regard to areas of erosion, particularly at Bellinghams Farm/Redrock. To be carried out in 2022 and implemented by the Biodiversity Officer.

**Action 47.** Upgrade pathway network where necessary. To be carried out yearly and implemented by the Parks and Landscape officer OPS.

**Action 48.** Add additional signage along pathway network and remove obsolete signage where necessary. To be carried out yearly and implemented by the Parks and Landscape officer OPS.

**Action 49.** Restore heathland where damaged by excessive trampling. To be carried out in 2024-2025 and implemented by the Biodiversity Officer.

Taking into consideration the above actions to be implemented by Fingal County Council which will serve as mitigation measures to protect Howth Head, **the impact of a potential increase in c. 320 inhabitants in the area, in combination with increases in inhabitants arising from other developments in Howth, will not result in significant effects on Howth Head SAC and Howth Head Coast SPA.**

[3] Howth Special Amenity Area Order (SAAO) Operational Plan 2021-2025

**TABLE 5. SUMMARY OF CONSERVATION OBJECTIVES FOR THE RELEVANT QUALIFYING INTERESTS OF HOWTH HEAD SAC AND HOWTH HEAD COAST SPA, LOCATION RELATIVE TO THE SITE AND POTENTIAL FOR SIGNIFICANT EFFECTS.**

| Qualifying Interest | Conservation Objective | Location Relative to the Site | Potential Effects on Qualifying Interest |
|---|---|---|---|
| **Howth Head SAC** | | | |
| [1230] Vegetated sea cliffs of the Atlantic and Baltic coasts | To maintain the favourable conservation condition of Vegetated sea cliffs of the Atlantic and Baltic coasts in Howth Head SAC | 42m to north-east (Altemar, 2019b) | Potential dust deposition on this habitat which could lead to short-term impacts.<br><br>No effects arising from water quality deterioration are anticipated. There is no pathway for effects. Surface water will drain to the marine environment, not the sea cliff habitat.<br><br>Spread of Invasive Alien species into this habitat which could lead to long-term impacts.<br><br>Taking into consideration the range of actions to be implemented by Fingal County Council which will serve as mitigation measures to protect Howth Head from visitors to the area, the impact of increased visitor numbers on Howth Head as a result of the Proposed Development as well as new developments in the area should not result in significant effects on Howth Head SAC. |
| [4030] European dry heaths | To maintain the favourable conservation condition of European dry heaths in Howth Head SAC | 670m to the east of the Site (based on NPWS data Figure 2) | Some **localised** dust deposition within SAC possible due to construction vehicles traversing the SAC if route 2 is adopted.<br><br>No effects arising from water quality deterioration are anticipated. There is no pathway for effects. Surface water will drain to the marine environment, not the dry heath habitat.<br><br>As the Proposed Development is remote from this qualifying interest, the spread of Invasive Alien species into this habitat is excluded.<br><br>Taking into consideration the range of actions to be implemented by Fingal County Council which will serve as mitigation measures to protect Howth Head from visitors to the area, the impact of increased visitor numbers on Howth Head as a result of the Proposed Development as well as new developments in the area should not result in significant effects on Howth Head SAC. |
| **Howth Head Coast SPA** | | | |
| A188 Kittiwake *Rissa tridactyla* | To maintain or restore the favourable conservation condition of the bird species listed as Special Conservation Interests for this SPA | 500m east | Potential deterioration of water quality within the SPA as surface water could drain to the marine environment during the Construction Phase.<br><br>Given the separation distance (0.5 km) between Howth Head Coast SPA and the Site, disturbance impacts due to noise or dust on this SPA are deemed to be not significant. Noise emissions from equipment associated with the Proposed Development are predicted to be between 62dB and 37dB at 250m according to Chapter 9 - Noise and Vibration of the EIAR accompanying this application. According to Cutts, Hemmingway and Spencer (2013) sudden noises of 55-60dB (at the bird) and continuous/repetitive noises 60-72dB (at the bird) can result in moderate disturbance effects. As the |

| Qualifying Interest | Conservation Objective | Location Relative to the Site | Potential Effects on Qualifying Interest |
|---|---|---|---|
| | | | above predicted noise emissions are within the range for **moderate** effects at **250m** it can be concluded with certainty that significant effects on Kittiwake within Howth Head Coast SPA due to noise disturbance will not occur. Whereas construction dust tends to be deposited within 200m of a construction site, the majority of the deposition occurs within the first 50m. According to Chapter 8 Air Quality & Climate and Microcliate of the EIAR, "*in order to account for a worst-case scenario, the Proposed Development can be considered moderate in scale due to the size of the Site and the duration of construction activities. Therefore, it can be assumed that there is potential for significant dust soiling 50m from the Site*". It is acknowledged that standard mitigation measures are taken into consideration in determining the potential distance for significant effects as per Chapter 8 Air Quality & Climate and Microcliate of the EIAR. However, given the distance (**0.5 km**) between the Site and Howth Head Coast SPA, significant effects due to dust deposition will not occur.<br><br>Taking into consideration the range of actions to be implemented by Fingal County Council which will serve as mitigation measures to protect Howth Head from visitors to the area, the impact of increased visitor numbers on Howth Head as a result of the Proposed Development as well as new developments in the area should not result in significant effects on Kittiwake within Howth Head Coast SPA. |

# 7 MITIGATION MEASURES

The above sections outlined a range of potential impacts of the Proposed Development in the absence of mitigation measures on Howth Head SAC and Howth Head Coast SPA. Potential impacts arising from the Construction and/or Operational Phases include:

- Water quality impacts in designated sites arising from surface water run-off and potential groundwater flows during the Construction and Operational Phase,
- Dust emissions from the Proposed Development Site and construction vehicle traffic into designated sites during the Construction Phase,
- Spread of invasive alien flora during the construction phase into the Howth Head SAC during the Construction Phase.

Taking into consideration the range of actions to be implemented by Fingal County Council which will serve as mitigation measures to protect Howth Head from visitors to the area, the impact of increased visitor numbers on Howth Head as a result of the Proposed Development as well as new developments in the area will not result in significant effects on Howth Head SAC and Howth Head Coast SPA, and therefore specific mitigation measures are not required in this regard.

## 7.1 Construction Phase

The following mitigation measures will be in place for the duration of the Proposed Development.

### *7.1.1 Surface Water*

**The following measures, designed to protect surface water quality, will serve to prevent any negative effects occurring in Howth Head SAC and Howth Head Coast SPA as a result of Construction Phase surface water discharges from the Site. These surface water mitigation measures will treat the source (e.g., removal of silt from surface waters via silt fences, refuelling of plant to be carried out at designated refuelling station locations on site) or remove the pathway (e.g., no release of wastewater generated on site into nearby drains or Balscadden Road during the Construction Phase). In addition, as these surface water mitigation measures will protect surface water quality within Balscadden Bay, there is no potential for significant effects on any SCI bird species or species listed under Annex II of the Habitats Directive utilising this habitat as ex-situ foraging habitat.**

All works carried out as part of the Proposed Development will comply with all Statutory Legislation including the Local Government (Water Pollution) acts, 1977 and 1990.

Personnel working on the Site will be trained in the implementation of environmental control and emergency procedures. The CEMP and the relevant documents produced will be formulated in consideration of standard best international practice including but not limited to:

- CIRIA, (2001), Control of Water Pollution from Construction Sites, Guidance for Consultants and Contractors;
- Construction Industry Research and Information Association (CIRIA) Environmental Good Practice on Site (C650), 2005;
- BPGCS005, Oil Storage Guidelines;
- CIRIA 697, The SUDS Manual, 2007;
- UK Pollution Prevention Guidelines (PPG) UK Environment Agency, 2004;
- Construction Industry Research and Information Association CIRIA C648: Control of water pollution from linear construction projects: Technical guidance (Murnane et al. 2006);
- CIRIA C648: Control of water pollution from linear construction projects: Site guide (Murnane et al. 2006); and
- Inland Fisheries Ireland (2016). Guidelines on Protection of Fisheries during Construction Works in and Adjacent to Waters.

Surface water discharges from the Site will not be permitted onto Balscadden road nor into Howth Head SAC during the works. As such, there will be no surface water discharges to the east of the Site.

Silt traps, silt fences and tailing ponds will be provided by the contractor where necessary to prevent silts and soils being washed away by heavy rains during the course of the construction stage. Surface water runoff and water pumped from the excavation works will be discharged via a silt trap / settlement pond to the existing foul drainage network. Straw bales will be used at the outfall to filter surface water to remove contaminants.

Trenched double silt fencing will be installed along the eastern boundary of the Proposed Development Site (along the existing contours of Balscadden Road) on the inside of the hoarding. The silt fencing will act as a temporary sediment control device to protect the SAC from sediment and potential surface water run-off from the Site. The fencing will be inspected twice daily based on Site and weather conditions for any signs of contamination or excessive silt deposits and records of these checks will be maintained. Ponded water will be pumped from the trench into a sediment tank and discharged based on site authorisations or disposed of via a permitted wastewater contractor. Under no circumstances will any wastewater generated onsite be released into nearby drains or Balscadden Road.

In addition, the following measures will be undertaken:

- Designated impermeable cement washout areas will be provided.
- Run-off from the working site or any areas of exposed soil will be channelled and intercepted at regular intervals for discharge to silt-traps or lagoons with over-flows directed to land rather than to a drain.
- Silty water generated on site will be treated using silt traps/settlement ponds and temporary interceptors and traps will be installed until such time as permanent facilities are constructed.
- Storm drain inlets which could receive stormwater from the project will be protected throughout the Construction Phase. Inlet protection will be installed before soil disturbing activities begin.
- A regular review of weather forecasts of heavy rainfall will be conducted and a contingency plan will be prepared for before and after such events to minimise any potential nuisances. As the risk of the break-out of silt laden run-off is higher during these weather conditions, no work will be carried out during such periods where possible.
- Any imported materials will, as much as possible, be placed on Site in their proposed location and double handling will be avoided. Where this is not possible designated temporary material storage areas will be used.
- These temporary storage areas will be surrounded with silt fencing to filter out any suspended solids from surface water arising from these materials.
- Temporary hydrocarbon interceptor facilities will be installed and maintained where Site Works involve the discharge of drainage waters to nearby drains.
- All containment and treatment facilities will be regularly inspected and maintained.
- Refuelling of plant during the Construction Phase will only be carried out at designated refuelling station locations on site. Each station will be fully equipped for spill response and a specially trained and dedicated Environmental and Emergency Spill Response team will be appointed before the commencement of works on site.
- Only emergency breakdown maintenance will be carried out on site. Drip trays and spill kits will be available on site to ensure that any spills from vehicles are contained and removed off site.

- All personnel working on site will be trained in pollution incident control response.
- Any other diesel, fuel or hydraulic oils stored on site will be stored in bunded storage tanks- the bunded area will have a volume of at least 110% of the volume of the stored materials as per best practice guidelines (Enterprise Ireland, BPGCS005).
- If portaloos and/or containerised toilets and welfare units will be used to provide facilities for site personnel, all associated waste will be removed from site by a licenced waste disposal contractor.
- Under no circumstances will any untreated wastewater generated onsite (from equipment washing, road sweeping etc.) be released into nearby drains.

Fuel and Chemical Storage

Appropriate storage facilities will be provided on Site. Areas of high risk include:

- Fuel and chemical storage;
- Refuelling Areas;
- Site Compound; and
- Waste storage areas.

There will be no washdown facilities for plant and equipment on the Proposed Development Site.

If required, fuel, oils and chemicals will be stored on an impervious base within a bund remote from any surface water ditches or locations.

All tank, container and drum storage areas shall be rendered impervious to the materials stored therein. Bunds shall be designed having regard to Environmental Protection Agency guidelines 'Storage and Transfer of Materials for Scheduled Activities' (2904). All tank and drum storage areas shall, as a minimum, be bunded to a volume not less than the greater of the following:

- 110% of the capacity of the largest tank or drum within the bunded area; or
- 25% of the total volume of substance that could be stored within the bunded area.

Concrete mixer trucks will not be permitted to wash out on Site with the exception of cleaning the chute into a container which will be removed off Site to an authorised facility.

### *7.1.2 Groundwater*

**The following measures, designed to protect ground water quality, will serve to prevent any negative effects occurring in Howth Head SAC and Howth Head Coast SPA as a result of Construction Phase groundwater discharges from the Site:**

Measures set out in Section 7.1.1 above will serve to protect soil and groundwater.

No direct untreated point discharge of construction runoff to groundwater will be permitted.

Where a pollution incident is detected, construction works will be stopped until the source of the construction pollution has been identified and remedied

Groundwater may be encountered during the construction works. Where water must be pumped from the excavations, water will be managed in accordance with best practice standards (i.e., CIRIA – C750) and regulatory consents.

Excavations and potentially contaminated stockpiled soils will be constructed/located/sheeted in a manner that ensures water is contained within the site boundary.

### *7.1.3 Dust*

A potential impact from the Proposed Development is from construction dust emissions and the potential for nuisance dust. **The following measures, designed to reduce dust emissions at the source (i.e., from Construction Phase activities at the Site and from Construction vehicles), will serve to prevent any negative effects occurring in Howth Head SAC as a result of Construction Phase dust emissions:**

The dust minimisation measures detailed below will ensure that fugitive emissions of dust from the site will be insignificant and pose no nuisance at nearby receptors.

#### *7.1.3.1 Dust Minimisation Plan*

The objective of dust control at the site is to ensure that no significant nuisance occurs at nearby sensitive receptors. In order to develop a workable and transparent dust control strategy, the following management plan, which has been formulated by drawing on best practice guidance from Ireland, the UK (BRE 2003), (The Scottish Office 1996) (UK Office of Deputy Prime Minister 2002) and the USA (USEPA 1997), (USEPA 1986), will be implemented.

***Monitoring of Dust Emissions within Howth Head SAC***

- Monitoring of dust within Howth Head SAC **one month prior** to commencement of any construction works to collate baseline data at a location approved by the project ecologist will be carried out. Monitoring of dust can be carried out by using the Bergerhoff Method. This involves placing Bergerhoff Dust Deposit Gauges at strategic locations along the Site boundaries for a period of 30 +/- 2 days. The selection of sampling point locations should be carried out in consideration of the requirements of the German Standard Method VDI 2119 (Measurement of Dustfall, Determination of Dustfall using Bergerhoff Instrument (Standard Method German Engineering Institute) with respect to the location of the samplers relative to buildings and other obstructions, height above ground, and sample collection and analysis procedures. After the exposure period is complete, the Gauges will be removed from the Site; the dust deposits in each Gauge will then be determined gravimetrically and expressed as a dust deposition rate in mg/m2/day in accordance with the relevant standard. Monitoring of construction dust deposition will be conducted at nearby sensitive receptors and at the Site boundary (i.e., worst-case location), including within the SAC at locations approved by the project ecologist, during the Construction phase of the Proposed Development.
- Regular inspections of the SAC adjacent to the Site will be carried out to monitor dust, records and notes on these inspections will be logged.

- The individual(s) responsible for monitoring of dust within the SAC will receive work specific induction in relation to dust minimisation measures, visual dust assessment and dust monitoring in the direct area.
- Should dust deposition be deemed to be at a rate which has the potential to cause an impact on the SAC, additional mitigation will be put in place immediately.

***General Monitoring***

- Undertake daily on-site and off-site inspection, where receptors (including roads) are nearby, to monitor dust, record inspection results, and make the log available to the local authority when asked. This will include regular dust soiling checks of surfaces such as street furniture, cars and windowsills within 100 m of site boundary, with cleaning to be provided if necessary.
- Carry out regular site inspections to monitor compliance with the DMP, record inspection results, and make an inspection log available to the local authority when asked. Increase the frequency of site inspections by the person accountable for air quality and dust issues on site when activities with a high potential to produce dust are being carried out and during prolonged dry or windy conditions.
- Agree dust deposition, dust flux, or real-time $PM_{10}$ continuous monitoring locations with the Local Authority. Baseline monitoring will commence at least three months before work commences on site or before work on a phase commences. Further guidance is provided by IAQM on monitoring during demolition, earthworks and construction.

***Communications***

- Develop and implement a stakeholder communications plan that includes community engagement before work commences on site.
- Display the name and contact details of person accountable for air quality and dust issues on the site boundary.
- Display the head or regional office contact information.
- Develop and implement a Dust Management Plan (DMP), which may include measures to control other emissions, approved by the Local Authority. The level of detail will depend on the risk and should include as a minimum the measures in this document. The desirable measures should be included as appropriate for the site.

***Site Management***

- Regular inspections of the Site and boundary will be carried out to monitor dust, records and notes on these inspections should be logged.
- Record all dust and air quality complaints, identify cause(s), take appropriate measures to reduce emissions in a timely manner, and record the measures taken.
- Make the complaints log available to the local authority when asked.

- Record any exceptional incidents that cause dust and/or air emissions, either on- or offsite, and the action taken to resolve the situation in the logbook.

***Preparing and Maintaining the Site***

- Plan site layout so that machinery and dust causing activities are located away from receptors, as far as is possible.
- Erect solid screens or barriers around dusty activities or the site boundary that are at least as high as any stockpiles on Site.
- Fully enclose specific operations where there is a high potential for dust production and the Site is active for an extensive period.
- Avoid Site runoff of water or mud.
- Keep Site fencing, barriers and scaffolding clean using wet methods.
- Remove materials that have a potential to produce dust from Site as soon as possible, unless being re-used on Site. If they are being re-used on-site cover as described below.
- Cover stockpiles to prevent wind whipping.

***Operating Vehicles / Machinery and Sustainable Travel***

- Ensure all vehicles switch off engines when stationary - no idling vehicles.
- Avoid the use of diesel- or petrol-powered generators and use mains electricity or battery powered equipment where practicable.
- Impose and signpost a maximum-speed-limit of 20 kph haul roads and work areas (if long haul routes are required these speeds may be increased with suitable additional control measures provided, subject to the approval of the nominated undertaker and with the agreement of the local authority, where appropriate).
- Produce a Construction Logistics Plan to manage the sustainable delivery of goods and materials.
- Implement a Travel Plan that supports and encourages sustainable travel (public transport, cycling, walking, and car-sharing)

***Operations***

- Only use cutting, grinding or sawing equipment fitted or in conjunction with suitable dust suppression techniques such as water sprays or local extraction, e.g., suitable local exhaust ventilation systems.
- Ensure an adequate water supply on the site for effective dust/particulate matter suppression/mitigation, using non-potable water where possible and appropriate.
- Use enclosed chutes and conveyors and covered skips.

- Minimise drop heights from conveyors, loading shovels, hoppers and other loading or handling equipment and use fine water sprays on such equipment wherever appropriate.

- Ensure equipment is readily available on site to clean any dry spillages and clean up spillages as soon as reasonably practicable after the event using wet cleaning methods.

***Measures Specific to Demolition***

- Soft strip inside buildings before demolition (retaining walls and windows in the rest of the building where possible, to provide a screen against dust)

- Ensure effective water suppression is used during demolition operations. Handheld sprays are more effective than hoses attached to equipment as the water can be directed to where it is needed. In addition, high volume water suppression systems, manually controlled, can produce fine water droplets that effectively bring the dust particles to the ground.

- Avoid explosive blasting, using appropriate manual or mechanical alternatives.

- Bag and remove any biological debris or damp down such material before demolition.

***Measures Specific to Earthworks***

- Re-vegetate earthworks and exposed areas/soil stockpiles to stabilise surfaces as soon as practicable.

- Use Hessian or mulches where it is not possible to re-vegetate or cover with topsoil, as soon as practicable.

- Only remove the cover in small areas during work and not all at once.

- During dry and windy periods, and when there is a likelihood of dust nuisance, a bowser will operate to ensure moisture content is high enough to increase the stability of the soil and thus suppress dust.

***Measures Specific to Construction***

- Avoid scabbling (roughening of concrete surfaces) if possible.

- Ensure sand and other aggregates are stored in bunded areas and are not allowed to dry out, unless this is required for a particular process, in which case ensure that appropriate additional control measures are in place.

- Ensure bulk cement and other fine powder materials are delivered in enclosed tankers and stored in silos with suitable emission control systems to prevent escape of material and overfilling during delivery.

- For smaller supplies of fine power materials ensure bags are sealed after use and stored appropriately to prevent dust.

***Measures Specific to Trackout***

Site roads (particularly unpaved) can be a significant source of fugitive dust from construction sites if control measures are not in place. The most effective means of suppressing dust emissions from unpaved roads is to apply speed restrictions. Studies show that these measures can have a control efficiency ranging from 25 to 80%.

- A speed restriction of 15 km/hr will be applied as an effective control measure for dust for on-site vehicles.
- Use water-assisted dust sweeper(s) on the access and local roads, to remove, as necessary, any material tracked out of the site. This may require the sweeper being continuously in use.
- Avoid dry sweeping of large areas.
- Ensure vehicles entering and leaving sites are covered to prevent escape of materials during transport.
- Inspect on-site haul routes for integrity and instigate necessary repairs to the surface as soon as reasonably practicable.
- Record all inspections of haul routes and any subsequent action in a site log book.
- Install hard surfaced haul routes, which are regularly damped down with fixed or mobile sprinkler systems, or mobile water bowsers and regularly cleaned.
- Implement a wheel washing system (with rumble grids to dislodge accumulated dust and mud prior to leaving the site where reasonably practicable).
- Ensure there is an adequate area of hard surfaced road between the wheel wash facility and the site exit, wherever site size and layout permits.
- Access gates to be located at least 10 m from receptors where possible.

***Dust Control – Public Roads***

Spillage and blow-off of debris, aggregates and fine material onto public roads will be reduced to a minimum by employing the following measures.

- Vehicles delivering material with potential for dust emissions to an off-site location shall be enclosed or covered with tarpaulin always to restrict the escape of dust;
- Public roads outside the Site shall be regularly inspected for cleanliness, as a minimum daily, and cleaned as necessary. A road sweeper will be made available to ensure that public roads are kept free of debris.
- If practicable, a wheel wash facility will be employed at the exit of the Site so that traffic leaving the Site compound will not generate dust or cause the build-up of aggregates and fine material in the public domain.

### *7.1.4 Invasive Alien Species*

**The following measures, designed to treat Invasive Alien Plant Species at the Site, will serve to prevent any negative effects occurring in Howth Head SAC as a result of spread of IAS from the Site:**

Altemar (2019) detected Three Cornered Leek *Allium triquetrum* at the Site on the slopes facing the Baily Court Hotel during their Site surveys. This species is listed in Part 1 of the Third Schedule of the European Communities (Birds and Natural Habitats) Regulations 2011 (SI 477 of 2011, as amended). No other invasive species listed on Schedule III of the above-mentioned regulations were found at the Site by Altemar (2019). No invasive alien species (IAS) listed on Schedule III of the above-mentioned regulations were detected during Site surveys undertaken on the 16th August 2021. It is likely that Three Cornered Leek was not re-found as this species flowers early in the year with plants dying back completely by June and July[4]. It should be noted however that access to the grounds of the Baily Court Hotel was not possible during the field survey carried out. As such, as a precautionary measure, the Site will be re-surveyed for IAS prior to construction, ensuring access to the grounds of the Baily Court Hotel is possible. If any IAS are present, a suitably qualified ecologist will be consulted regarding their treatment and an IAS Management Plan prepared.

Assuming Three Cornered Leek is still at the Site in the location specified above by Altemar (2019) the following management will be undertaken:

> The contractor will engage with the National Parks and Wildlife Service prior to the removal of Three Cornered Leek from the Site.
>
> This species will be removed via chemical and/or mechanical means. Careful mechanical removal of bulbs followed by appropriate off-site disposal will reduce the infestation but is unlikely to destroy the seed bank. Mechanical removal may need to be repeated over a number of years to exhaust the seed bank. Herbicide application may be successful at reducing the spread of the plant. Applications of herbicide should be made in spring before flowering. However, similar to mechanical removal, multiple applications may be required due to the persistence of bulbs and of the soil seed bank. Disposal of material will be undertaken with due caution to prevent accidental spread of the plant. Waste materials containing Three cornered leek must be removed to an approved waste facility. In many cases, it is not possible to control an established stand of IAS with a single herbicide treatment. Therefore, repeated treatments over successive years is typically necessary. Where physical methods are used to control IAS, the treated area will also need to be monitored over a number of years for regrowth.
>
> Monitoring of all IAS stands treated at the Site will be carried out for 2 years following treatment by a suitably qualified ecologist. Further monitoring may be required if treatment has not been successful. A site may be considered remediated after two consecutive growing seasons with no sign of regrowth from all of the previously identified stands (TII, 2020a).

In addition, the following will be adhered to, to avoid the introduction of invasive species to the Proposed Development Site.

[4] https://species.biodiversityireland.ie/profile.php?taxonId=28150&taxonDesignationGroupId=26#Species_Biology

- Any material required on the site will be sourced from a stock that has been screened for the presence of any invasive species by a suitably qualified ecologist and where it is confirmed that none are present.
- All machinery will be thoroughly cleaned and disinfected prior to arrival on site to prevent the spread of invasive species.

## 7.2 Operational Phase

### *7.2.1 Surface Water*

**The following measures, designed to protect surface water quality during the Operational Phase, will serve to prevent any negative effects occurring in Howth Head SAC and Howth Head Coast SPA as a result of Operational Phase surface water discharges from the Site. In addition, as these surface water mitigation measures will protect surface water quality in the adjacent marine environment, there is no potential for significant effects on any SCI bird species or species listed under Annex II of the Habitats Directive utilising this habitat as ex-situ foraging habitat.**

The SuDS measures included in the project design will serve to protect surface waters (i.e. the marine environment linked to the Site) throughout the Operational Phase.

The following is extracted from the Engineering Services Report prepared by Waterman Moylan (2021):

It is proposed to discharge surface water from the site by gravity to the existing surface water sewer on Main Street.

The Proposed Development will be designed to incorporate best drainage practice. Surface water discharging to the public network will be restricted to the greenfield equivalent runoff rate via a Hydrobrake or similar approved flow control device. The surface water network will be designed to accommodate the 1-in-5-year storm, with attenuation storage provided for the 1-in-100-year storm.

It is proposed to incorporate a Storm Water Management Plan through the use of various SuDS techniques to treat and minimise surface water runoff from the site. The methodology involved in developing a Storm Water Management Plan for the subject site is based on recommendations set out in the Greater Dublin Strategic Drainage Study (GDSDS) and in the SuDS Manual (Ciria C753). Based on three key elements – Water Quantity, Water Quality and Amenity – the targets of the SuDS train concept have been implemented in the design, providing SuDS devices for each of the following:

- Source Control
- Site Control
- Regional Control

It is proposed to introduce several source control measures, including the following:

**Green Roof**: Green roofing is proposed at portions of each block's roof area. The substrate and the plant layers in a sedum roof absorb large amounts of rainwater and release it back into the atmosphere by transpiration and evaporation. They also filter water as it passes through the layers, so the run-off, when it is produced, has fewer pollutants. Rainfall not

retained by green roofs is detained, effectively increasing the time to peak and slowing peak flows.

**Permeable Paving**: It is proposed to introduce permeable paving in courtyards and along pedestrian circulation paths to facilitate infiltration of surface water from paved areas. The goal of permeable paving is to control stormwater at the source to reduce runoff. In addition to reducing surface runoff, permeable paving has the dual benefit of improving water quality by trapping suspended solids and filtering pollutants in the substrata layers.

**Filter Drains**: Filter drains are proposed around the perimeter of buildings, consisting of perforated pipes surrounded in filter stone. The filter drains will provide infiltration, optimise the retention time and provide quality improvement to the storm water runoff, in particular the first flush from hardstanding areas.

**Bioretention Gardens and Planters**: Intensive bioretention gardens and planters are proposed at some public open spaces. These planted areas can absorb large amounts of rainwater and release it back into the atmosphere by transpiration and evaporation. They can also filter water as it passes through the layers, helping to treat pollutants.

**Tree Pits:** At the subject site, it is proposed to introduce roadside tree pits. Trees can help control storm water runoff because their leaves, stems, and roots slow rain from reaching the ground and capture and store rainfall to be released later. Trees help to attenuate flows, trap silts and pollutants, promote infiltration and prevent erosion. Incorporating tree planting offers multiple benefits, including attractive planting features, improved air quality and increased biodiversity whilst helping to ensure adaptation to climate change.

**Attenuation Storage and Flow Control:** Attenuation storage for up to the 1-in-100 year storm will be provided in a privately managed and maintained underground attenuation tank. A Hydrobrake or similar approved flow control device will be used to limit the discharge to the greenfield equivalent runoff rate.

Surface water discharges from the Site will be treated via a petrol interceptor.

# 8 CONCLUSION

This Natura Impact Statement details the findings of the Stage 2 Appropriate Assessment conducted to further examine the potential effects of the Proposed SHD at Balscadden, Howth, County Dublin on the following European sites:

- Howth Head SAC
- Howth Head Coast SPA

The above sites were identified by a screening exercise that assessed likely significant effects of a range of effects that may arise from the Proposed Development. This NIS investigated the potential direct and indirect impacts of the Proposed Works, both during Construction and Operation on the integrity and qualifying interests of the above European sites alone and in combination with other plans and projects, taking into account the site's structure, function and conservation objectives.

Where potentially significant effects were identified, a range of mitigation and avoidance measures have been suggested to help avoid them. This NIS has concluded that, ensuring the avoidance and mitigation measures are implemented as proposed, the Proposed Development will not have an adverse effect on the integrity of the above European sites, individually or in combination with other plans and projects.

As a result of the complete, precise and definitive findings in of this NIS, it has been concluded, beyond reasonable scientific doubt, that the Proposed Development will have no adverse effects on the qualifying interests, special conservation interests and on the integrity and extent of Howth Head SAC and Howth Head Coast SPA. Accordingly, the Proposed Development will not adversely affect the integrity of any relevant European site.

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