**Comhairle Contae Chill Dara**
Kildare County Council

Date: 30th October 2026
Our Ref: ED/1250

Cable Technical Services Ltd
C/O David Mulcahy
67 Old Mill Race,
Athgarvan,
Newbridge,
Co Kildare.

**RE: Application for a Declaration of Exempted Development under Section 5 of Planning and Development Act 2000 (as amended) for development at Nursery Road, Allenwood South, Allenwood, Co Kildare.**

Dear Sir/Madam,

I refer to your correspondence received on 27th June 2025 in connection with the above.

Please find attached declaration made under Section 5 of Planning and Development Acts 2000 (as amended) in this regard.

Yours sincerely,

pp
**Senior Executive Officer,**
**Planning Department.**

# Comhairle Contae Chill Dara
Kildare County Council

**Declaration of Development & Exempted Development under Section 5 of the Planning and Development Act 2000 (as amended).**

**ED/1250**

**WHEREAS** a question has arisen as to whether

1. The laying out and use of lands, for private use involving an electric motocross bike is development, and if so whether it is exempted development.
2. The improvement of an internal roadway is development and if so, whether it is exempt development.
3. The construction and placing of a concrete apron associated with a maintenance shed is development and whether it is exempted development.
4. Whether the widening of an established agricultural entrance onto a public road (L70042 - Nursery Road), which less than 4m wide, is exempted development.

At Nursery Road, Allenwood South, Co Kildare.

**AS INDICATED** on the plans and particulars received by the Planning Authority on 27th June 2025

**AND WHEREAS** Cable Technical Services Ltd requested a declaration on the said question from Kildare County Council,

**AND WHEREAS** Kildare County Council as the Planning Authority, in considering this application for a declaration under Section 5 of the Planning and Development Act 2000 (as amended), had regard to;

1. Planning and Development Act 2000 (as amended); and
2. Planning and Development Regulations 2001 (as amended);
3. The nature, extent and purpose of the works/development,

**AND WHEREAS** Kildare County Council has concluded that

1. Sections 2, 3, 4, 5, 6 of the Planning and Development Act 2000 (as amended);
2. Articles 6 and 9 of the Planning and Development Regulations 2001, as amended, and Part 1 of Schedule 2 to those Regulations, including Classes 33(c), 13, 8 & 9 Sundry Works.
3. the extent of the works that have been carried out to date, based on the submitted documentation and the assessment carried out by the Council's Officer:

**NOW THEREFORE** Kildare County Council, in exercise of the powers conferred on it by Section 5(2)(a) of the Planning and Development Act 2000 (as amended), hereby decides that -

1. The laying out and use of lands, for private use involving an electric motocross bike is development, and if so whether it is exempted development.
2. The improvement of an internal roadway is development and if so, whether it is exempt development.

3. The construction and placing of a concrete apron associated with a maintenance shed is development and whether it is exempted development.
4. Whether the widening of an established agricultural entrance onto a public road (L70042 - Nursery Road), which less than 4m wide.

at Nursery Road, Allenwood South, Co Kildare.'

IS development **IS NOT EXEMPTED** development pursuant to the provisions of the Planning and Development Act, 2000 (as amended) and the Planning and Development Regulations, 2001 (as amended).

Please note that any person issued with a declaration under Section 5 of the Planning and Development Act 2000 (as amended) may on payment to the Board of the prescribed fee, refer a declaration to An Coimisiún Pleanála within 4 weeks of the issuing of the decision.

**30th October 2026**

pp
**Senior Executive Officer,**
**Planning Department.**

**KILDARE COUNTY COUNCIL**

**PLANNING & STRATEGIC DEVELOPMENT DEPARTMENT**

**Section 5 referral & declaration on development & exempted development**

**Planning & Development Act 2000 (as amended)**

| **Reference No. ED/1250** | |
|---|---|
| **Name Of Applicant(s):** | Cable Technical Services Ltd |
| **Address Of Development:** | Nursery Road, Allenwood South, Co Kildare |
| **Development Description:** | 1. Laying out of and use of Lands for private use using an electric motocross bike,<br>2. Improvement of an internal roadway,<br>3. Placing of Concrete apron associated with a maintenance shed,<br>4. Widening of an established agricultural entrance onto a public road L70042 |
| **Due date** | **25/07/2025** |

**Introduction**

This is a request for a **DECLARATION** under Section 5(1) of the Planning and Development Act 2000 (as amended) to establish whether under Section 5 of the Act the following is development and if so, whether it is exempted development:

1. Whether the laying out and use of lands, for private use involving an electric motocross bike is development, and if so whether it is exempted development.
2. Whether the improvement of an internal roadway is development and if so, whether it is exempt development.
3. Whether the construction and placing of a concrete apron associated with a maintenance shed is development and whether it is exempted development.
4. Whether the widening of an established agricultural entrance onto a public road (L70042 - Nursery Road), which less than 4m wide, is exempted development.



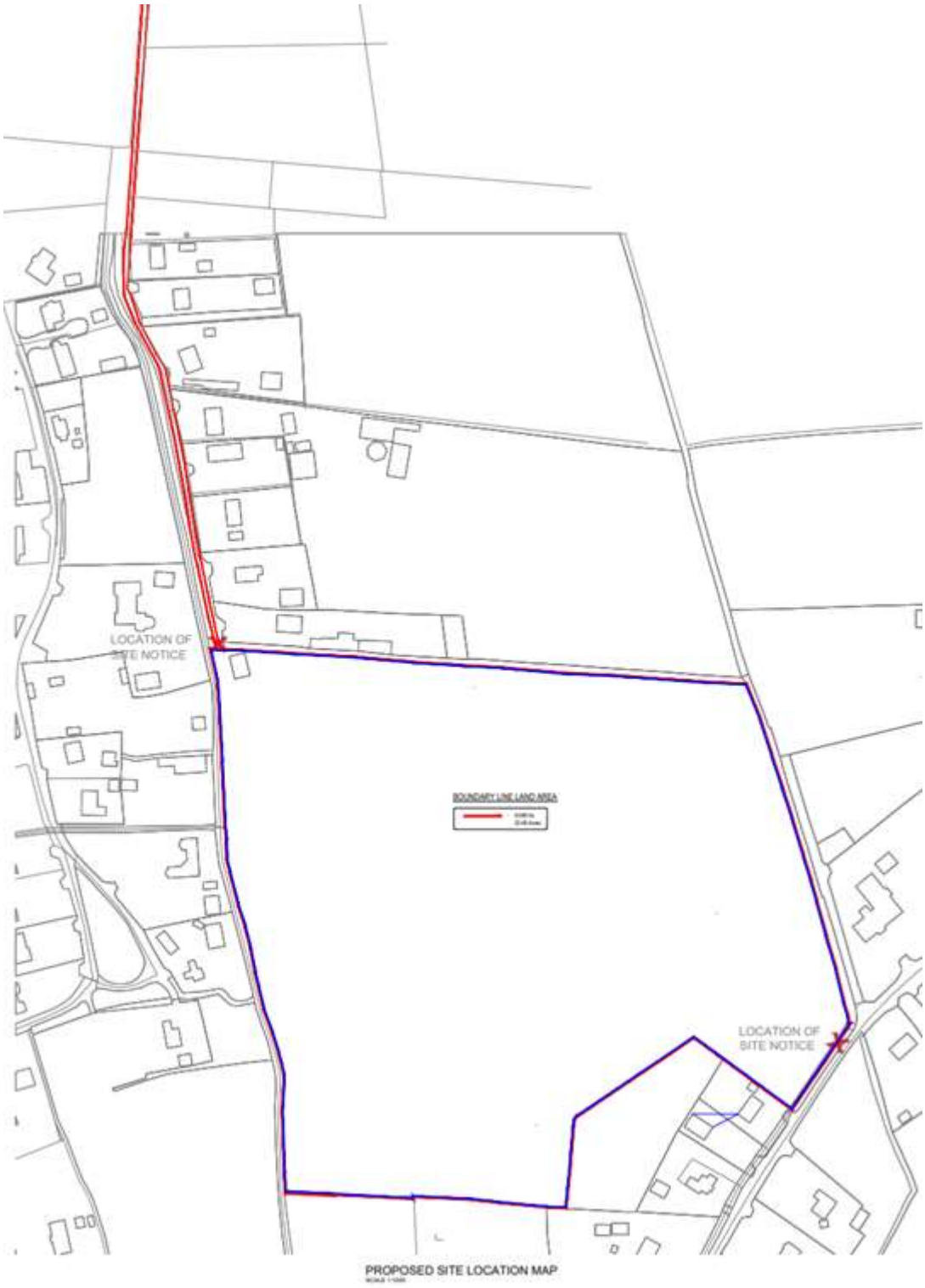
*September 2024 Image Google Earth Pro*

**Site Location**

The subject site of approximately 9.096Ha is located in the rural area of Allenwood South, approximately 2.5km southwest of Allenwood Village. The site is accessed at two different points; the L5080 to the western side, and the L70042 (Nursery Road) at the eastern side, both off a regional road (R414) to the north. Vehicular access is a via an agricultural gate onto Nursery Road and another agricultural entrance to the north-west which provides access to the shed. Some works have already been completed within the site including existing earth mounds and internal hardcore access tracks on the site. There is an existing agricultural barn (133sqm) in the north-west corner of the site. There are a number of one-off dwellings in a ribbon pattern on approach roads. The Grand Canal p NHA lies 820m north of the site. It sits within the Western Boglands Landscape Character Area – A Class 3 (High Sensitivity) Landscape Character Area.

**Built/Natural Heritage**

| | |
|---|---|
| Built/Archaeological Heritage | There are no features of built heritage located within the vicinity of the site. |
| Natural Heritage | The Grand Canal proposed Natural Heritage Area is located c. 820m north of the site.<br><br>The site is located c. 8km west of Ballynafagh Lake SAC. |
| Landscape Character Area | Western Boglands Landscape Character Area which is a Class 3 sensitivity landscape area. *"Areas with reduced capacity to accommodate uses without significant adverse effects on the appearance or character of the landscape having regard to prevalent sensitivity factors."* |




Subject site outlined in red and blue

**Planning History**

**UD7626** – Warning letters and Enforcement Notices issued. Court Order obtained requiring all works and activities to cease on site.

**24/60534** – Retention & Permission **Refused** to Cable Technical Services Ltd for existing earth mounds and access tracks and Permission for works including extension of existing earth mounds to create an electric bike track, use of the site as an outdoor facility, extension of internal access tracks, provision of an ancillary small bike track with an ancillary jump area, provision of a reception building, maintenance shed and car parking.

Reasons for Refusal:

1. The proposed development site is located within the Ballydermot/Lullymore Bog Complex and is known to be used by of one of Ireland's most threatened birds, the Eurasian Curlew (Numenius arquata). The species is protected under the EU Birds Directive (2009/147/EC) where it is listed as an Annex II species, the International Union for Conservation of Nature's Red List of Threatened Species, the Red List of Birds of Conservation Concern in Ireland (BoCCI2) and the Wildlife Acts 1976 - 2012 and the Birds and Natural Habitats Regulations, 2011. It has not been demonstrated that the proposed activities and significant noise impacts associated with a motocross facility and also the loss of natural habitat, would not have a serious detrimental impact on the Curlew breeding locally. The proposed development would therefore contravene policies BIP4 and BIO20 of the Kildare County Development Plan 2023-2029 which seeks to ensure that any new development proposals does not have a significant adverse impact, incapable of satisfactory mitigation on plant, 24/60534 15 animal or bird species which are protected by law and would therefore be contrary to the proper planning and sustainable development of the area.

2. The proposed development, due to its proximity to dwellings in the area, would, if permitted, result in a loss of amenity by reason of noise, loss of privacy, dust and additional traffic movements generated. The proposed development would seriously injure the residential amenity of the area, depreciate the value of property in the vicinity and would result in a substandard form of development in a rural area. The proposed development would set an undesirable precedent for similar development in unserviced and unzoned lands in the rural area and would therefore be contrary to the proper planning and sustainable development of the area.

3. The proposed development is poorly screened and buffered from the existing landscape and surrounding properties for visual and noise impact. The development would have a negative impact on the overall landscape character of the area and on the visual and residential amenities of the area and would therefore be contrary to the proper planning and sustainable development of the area.

4. There are concerns regarding the proximity of the proposed development to the Slate River which currently does not meet good status and the potential impacts on the receiving environment. Section 5.4.1 page 21 and Appendix E of the EPA Code of Practice provides guidance on this to applicants for Domestic Wastewater Treatment

Systems. In the absence of a detailed hydrogeological assessment prepared by a competent hydrogeological consultant to assess the potential pollution risks from the proposed development. In the absence of such details, to permit the proposed development would be prejudicial to groundwater quality and public health and contrary to the proper planning and sustainable development of the area.

5. On the day of site inspection, the Environment Section of Kildare County Council were unable to properly assess the water table levels as the trial hole had been filled in. Accordingly, in the absence of such details, to permit the proposed development would be prejudicial to groundwater quality and public health and contrary to the proper planning and sustainable development of the area.

**22/390 –** Permission and retention permission **Refused** to Cable Technical Services Ltd. for development at Nursery Road, Allenwood South, Co. Kildare. Retention permission is sought for existing earth mounds and internal hardcore access tracks on the site. The applicant also seeks permission for:

•extension of existing earth mounds to create an electric motocross track, along with improvements to the existing mounds

•use of the site as a motocross facility for exclusive use by electrical motocross bikes
•extension of the internal access tracks

•provision of an ancillary motocross small bike track with an ancillary jump area and pump track for use by mountain bikes.

•provision of a reception building, shed and car parking

•provision of on-site foul treatment system and associated percolation area to serve the reception building

•use of existing entrance off Nursery Road for access

•all associated site works including landscaping and groundworks. Refusal reasons are as follows:

**Permission is REFUSED for the following reasons:**

**1.** It is considered that the contents of Ecological Impact Assessment submitted with the application are inadequate by reason of an absence of sufficient information of potential impacts arising from the proposed development and loss of habitat on existing flora and fauna. The proposed development site is located within the Ballydermot/Lullymore Bog Complex and is known to be used by of one of Ireland's most threatened birds, the Eurasian Curlew (Numenius arquata). The species is protected under the EU Birds Directive (2009/147/EC) where it is listed as an Annex II species, the International Union for Conservation of Nature's Red List of Threatened Species, the Red List of Birds of Conservation Concern in Ireland (BoCCI2) and the Wildlife Acts 1976 - 2012 and the Birds and Natural Habitats Regulations, 2011. The National Parks and Wildlife Service and Department of Housing, Local Government and Heritage are carrying out a Curlew Conservation Programme and it is noted that the Curlew from the Lodge Bog is present in the area and has been GPS tracked on the subject site. It has not been demonstrated that the proposed activities associated with a motocross facility and also the loss of natural habitat, would not have a serious detrimental impact on the Curlew breeding locally. It is the policy of the Kildare County Development Plan 2017–2023 to protect and promote the conservation of protected species and habitats that are protected under the Wildlife Acts 1976-2012, the Birds Directive 1979 and the Habitats Directive 1992 are adequately protected. The proposed development would contravene policies NH 11 and NH 12 of the Kildare County Development Plan 2017-2023 which seek to protect habitats, flora and fauna in County Kildare and would therefore be contrary to the proper planning and sustainable development of the area.

**2.** The proposed development, due to its proximity to dwellings in the area, would, if permitted, result in a loss of amenity by reason of noise, loss of privacy, dust and additional traffic movements generated. The proposed development would seriously injure the residential amenity of the area, depreciate the value of property in the vicinity and would result in a substandard form of development in a rural area. The proposed development would set an undesirable precedent for similar development in unserviced and unzoned lands in the rural area and would therefore be contrary to the proper planning and sustainable development of the area.

**3.** The local road network which provides access to the subject development, is constructed on underlying boglands and are unsuitable for the additional traffic that would be generated by the proposed development. An increase in the volume of traffic would lead to the structured deterioration of this road network. In the absence of satisfactory information to determine the potential impact of traffic generated from the proposed development on the surrounding residential area and servicing road network, the proposed development risks creating serious traffic safety hazards and would therefore be contrary to the proper planning and sustainable development of the area.

**4.** The proposed site is located within the Slate_050 catchment which is a tributary of the River Barrow Special Area of Conservation. Ireland's objective under the EU Water Framework Directive is to restore and maintain all waters at good ecological status. The current status of the Slate_050 is "At Risk" of not meeting its objectives under the WFD and the current River Basin Management Hydromorphology has been identified as a significant pressure in this waterbody. The Environmental Impact Assessment Screening Report has not adequately assessed the potential impact of sediment on the river from drainage works and dust during the construction and operational stage of the proposed development. The proposed development is contrary to policies GI 22 and GI 23 of the Kildare County Development Plan 2017 – 2023 which seek to protect watercourses from significant deterioration of downstream watercourses or habitats and would therefore be contrary to the proper planning and sustainable development of the area.

**5.** The subject site is not considered to be suitable for the provision of an on-site wastewater treatment system due to the presence of peat in the area of the proposed percolation area. Such soils are not suitable for the disposal of treated wastewater due to poor percolation and the consequent risk of pollution of groundwater and surface waters. To permit the proposed development would be prejudicial to public health and would therefore be contrary to the proper planning and sustainable development of the area.

## Relevant Legislative Background

Planning and Development Act 2000 (as amended)

***Section 2(1)***

*In this Act, except where the context otherwise requires –*

> ***works'*** *includes any act or operation of construction, excavation, demolition, extension, alteration, repair or renewal and, in relation to a protected structure or proposed protected structure, includes any act or operation involving the application or removal of plaster, paint, wallpaper, tiles or other material to or from the surfaces of the interior or exterior of a structure.*
>
> *"**agriculture**" includes horticulture, fruit growing, seed growing, dairy farming, the breeding and keeping of livestock (including any creature kept for the production of food, wool, skins or fur, or for the purpose of its use in the farming of land), the training of horses and the rearing of bloodstock, the use of land as grazing land, meadow land, osier land, market gardens and nursery grounds, and "agricultural" shall be construed accordingly;*
>
> *"**development**" has the meaning assigned to it by section 3, and "develop" shall be construed accordingly;*
>
> *"**road**" has the same meaning as in the Roads Act, 1993;*
>
> *"**structure**" means any building, structure, excavation, or other thing constructed or made on, in or under any land, or any part of a structure so defined, and—*
>
> > *(a) where the context so admits, includes the land on, in or under which the structure is situate, and*
> >
> > *(b) in relation to a protected structure or proposed protected structure, includes—*
> >
> > *(i) the interior of the structure,*
> >
> > *(ii) the land lying within the curtilage of the structure,*
> >
> > *(iii) any other structures lying within that curtilage and their interiors, and*
> >
> > *(iv) all fixtures and features which form part of the interior or exterior of any structure or structures referred to in subparagraph (i) or (iii);*
>
> *"**unauthorised development**" means, in relation to land, the carrying out of any unauthorised works (including the construction, erection or making of any unauthorised structure) or the making of any unauthorised use;*

*"**unauthorised structure**" means a structure other than—*

*(a) a structure which was in existence on 1 October 1964, or*

*(b) a structure, the construction, erection or making of which was the subject of a permission for development granted under Part IV of the Act of 1963 or deemed to be such under section 92 of that Act or under section 34, 37G or 37N or 293 of this Act, being a permission which has not been revoked, or which exists as a result of the carrying out of exempted development (within the meaning of section 4 of the Act of 1963 or section 4 of this Act);*

*"**unauthorised use**" means, in relation to land, use commenced on or after 1 October 1964, being a use which is a material change in use of any structure or other land and being development other than—*

*(a) exempted development (within the meaning of section 4 of the Act of 1963 or section 4 of this Act), or*

*(b) development which is the subject of a permission granted under Part IV of the Act of 1963 or under section 34, 37G, 37N or 293 of this Act, being a permission which has not been revoked, and which is carried out in compliance with that permission or any condition to which that permission is subject;*

***"unauthorised works**" means any works on, in, over or under land commenced on or after 1 October 1964, being development other than—*

*(a) exempted development (within the meaning of section 4 of the Act of 1963 or section 4 of this Act), or*

*(b) development which is the subject of a permission granted under Part IV of the Act of 1963 or under section 34, 37G, 37N or 293 of this Act, being a permission which has not been revoked, and which is carried out in compliance with that permission or any condition to which that permission is subject;*

*"**motor vehicle**" means a mechanically propelled vehicle for the purposes of the Road Traffic Act, 1961 (No. 24 of 1961);*

<u>Road Traffic Act, 1961 (as amended)</u>

*Section 3(1) In this Act, save where the context otherwise requires –*

*"**mechanically propelled vehicle**" means, subject to subsection (2) of this section, a vehicle intended or adapted for propulsion by mechanical means, including—*

*(a) a bicycle or tricycle with an attachment for propelling it by mechanical power, whether or not the attachment is being used,*

*(b) a vehicle the means of propulsion of which is electrical or partly electrical and partly mechanical,*

*but not including a tramcar or other vehicle running on permanent rails;*

*"**vehicle**" means a mechanically propelled vehicle, a powered personal transporter, a trailer or semi-trailer, an animal-drawn vehicle or a pedal cycle;*

***Section 3(1)***

***I**n this Act, except where the context otherwise requires, "development" means—*

*(a) the carrying out of any works in, on, over or under land, or the making of any material change in the use of any land or structures situated on land, or*

*(b) development within the meaning of Part XXI (inserted by section 171 of the Maritime Area Planning Act 2021).*

**Class 9 of Part 3 of Schedule 2 of the Planning and Development Regulations, 2001, as amended.**

**Section 5(7) EIA Screening**

The proposed development is not specified in Part 2 of Schedule 5 of the Planning and Development Regulations 2001(as amended). In any event, it is considered, having regard to nature, size and location, the proposed development would not be likely to have significant effects on the environment. Therefore, EIA is not required.

Planning and Development Regulations 2001 (as amended)

**Article 6(1)**

Subject to article 9, development of a class specified in column 1 of Part 1 of Schedule 2 shall be exempted development for the purposes of the Act, provided that such development complies with the conditions and limitations specified in column 2 of the said Part 1 opposite the mention of that class in the said column 1.

**Article 6(3)**

Subject to article 9, in areas other than a city, a town or an area specified in section 19(1)(b) of the Act or the excluded areas as defined in section 9 of the Local

Government (Reorganisation) Act, 1985 (No. 7 of 1985), development of a class specified in column 1 of Part 3 of Schedule 2 shall be exempted development for the purposes of the Act, provided that such development complies with the conditions and limitations specified in column 2 of the said Part 3 opposite the mention of that class in the said column 1.

**Article 9 (1)(a)(i)**

Restrictions on exemption.

9. (1) Development to which article 6 relates shall not be exempted development for the purposes of the Act—

(a) if the carrying out of such development would—…. (15 items)

# Assessment

**Query 1**

- Laying out of and use of Lands for private use using an electric motocross bike.

Is it development?

The first question to address relates to whether or not *'the laying out and use of lands, for private use involving an electric motocross bike'* would constitute development in accordance with the provisions of the Planning and Development Act, 2000 (as amended).

The Act defines "development" as the carrying out of any works on, in, over or under land or the **making of any material change in the use** of any structures **or other land** (Section 3(1)) and defines "*'works' to include any act or operation of* ***construction, excavation****, demolition, extension, alteration, repair or renewal".*

It is noted that the exemption sought included the excavation and recontouring of an agricultural use land. This involved physical alterations that exceed 2m in height at several locations to provide for a motocross track. This represents a material change in the use of the land and incorporates works. Therefore, the works and the material change of use would constitute **development**.

*Is it exempted development?*

**Primary Legislation**

The development of *'the laying out and use of lands, for private use involving an electric motocross bike'* has no exemptions under Section 4 of the Planning and Development Act, 2000 (as amended).

**Secondary Legislation**

Planning and Development Regulations, 2001 (as amended)

Under Class 33(c) of Schedule 2 of the Planning and Development Regulations, 2001, as amended.

*Class 33 – "Development consisting of the laying out and use of land—*

*(a) as a park, private open space or ornamental garden,*

*(b) as a roadside shrine, or*

*(c)* for athletics or sports (other than golf or pitch and putt or sports involving the use of motor vehicles, aircraft or firearms), where no charge is made for admission of the public to the land.

is exempted development, subject to Article 6,9,10 of the Regulations.

It must be noted that the Class 33 exemption relates to '*development consisting of the laying out and use of land for athletics or sports (other than golf or pitch and putt or sports involving the use of motor vehicles, aircraft or firearms) where no charge is made for admission of the public to the land'.*

Having regard to the wording of this Class, the proposed means of propulsion, namely an electric motocross bike, and the definition of a motor vehicle as a '*mechanically propelled vehicle*' under Section 2(1) of the Act, it is considered that this element of the application is precluded by Class 33(c) of Part 1 of Schedule 2 of the Planning and Development Regulations 2001. As an electric motocross bike constitutes a motor vehicle, development involving such vehicles does not fall within the scope of this Class and cannot avail of the exemption.

It is therefore considered that the proposed works are **NOT exempted development** as defined by the Planning and Development Act 2000 (as amended) and the Planning and Development Regulations 2001 (as amended).

**Query 2**

- Improvement of an internal roadway,

Is it development?

The first question to address is whether or not '*the improvement of an internal roadway'* would constitute development in accordance with the provisions of the Planning and Development Act, 2000 (as amended).

The Act defines "development" as the carrying out of any works on, in, over or under land or the **making of any material change in the use** of any structures **or other land** (Section 3(1)) and defines "*'works' to include any act or operation of* ***construction, excavation****, demolition, extension, alteration, repair or renewal".*

It is noted that the exemption which is sought includes the use of stone aggregate to improve an existing informal track at agricultural use land. It is considered that this represents a material change in the use of the land and incorporates works. Therefore, it is considered that the works and the material change of use would constitute **development.**

*Is it exempted development?*

**Primary Legislation**

The development of '*the improvement of an internal roadway'* has no exemptions under Section 4 of the Planning and Development Act, 2000 (as amended).

**Secondary Legislation**

Planning and Development Regulations, 2001 (as amended)

Under Class 13 of Part 1 of Schedule 2 of the Planning and Development Regulations, 2001 (as amended)

*Class 13 - The repair or improvement of any private street, road or way, being works carried out on land within the boundary of the street, road or way, and the construction of any private footpath or paving*

is exempted development, subject to Article 6,9,10 of the Regulations.

It is noted that drawings of the private (aggregate stone) trackway have been submitted which outline it extending from the sheds at the northwest corner to the access at the southeast corner. Its width ranges from 2.39m to 2.706m and at no point does the trackway exceed 3m. However, on review of the planning history of the site it appears that there is no record of planning permission or exemptions being afforded for this internal roadway to which the improvement works are sought. Therefore, it is considered that the '*improvement of an internal roadway'* cannot be considered exempted development under Class 13.

It is therefore considered that the proposed works are **NOT exempted development** as defined by the Planning and Development Act 2000 (as amended) and the Planning and Development Regulations 2001 (as amended)

**Query 3**

- Placing of Concrete apron associated with a maintenance shed,

Is it development?

The first question to address relates to whether or not '*the construction and placing of a concrete apron associated with a maintenance shed is development and whether it is exempted development*' would constitute development in accordance with the provisions of the Planning and Development Act, 2000 (as amended).

The Act defines "development" as the carrying out of any works on, in, over or under land or the **making of any material change in the use** of any structures **or other land** (Section 3(1)) and defines "*'works' to include any act or operation of* ***construction, excavation****, demolition, extension, alteration, repair or renewal".*

The exemption sought includes the 130sqm concrete apron associated with the existing sheds. It is considered that this involved physical alterations and excavations works outside of any development boundary. These areas, which were not previously associated with the sheds have now become integral to the curtilage of the shed, representing a material change in the use of the land. Therefore, the material change of use and associated works would constitute **development** in accordance with Section 3(1) of the Act.

*Is it exempted development?*

**Primary Legislation**

The development of '*the construction and placing of a concrete apron associated with a maintenance shed'* has no exemptions under Section 4 of the Planning and Development Act, 2000 (as amended).

**Secondary Legislation**

Schedule 2 of the Planning and Development Regulations, 2001 (as amended) Part 3, Article 6, Exempted Development — Rural - Class 8

*Works consisting of the provision of roofless cubicles, open loose yards, selffeed silo or silage areas, feeding aprons, assembly yards, milking parlours or structures for the making or storage of silage or any other structures of a similar character or description, having an aggregate gross floor space not exceeding 200 square metres, and any ancillary provision for effluent storage.*

*1. No such structure shall be used for any purpose other than the purpose of agriculture.*

*2. The gross floor space of such structures together with any other such structures situated within the same farmyard complex or within 100 metres of that complex shall not exceed 300 square metres gross floor space in aggregate.*

*3. Effluent storage facilities adequate to serve the structure having regard to its size, use and location shall be constructed in line with Department of Agriculture, Food and Rural Development and the Department of the Environment and Local Government requirements and shall have regard to the need to avoid water pollution.*

*4. No such structure shall be situated, and no effluent from such structure shall be stored, within 10 metres of any public road.*

*5. No such structure within 100 metres of any public road shall exceed 8 metres in height.*

*6. No such structure shall be situated, and no effluent from such structure shall be stored, within 100 metres of any house (other than the house of the person providing the structure) or other residential building or school, hospital, church or building used for public assembly, save with the consent in writing of the owner and, as may be appropriate, the occupier or person in charge thereof.*

*7. No unpainted metal sheeting shall be used for roofing or on the external finish of the structure.*

It does not appear that the concrete apron is used for the purposes of agriculture as it was constructed over a similar timeframe as the aforementioned track. As it is not established that the development is used for the purposes of agriculture, it cannot be concluded that the concrete apron is exempt under the requirements of Class 8 which explicitly states that "*1. No such structure shall be used for any purpose other than the purpose of agriculture."* The concrete apron is therefore specifically precluded under Class 8 of Part 1 of Schedule 2 to the Planning and Development Regulations 2001.

It is therefore considered that the proposed works are **NOT exempted development** as defined by the Planning and Development Act 2000 (as amended) and the Planning and Development Regulations 2001 (as amended).

**Query 4**

- Widening of an established agricultural entrance onto a public road L70042

<u>Is it development?</u>

The first question to address relates to whether or not '*the widening of an established agricultural entrance onto a public road (L70042 - Nursery Road), which less than 4m wide'* would constitute development in accordance with the provisions of the Planning and Development Act, 2000 (as amended).

The Act defines "development" as the carrying out of any works on, in, over or under land or the **making of any material change in the use** of any structures **or other land** (Section 3(1)) and defines "*'works' to include any act or operation of* ***construction, excavation****, demolition, extension, alteration, repair or renewal".*

It is noted that the widening of what has shown to have been an agricultural access (as per Google Maps 2009) includes its widening and resulting loss of a poor condition hedgerow and its replacement with non-native laurel. New post and rail fences, galvanised double gates and softcore aggregate extend to roadside. This represents works at the existing access and would constitute **development** in accordance with Section 3(1) of the Act..

*Is it exempted development?*

**Primary Legislation**

The development of '*the widening of an established agricultural entrance onto a public road (L70042 - Nursery Road), which less than 4m wide' has* no exemptions under Section 4 of the Planning and Development Act, 2000 (as amended).

**Secondary Legislation**

Planning and Development Regulations, 2001 (as amended)

Under Class 9 Sundry Works of Schedule 2 of the Planning and Development Regulations, 2001, as amended.

*The construction, erection, renewal or replacement, other than within or bounding the curtilage of a house, of any gate or gateway.*

*The height of any such structure shall not exceed 2 metres*

It appears that the original agricultural access had been in place for at least ten years and the works which are sought to be deemed exempt were installed in the years that followed (an exact year is unclear - c. 2022). It appears that the works which are sought to be deemed exempt are no more than 2m in height. Notwithstanding this, it is considered that works that are sought to be exempt are a significant deviation from the pre-existing entrance and are not '*within the or bounding the curtilage of a house'.*

This element of the application is as such precluded under Class 9. It is also considered that on the basis of the information submitted accompanying this application that the restrictions on exemptions pertaining to endangering public safety by reason of traffic hazard or obstruction of road users (Article 9 (1) (iii) cannot be ruled out.

It is therefore considered that the proposed works are **NOT exempted development** as defined by the Planning and Development Act 2000 (as amended) and the Planning and Development Regulations 2001 (as amended)

**Conclusion & Recommendation**

Having regard to:

- Sections 2, 3, 5 ,6 of the Planning and Development Act 2000 (as amended);
- Articles 6 and 9 of the Planning and Development Regulations 2001 (as amended);
- Classes 33(c), 13, 8 and 9 Sundry Works
- The nature, extent and purpose of the works;

It is considered that

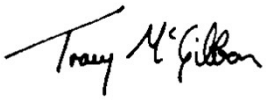
1. Laying out of and use of Lands for private use using an electric motocross bike,
2. Improvement of an internal roadway,
3. Placing of Concrete apron associated with a maintenance shed,
4. Widening of an established agricultural entrance onto a public road L70042

**constitutes development** as defined in Section 3(1) of the Planning and Development Act 2000 (as amended) and **is NOT exempted development** as defined by the Planning and Development Act 2000 (as amended) and the Planning and Development Regulations 2001 (as amended).

The applicant should be advised of the above

Signed 

Daniel Waldron Assistant Planner 28/10/2026



Tracy McGibbon
Senior Executive Planner
29/10/2026

**Declaration of Development & Exempted Development under**

**Section 5 of the Planning and Development Act 2000 (as amended)**

**WHEREAS** a question has arisen as to whether

1) The laying out and use of lands, for private use involving an electric motocross bike is development, and if so whether it is exempted development.
2) The improvement of an internal roadway is development and if so, whether it is exempt development.
3) The construction and placing of a concrete apron associated with a maintenance shed is development and whether it is exempted development.
4) Whether the widening of an established agricultural entrance onto a public road (L70042 - Nursery Road), which less than 4m wide, is exempted development.

**AS INDICATED** on the plans and particulars received by the Planning Authority on 27/06/2025

**AND WHEREAS** Cable Technical Services Ltd requested a declaration on the said question from Kildare County Council,

**AND WHEREAS** Kildare County Council as the Planning Authority, in considering this application for a declaration under Section 5 of the Planning and Development Act 2000 (as amended), had regard to;

(a) Planning and Development Act 2000 (as amended); and
(b) Planning and Development Regulations 2001 (as amended);

**AND WHEREAS** Kildare County Council has concluded that the proposal comprises of development to which the provisions of the following applies:

(c) Sections 2, 3, 4, 5, 6 of the Planning and Development Act 2000 (as amended);
(c) Articles 6 and 9 of the Planning and Development Regulations 2001, as amended, and Part 1 of Schedule 2 to those Regulations, including Classes 33(c), 13, 8 & 9 Sundry Works.
(c) the extent of the works that have been carried out to date, based on the submitted documentation and the assessment carried out the Council's Officer:

**NOW THEREFORE** Kildare County Council, in exercise of the powers conferred on it by Section 5(2)(a) of the Planning and Development Act 2000 (as amended), hereby decides that -

1. *The laying out and use of lands, for private use involving an electric motocross bike is development, and if so whether it is exempted development.*
2. *The improvement of an internal roadway is development and if so, whether it is exempt development.*
3. *The construction and placing of a concrete apron associated with a maintenance shed is development and whether it is exempted development.*
4. *Whether the widening of an established agricultural entrance onto a public road (L70042 - Nursery Road), which less than 4m wide.*

*at Nursery Road, Allenwood South, Co Kildare.'*

***IS development and IS NOT EXEMPTED development pursuant to Section (2, 3 and 5) of the Planning and Development Act as amended and Article 6, Article 9 of the Planning and Development Regulations as amended.***

Please note that any person issued with a declaration under Section 5 of the Planning and Development Act 2000 (as amended) may on payment to the Board of the prescribed fee, refer a declaration to An Bord Pleanála within 4 weeks of the issuing of the decision.

Signed

1. **Appendix 1: Appropriate Assessment Screening**

**APPROPRIATE ASSESSMENT SCREENING REPORT**
**AND**
**DETERMINATION**

| **(A) Project Details** |
|---|

| | |
|---|---|
| **Planning File Ref** | ED/1250 |
| **Applicant name** | Cable Technical Services Ltd |
| **Development Location** | Nursery Road, Allenwood South, Allenwood, Co. Kildare |
| **Site size** | 9.096 ha |
| **Application accompanied by an EIS (Yes/NO)** | No |
| **Distance from Natura 2000 site in km** | The site is located c. 8km west of Ballynafagh Lake SAC. |

**Description of the project/proposed development –**

1. The laying out and use of lands, for private use involving an electric motocross bike is development, and if so whether it is exempted development.
2. The improvement of an internal roadway is development and if so, whether it is exempt development.
3. The construction and placing of a concrete apron associated with a maintenance shed is development and whether it is exempted development.
4. Whether the widening of an established agricultural entrance onto a public road (L70042 - Nursery Road), which less than 4m wide, is exempted development.

| | **(B) Identification of Natura 2000 sites which may be impacted by the proposed development** | |
|---|---|---|
| | **Yes/No**<br>**If answer is yes, identify list name of Natura 2000 site likely to be impacted.** | |

| | | | |
|---|---|---|---|
| **1** | **Impacts on sites designated for freshwater habitats or species.**<br><br>Sites to consider: River Barrow and Nore, Rye Water/Carton Valley, Pollardstown Fen, Ballynafagh lake | *Is the development within a Special Area of Conservation whose qualifying interests include freshwater habitats and/or species, or in the catchment (upstream or downstream) of same?* | **No** |
| **2** | **Impacts on sites designated for wetland habitats - bogs, fens, marshes and heath.**<br>Sites to consider: River Barrow and Nore, Rye Water/Carton Valley, Pollardstown Fen, Mouds Bog, Ballynafagh Bog, Red Bog, Ballynafagh Lake | *Is the development within a Special Area of Conservation whose qualifying interests include wetland habitats (bog, marsh, fen or heath), or within 1 km of same?* | **No** |
| **3** | **Impacts on designated terrestrial habitats.**<br>Sites to consider: River Barrow and Nore, Rye Water/Carton Valley, Pollardstown Fen, Ballynafagh Lake | *Is the development within a Special Area of Conservation whose qualifying interests include woodlands, dunes or grasslands, or within 100m of same?* | **No** |
| **4** | **Impacts on birds in SPAs**<br>Sites to consider:<br>Poulaphouca Resevoir | *Is the development within a Special Protection Area, or within 5 km of same?* | **No** |

**Conclusion:**

If the answer to all of the above is **No**, significant impacts can be ruled out for habitats and bird species.

No further assessment in relation to habitats or birds is required.

If the answer is **Yes** refer to the relevant sections of **C**.

| **(G) SCREENING CONCLUSION STATEMENT**<br>*Selected relevant category for project assessed by ticking box.* | | |
|---|---|---|
| **1** | AA is not required because the project is directly connected with/necessary to the conservation management of the site | |
| **2** | No potential significant affects/AA is not required | **Y** |
| **3** | Significant effects are certain, likely or uncertain.<br>Seek a Natura Impact Statement<br>Reject proposal. (Reject if potentially damaging/inappropriate) | |
| **Justify why it falls into relevant category above (based on information in above tables)** | | |
| Having regard to the scale and nature of the proposed works, it is not considered that there will be any impact on the nearest SAC. | | |
| **Name:** | Daniel Waldron | |
| **Position:** | Assistant Planner | |
| **Date:** | 28/10/2026 | |

# COMHAIRLE CONTAE CHILL DARA

# KILDARE COUNTY COUNCIL

## Director of Services Order

I, Alan Dunney, Director of Services of Planning, Enterprise & Economic Development, by the powers conferred on the Chief Executive of Kildare County Council under Section 151 of the Local Government Act 2001, as amended by the Local Government Reform Act 2014, and which powers are delegated to me pursuant to Section 154 of the Local Government Act 2001 (as amended ) by Chief Executive's Order number: CE63325, do hereby make the following Order:

**ORDER NO:** DO68639 **Section:** Planning

**SUBJECT:** ED/1250
Cable Technical Services Ltd, C/O David Mulcahy, 67 Old Mill Race, Athgarvan, Newbridge, Co Kildare Exempt Development Application for
1. The laying out and use of lands, for private use involving an electric motocross bike is development, and if so whether it is exempted development.
2. The improvement of an internal roadway is development and if so, whether it is exempt development.
3. The construction and placing of a concrete apron associated with a maintenance shed is development and whether it is exempted development.
4. Whether the widening of an established agricultural entrance onto a public road (L70042 - Nursery Road), which less than 4m wide, is exempted development.
At Nursery Road, Allenwood South, Co Kildare.

**SUBMITTED:** File Ref. ED1250 with recommendation from the Senior Executive Planner and reports from the Council's Technical Officers.

**ORDER:** **I hereby order the following** Kildare County Council, in exercise of the powers conferred on it by Section 5(2)(a) of the Planning and Development Act 2000 (as amended) hereby decides that the proposed development is development and is not exempted development.

MADE THIS 30TH DAY OF OCTOBER YEAR 2026

SIGNED: Alan Dunney

**DIRECTOR OF SERVICES**

**Comhairle Contae Chill Dara**
Kildare County Council

Date: 5th October 2026.
Our Ref: ED/1250.

Cable Technical Services Ltd,
c/o David Mulcahy,
67 Old Mill Race,
Athgarvan,
Newbridge,
Co. Kildare

**RE: Application for a Declaration of Exempted Development under Section 5 of Planning and Development Act 2000 (as amended) for development at Nursery Road, Allenwood South, Allenwood, Co. Kildare.**

Dear Sir/Madam,

I refer to your application for a Declaration of Exempted Development under Section 5 of Planning and Development Act 2000 (as amended) recorded as received in this office on 30th June 2025 in connection with the above.

I apologise for the delay in issuing a determination for this application.

Please confirm if you still require a determination or if you wish to close the application and receive a refund of fees paid.

Yours sincerely,

pp _____
**Senior Executive Officer,**
**Planning Department.**

# Kildare County Council

## Declaration of Exempt Development under Section 5, of the Planning and Development Act 2000

**Incomplete application forms will be deemed invalid and returned**

**All responses must be in block letters**

| Section 1 | Details of Applicants |
|---|---|

**1.** Name of Applicant(s) A. Surname ~~Travers~~ Cable Forenames — Technical Services Ltd
Phone No…… Fax No……
**2.** Address Nursery Road, Allenwood South, Allenwood, Co. Kildare
……

| Section 2 | Person/Agent acting on behalf of applicant (if applicable) |
|---|---|

**1.** Name of Person/Agent: Surname. Mulcahy…….. Forenames. David……..
Phone No [redacted]…… Fax No……
**2.** Address. 67 Old Mill Race Athgarvan Newbridge Co. Kildare……
……

| Section 3 | Company Details (if applicable) |
|---|---|

**1.** Name of Company Cable Technical Services Ltd……
Phone No [redacted]… Fax No……..
**2.** Company Reg. No.382247……

**3.** Address……..
……

| Section 4 | Details of Site |
|---|---|

**1.** Planning History of Site.. Reg. Ref. 24/60534 - electrick bike park refused……..

**2.** Location of Proposed Development. Nursery Road, Allenwood South, Allenwood, Co. Kildare……
……
……

**3.** Ordnance Survey Sheet No…3381C……..

**4.** Please state the Applicants interest in the site Owner……
……..

**5.** Please state the extent of the proposed development. Refer to drawings enclosed……

**6.** Under what Section of the Planning and Development 2000 and/or what provision of the Planning and Development Regulations 2001 is exemption sought *(specific details required)*……..
……
……Class 33a and Class 13 and Class 8 (rural)……...

**7.** Please give a detailed description of the Proposed Development (*Use separate page if necessary*)…….
……
Refer to report enclosed
……
……..…..
……
……
……
……
……
……
…….

| **Section 5** | **The following must be submitted for a valid application** |
|---|---|

**(Please Tick)**

| | | |
|---|---|---|
| 1. | Site Location Map (1:2500 Rural Areas) (1:1000 Urban Areas) | ✓ |
| 2. | A Site Layout Plan (Scale 1:500) in full compliance with Article 23 of Planning and Development Regulations 2001 | ✓ |
| 3. | Drawings of the development (Scale 1:50) in full compliance with Article 23 of Planning and Development Regulations 2001 | N/A |
| 4. | All drawings to differentiate between the original building, all extensions and proposed development | N/A |
| 5. | Fee of 80 Euro | ✓ |

| **Section 6** | **Declaration** |
|---|---|

I, David Mulcahy certify that all of the above information is correct and I have submitted all the required documents as outlined at Section 6 above.

Signature: David Mulcahy Date: 27.6.25

DM
DAVID MULCAHY
PLANNING CONSULTANTS LTD
67 The Old Mill Race, Athgarvan, Co. Kildare
PH:
E-mail: david@planningconsultant.ie
www.planningconsultant.ie
Company No. 493133 Directors: D. Mulcahy & M. Mulcahy

Planning Department
Kildare County Council
Aras An Dara
Devoy Park
Naas
Co. Kildare

25th June 2025

**Re: Section 5 Application, Nursery Road, Allenwood South, Allenwood, Co. Kildare**

Dear Sir/Madam,

We, David Mulcahy Planning Consultants Ltd, act on behalf of our client **Cable Technical Ltd** in seeking a Section 5 Declaration from Kildare County Council in respect of development at Nursery Road, Allenwood South, Allenwood, Co. Kildare[1].

Please find enclosed a Section 5 Application Form and a fee of €80.

We seek to determine the following no. queries:

[1] Folio Refs KE3871, KE11243, KE43049F

QUERY 1: Whether the laying out and use of lands, for private use involving an electric motocross bike is development, and if so whether it is exempted development.

A portion of the existing large field has been developed into a private track involving the creation/erection of ramps, jumps, raised corners, and berms – see images and diagrams enclosed.

For clarity no stone was used in the creation of the mounds/tracks. Only soil from within the site was used for creation of the mounds/tracks.

The track is used on an infrequent basis (maximum 12 times per month during summer time and only once per week during the winter time) for private use of a single electric motocross bike. There is no motorised element associated with this bike and therefore it is not a motor vehicle.

No racing whatsoever occurs. No testing occurs. Mr. Travers only uses the mounds/track for personal enjoyment and not therefore is not engaged in any form of practice (the term 'practice' infers training to improve for a particular purpose i.e. a race).

We refer the Council to the Planning and Development Regulations, 2001, as amended - Class 33, SCHEDULE 2, Article 6, PART 1, Exempted Development – General, relating to 'Development for amenity or recreation purposes'. It includes reference to use of land as a private open space and/or for sports where no change is made for admission of the public.

We submit that the electric bike is a form of motocross bike and motocross is a recognized sport.

As the bike is electric no motor vehicle is involved.

We confirm that no charge is made for admission of the public.

Other than a reference to a shrine there are no conditions or limitations which apply. We submit that on this basis the construction of the track to facilitate the sport involved is not a concern in respect of the exemption.

| | |
|---|---|
| *Development for amenity or recreational purposes*<br><br>CLASS 33<br><br>Development consisting of the laying out and use of land—<br><br>(a) as a park, private open space or ornamental garden,<br><br>(b) as a roadside shrine, or | The area of any such shrine shall not exceed 2 square metres, the height shall not exceed 2 metres above the centre of the road opposite the structure and it shall not be illuminated. |
| (c) for athletics or sports (other than golf or pitch and putt or sports involving the use of motor vehicles, aircraft or firearms), where no charge is made for admission of the public to the land. | |

In relation to Article 9 (Restrictions on Exemptions) we do not consider that any such restriction applies in this instance.

In relation to Appropriate Assessment, we note that Panther Ecology Ltd screened out the need for a Stage II Appropriate Assessment for the existing mounds when the application sought retention permission for same under Reg. Ref. 24/60534 – copy **enclosed.**

The closest Natura 2000 site is c.8km west of the site – Ballynafagh Lake SAC. The Council's Planner which assessed the application stated that Appropriate Assessment was not required.

*24/60534*

| **(G) SCREENING CONCLUSION STATEMENT**<br>*Selected relevant category for project assessed by ticking box.* | | |
|---|---|---|
| **1** | AA is not required because the project is directly connected with/necessary to the conservation management of the site | |
| **2** | No potential significant affects/AA is not required | **X** |
| **3** | Significant effects are certain, likely or uncertain.<br>Seek a Natura Impact Statement<br>Reject proposal. (Reject if potentially damaging/inappropriate) | |
| **Justify why it falls into relevant category above (based on information in above tables)** | | |
| Having regard to the proximity of the nearest Natura 2000 site, it is not considered there would be potential for significant effects on the European sites network. | | |
| **Name:** | C. Dockery | |
| **Position:** | Assistant Planner | |
| **Date:** | 31/07/2024 | |

**Appendix 2: EIA Screening Report**

Extract from planner's report under Reg. Ref. 24/60534

On the basis of the above we consider that the use of the subject lands for private use for electric motocross bike is exempt development.

We refer the Council to similar type precedent including:

ED/00422 – provision of an educational boardwalk at Lullymore Heritage and Discovery Park, Lullymore, Rathangan, Co. Kildare was deemed exempt development by Kildare County Council in 2012 under Class 33 (a) of the PDR, 2001.

This precedent is considered relevant as it also involved an elongated structure; specifically a raised platform structure of c.495m including discussion platforms and 9. No. passing bays.

QUERY 2: Whether the improvement of an internal roadway is development and if so, whether it is exempt development.

An internal roadway using 804 crushed stone was provided to improve an informal track as the existing track was becoming too difficult to use during winter months to get access the agricultural shed.

This private internal track is considered to meet the definition of 'way' under Class 13 below.

This road is exempt development under SCHEDULE 2, Article 6, PART 1, Exempted Development – General, CLASS 13 *The repair or* ***improvement of any private*** *street, road or* ***way****, being works carried out on land within the boundary of the street, road or way, and the construction of any private footpath or paving*.

We note that the Conditions and Limitations refer to a restriction on the width *not exceeding 3 metres.*

Please refer to the survey prepared by JLA Surveys dated 12th June 2025 **enclosed** which has been modified by Donnachadh O'Brien Consulting Engineers to clarify the width is under 3.0m (grey coloured area).

QUERY 3: Whether the construction and placing of a concrete apron associated with a maintenance shed is development and whether it is exempted development.

The apron is located to the side of the existing agricultural building.

Under Schedule 2 of the P&D Regs, 2001, as amended, PART 3, Article 6, Exempted Development — Rural CLASS 8 Works consisting of the provision of roofless cubicles, **open loose yards**, self feed silo or silage areas, feeding aprons, **assembly yards**, milking parlours or structures for the making or storage of silage **or any other structures of a similar character or description**, having an aggregate gross floor space not exceeding 200 square metres, and any ancillary provision for effluent storage are exempted development subject to the Conditions and Limitations in Column 2.

We consider that the apron meets the criteria under Class 8 being an open loose yard or assembly yard or a structure of a similar character or description. It has a total floor area of 130sq.m.

No class 9 Restrictions apply.

QUERY 4: Whether the widening of an established agricultural entrance onto a public road (L70042 - Nursery Road), which less than 4m wide, is exempted development.

The applicant replaced the existing agricultural entrance (with a larger and safer entrance). The height of the entrance structures are 1.8m as measured by one of the directors of Cable Technical Services Ltd on 27.6.2025.




Image from Google Street View dated September 2009 showing agricultural gate.



Photograph of the entrance off the L70042 - Nursery Road dated 2024.

Schedule 2, Part 1- (Exempted Development General) Class 9 Sundry Works
The construction, erection renewal **or replacement**, other than within or bounding the curtilage of a house, of **any gate or gateway**.

Conditions and Limitations
The height of any such structure shall **not exceed 2 metres**.

The height of the entrance is 1.8m high.

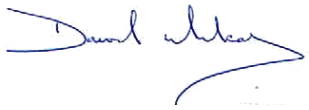
**Conclusion**

We seek a Declaration from the Council on each of the 4 queries outlined above to determine if the development involved (use/works) is exempted development.

We agree that all the use works outline is development. We have provided evidence to support our view that each element of development is exempt development under Planning and Development Regulations, 2001, as amended.

Please acknowledge receipt of this Section 5 application in writing and direct all future correspondence to this office.

Yours sincerely,



David Mulcahy
**David Mulcahy Planning Consultants Ltd**
**CHARTERED PLANNING CONSULTANTS**

**Separate Enclosures**

1. Section 5 Application form
2. Site Location Map with site outlined in blue – source: site location map used under Reg. Ref. 24/60534
3. Site Location and description (maps and diagrams)

4. Appropriate Assessment Screening prepared by Panther Ecology Ltd – the screening relating to the existing works only (retention works).
5. Survey prepared JLA Surveys dated 12th June 2025 which has been modified by Donnachadh O'Brien Consulting Engineers

Panther Ecology Ltd,
Units 3 & 4, Innovation Centre,
S.E.T.U Carlow Campus,
Green Road, Carlow, Ireland.
R93 W248

Telephone 059-9134222

Email: info@pantherwms.com
Website: www.pantherwms.com

# Appropriate Assessment Screening Report (Retention) & Natura Impact Statement (Proposed development)

## ELECTRIC BIKE PARK, ALLENWOOD, CO. KILDARE

**2024**

| | | | |
|---|---|---|---|
| **REPORT NO:** | PE_AA/NIS_3009 | **AUTHOR:** | Paula Farell, BSc. |
| **DATE:** | 22nd May 2024 | **REVIEWED:** | Martin O'Looney, BSc. |

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## 1.0 Introduction

Panther Ecology Ltd. was commissioned by David Mulcahy Planning Consultant acting on behalf of Cable Technical Service Ltd, to prepare an Appropriate Assessment Screening (AA) as part of a planning application for the retention of existing earth mounds and internal hardcore access tracks on the site at Allenwood, Co. Kildare, (ITM Coordinates 673645.64, 725779.07).

The principal aim of this study is to assess whether significant effects to European sites (the Natura 2000 network) are likely to occur as a result of this project in accordance with Article 6(3) of the Habitats Directive and the Planning and Development (Amendment) Act, 2001, as amended.

A study was undertaken by Ms Paula Farrell of Panther Ecology Ltd. who has a BSc in Wildlife Biology from Munster Technological University (formerly IT Tralee) and has experience in elasmobranch, amphibian, bird, invertebrate and floral surveys. This survey was supervised by Martin O'Looney who has a BSc Degree in Environmental Science and Technology from Atlantic Technological University Sligo (formerly IT Sligo) and over 10 years' experience in environmental consultancy and environmental impact assessment. This comprised a review of the proposed development, site visits on 3rd May 2023, 19th May 2023 and 31st May 2023 to examine the ecological context of the proposed development, a desk study of the information on European sites within the potential zone of influence of the site and an analysis of the information in the context of the guidance to determine if a Natura Impact Statement is required.

## 2.0 Legislative Context

The EU Habitats Directive (92/43/EEC) on the conservation of natural habitats and of wild fauna by council directive 97/62/EC, 2006/105/EC, and Regulation EC1882/2003 of September 2003, as transposed into Irish law by the European Communities (Birds and Natural Habitats) Regulations 2011 (S.I. 477/11), provides the framework for legal protection for habitats and species of European importance. The Natura 2000 network provides an ecological infrastructure for the protection of sites that are of particular importance for rare, endangered or vulnerable habitats and species within the EU. The Natura 2000 network in Ireland is made up of European Sites which include:

- Special Areas of Conservation (SACs)
- Special Protection Areas (SPAs)

Article 6(3) of the Habitats Directive establishes the requirement for appropriate assessment when planning new developments that might affect a Natura 2000 site. Article 6(3) of the Habitats Directive states;

"*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.*

## 3.0 METHODOLOGY

**Stage 1 - Screening**

Screening is the first stage in the Appropriate Assessment process and is carried out to determine whether a Stage 2 Appropriate Assessment and a Natura Impact Statement (NIS) is required. Screening addresses and records the reasoning and conclusions in relation to the first two tests of Article 6(3);

1. Whether a plan or project is directly connected to or necessary for the management of the European (Natura 2000) site; and

2. Whether a plan or project, alone or in combination with other plans or projects, is likely to have significant effects on a European (Natura 2000) site, in view of its conservation objectives.

Screening should be undertaken without the inclusion of mitigation measures. If the effects are deemed to be significant, potentially significant, or uncertain, or if the screening process becomes overly complicated, then the process must proceed to Stage 2 AA and an NIS.

The findings and conclusions of the screening process should be documented, with the necessary supporting evidence and objective criteria. This is of particular importance in the cases where the Appropriate Assessment process ends at the screening stage because the conclusion is that no significant effects are likely.

Following Stage 1 Screening, it was considered that there may be potential for an indirect impact upon the qualifying interests of a European site, therefore, the assessment progressed to Stage 2.

**Stage 2 – Natura Impact Assessment**

The scope of this assessment follows the appropriate assessment statement methodology as defined within the European Commission guidance document "*Assessment of plans and projects significantly affecting Natura 2000 sites"* (2002), Section 3, Part 2. Guidance from the Department of the Environment, Heritage and Local Government "*Appropriate Assessment of Plans and Projects in Ireland*" (2009) and "*Managing Natura 2000 sites: The provisions of Article 6 of the 'Habitats' Directive*" (2018) have also been used in the preparation of this report. In accordance with this guidance, the following methodology has been used to produce this Natura Impact Statement:

Step 1**:** Information Required
Identifying the conservation objectives of the Natura 2000 site and the aspects of the project, alone or in combination with other projects or plans, which have the potential to affect those conservation objectives.

This process involves gathering information for the Natura 2000 site, including the conservation objectives of the site, factors contributing to conservation value, aspects sensitive to change and the existing baseline condition of the site. The principal source of information used for Natura 2000 sites, their qualifying interests and conservation objectives is the National Parks and Wildlife Service (NPWS). Information is also required for the project including the size and scale of the project, the relationship (distance, connectivity etc.) of the project to the Natura 2000 site and the characteristics of existing, proposed or other projects which have the potential to affect the Natura 2000 site.

Step 2: Impact Prediction
This process predicts and identifies the likely impacts of the project on the Natura 2000 site. Potential impacts are identified as; direct and indirect; short or long-term duration; construction, operational or decommissioning; and isolated, interactive and cumulative effects.

Step 3: Conservation Objectives
Once the potential impacts of the project have been predicted and identified, it will be necessary to assess whether these impacts will adversely impact upon the integrity of the Natura 2000 site, as defined by the site's conservation objectives and status of the site. Where it cannot be demonstrated that there will be no adverse impacts upon the Natura 2000 site, mitigation measures must be proposed for the project.

Step 4: Mitigation Measures
Upon the identification of potential impacts, the project will have on the Natura 2000 site (alone or in combination with other projects or plans), mitigation measures will be proposed to eliminate, reduce or offset these negative impacts. Mitigation measures should be considered with preference to the hierarchy of preferred options outlined in the guidance document "*Assessment of plans and projects significantly affecting Natura 2000 sites"*.

## 3.1 METHODOLOGY BACKGROUND

This Appropriate Assessment has been carried with reference to the following guidelines:

- Appropriate Assessment Screening for Development Management OPR Practice Note PN01 March 2021.
- Appropriate Assessment of Plans and Projects in Ireland. Guidelines for Planning Authorities. DoEHLG, 2010.
- Circular NPWS 1/10 & PSSP 2/10 Appropriate Assessment under Article 6 of the Habitats Directive: Guidance for Planning Authorities
- Managing Natura 2000 sites – The Provisions of Article 6 of The Habitats Directive 92/43/EEC. European Commission, 2000.
- Appropriate Assessment Screening for Development Management OPR Practice Note PN01 March 2021

- Circular L8/08 Water Services Investment and Rural Water Programmes – Protection of Natural Heritage and National Monuments 2 September 2008

- 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, 2002.

- Commission Notice "Managing Natura 200 sites The provisions of Article 6 of the Habitats Directive 92/43/EEC. European Commission, 21.11.2018

- CIEEM (2018) Guidelines for Ecological Impact Assessment in the UK and Ireland: Terrestrial, Freshwater, Coastal and Marine version 1.2. Chartered Institute of Ecology and Environmental Management, Winchester.

## 3.2 DESKTOP RESEARCH

Desktop research was carried out to gather information on the ecology of the site and surrounding areas. The locations of the Natura 2000 sites within the zone of influence of Allenwood, Co. Kildare were identified from National Parks and Wildlife Service (NPWS) online map viewer. Other Natura sites beyond were also reviewed and considered for the potential for the project to have a negative effect.

Water quality data from the EPA was reviewed for the assessment of biological and environmental data collected on waterbodies in Ireland as per the Water Framework Directive (WFD) Monitoring Programme of River Ecology Monitoring Results (2021).

Information on the characteristics of the Natura 2000 sites within the potential zone of influence was reviewed from the conservation objectives documents, site synopses and Standard Natura 2000 data forms available on the NPWS website.

## 3.3 SITE SURVEY

Site characterisation assessments were undertaken on the 3rd May 2023, 19th May 2023 and 31st May 2023 to examine the ecological context of the development site, by systematically walking the site, adjacent land and boundaries and determining the habitats present. The habitat survey was undertaken in accordance with the standard methodology outlined in Fossitt's "*A Guide to Habitats in Ireland*", a hierarchical classification scheme based upon the characteristics of vegetation present. The Fossitt system also indicates when there are potential links with Annex I habitats of the E.U. Habitats Directive (92/43/EEC). Cognisance was also taken of the Heritage Council guidelines, "*Best Practice Guidance for Habitat Survey and Mapping*", (Smith *et al.,* 2011). Bird species and signs of fauna activity and dwellings were also noted. Particular attention was given to the possible presence of habitats and/or species, which are legally protected under Irish and European legislation and to assessing any potential ecological connectivity with Natura 2000 sites or supplementary or stepping stone habitats of relevance to Natura 2000 sites.

Bird species and signs of fauna activity and dwellings were also noted. Particular attention was given to the possible presence of habitats and/or species, which are legally protected under

Irish and European legislation and to assessing any potential ecological connectivity with Natura 2000 sites or supplementary or steppingstone habitats of relevance to Natura 200 sites.

## 4.0 DESCRIPTION OF DEVELOPMENT AND EXISTING SITE

### 4.1 DEVELOPMENT FOR RETENTION

Planning permission is sought for the retention of existing earth mounds and internal hardcore access tracks onsite at Allenwood, Co. Kildare, (ITM Coordinates 673645.64, 725779.07).

The development site is hydrologically connected to the River Barrow and River Nore SAC (Site Code: 002162) via the Killinagh Upper (Order 1) located along the western boundary. See Appendix A for protected sites within the zone of influence of the proposed development.

According to Google Maps, the development for retention has been a green field site for over 37 years from 1985 and 2022. Late 2022, the proposed development underwent some changes with the development of mounds and trackways, see Figure 4.1.1 below. The development site had once been a raised bog part of the Ballydermot/Lullymore Raised Bog Complex however, most of the peat substrate has been removed giving rise to the current habitats onsite dominated by dry calcareous and neutral grassland (GS1). This habitat while semi-natural has been modified over time and has been managed. It was likely grazed by livestock or horses to manage the grass sward heights during this time.

The development site did not require the importation of topsoil or any materials with the potential to contain third schedule invasive species. All existing mounds were created using soil within the red line boundary. Gravel was imported to create the existing gravelled entrance along the L70042 local road. The retention works were confined to the development footprint and did not necessitate any works within a watercourse or drainage ditch.

As there are currently no facilities onsite, there is no existing surface/foul water drainage network or heating system.




**Figure 4.1:** Location of development site at Allenwood Co. Kildare




**Figure 4.1.1:** Site survey area (i) 1985 and (ii) 2022 (Source Google Earth ©)

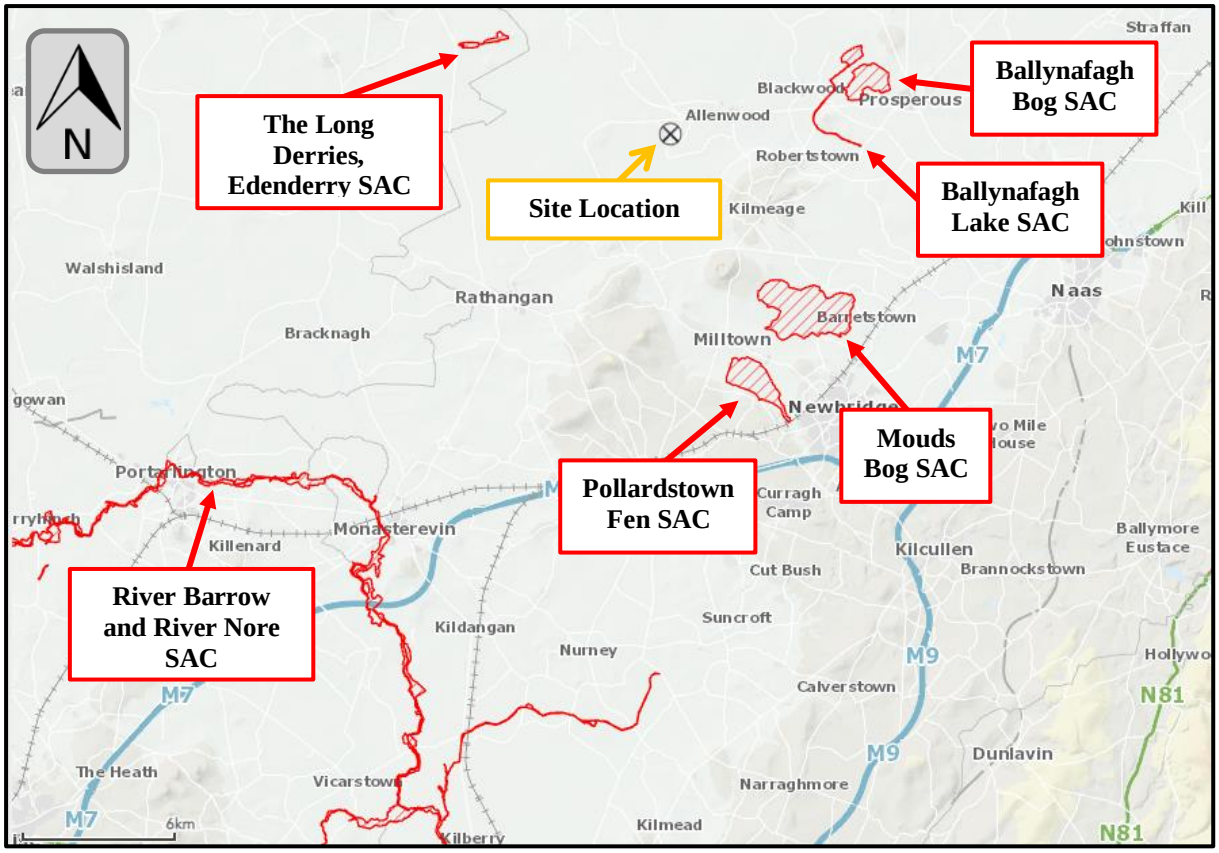



**Figure 4.2:** Location of development site and Protected Habitats

## 4.2 EXISTING ENVIRONMENT

The development site is mainly comprised of grassland, spoil and recolonising habitats that have been modified with drainage ditch and a watercourse along the boundaries. Cut bog, agricultural land and residential premises are located within the immediate vicinity. The surrounding area is semi-rural in nature within the environs of Allenwood village. The closest mapped watercourse is the Killinagh Upper located along the western boundary.

A site assessment was undertaken on the 3rd May 2023, 19th May 2023 and 31st May 2023 . species and signs of fauna activity and dwellings were also noted. Particular attention was given to the possible presence of habitats and/or species, which are legally protected under Irish and European legislation. The habitats within the overall site are as follows;

Dry calcareous and neutral grassland **(GS1)** is the main habitat found within the site. The species composition comprised of Yorkshire Fog (*Holcus lanatus*), Creeping Bent Grass (*Agrostis stolonifera*), Dock (*Rumex* spp.), Soft Rush, (*Juncus effusus*), Horsetail (*Equisetum* spp.), Creeping Buttercup (*Ranunculus repens*), Ribwort Plantain (*Plantago lanceolata*), Clover (*Trifolium* spp.), Silverweed (*Potentilla anserina*), Sedge (Cyperaceae), Meadow Buttercup (*Ranunculus acris*), Thistle (*Cirsium* spp.), Bent grasses (*Agrostis* spp.), Cuckoo Flower (*Cardamine pratensis*), Nettle (*Urtica dioica*), Fescues, Oil-seed Rape (*Brassica napus*), Dock (*Rumex* spp.), Marsh Foxtail (*Alopecurus geniculatus*), Ragwort (*Jacobaea vulgaris*) and Cocksfoot grass (*Dactylis glomerata*).

Spoil and bare ground **(ED2)** was found throughout the development included Dock (*Rumex* spp.), Thistle (*Cirsium* spp.), Creeping Buttercup (*Ranunculus repens),* Oil-seed Rape (*Brassica napus*), Creeping Bent Grass (*Agrostis stolonifera*), Silverweed (*Potentilla anserina*), Creeping Cinquefoil (*Potentilla reptans*), Daisy (*Bellis perennis*) and Ribwort Plantain (*Plantago lanceolata*).

Buildings and artificial surfaces **(BL3)** is found at the entrance and includes an agricultural shed to the north-west. It comprised of the species Creeping bent grass (*Agrostis stolonifera*), Dock (*Rumex* spp.), Clover (*Trifolium* spp.), Dandelion (*Taraxacum* spp.), Ribwort Plantain (*Plantago lanceolata*), Meadow Buttercup (*Ranunculus acris*), Shepherds' Purse (*Capsella bursa-pastoris*), Willowherb (*Epilobium* spp.) and Oil-seed Rape (*Brassica napus*).

A Depositing/lowland **(FW2) River** and with a species composition of Yellow Iris (*Iris pseudoacorus*), Watercress (*Nasturtium officinale*), Rushes (*Juncus* spp.) and Reed-canary Grass (*Phalaris arundinaceae*). Drainage ditches **(FW2)** bordered the site and included the species Reed-Canary Grass (*Phalaris arundinacea*), Watercress (*Nasturtium officinale*), Willowherb (*Epilobium* spp.), Rushes (*Juncus* spp.), Horsetail (*Equisetum* spp.), Duckweed (Lemnoideae), Starwort (*Callitriche* spp.), Cleavers (*Galium aparine*), Ivy (*Hedera helix*), Fern (*Asplenium* spp.), Wild Angelica (*Angelica sylvestris*), Creeping Buttercup (*Agrostis stolonifera*), Brown (Phaeophyceae) and Green Algae (Chlorophyta).

Dry meadows and grassy verges **(GS2)** was predominantly along the west of the site and comprised of Couch grass (*Elymus repens*), Dock (*Rumex* spp.), Clover (*Trifolium* spp.), Vetch (*Vicia* spp.), Creeping Buttercup (*Ranunculus repens*), Dandelion (*Taraxacum* spp.), Nettle (*Urtica dioica*), Herb Robert (*Geranium robertianum*), Willowherb (*Epilobium* spp.), Hairy Bittercress (*Cardamine hirsuta*), Cow Parsley (*Anthrisvus sylvestris*), Ribwort Plantain (*Plantago lanceolata*), Meadowsweet (*Filipendula ulmaria*), Black Medick (*Medicago lupulina*), Devil's-bit Scabious (*Succisa pratensis*), Hawthorn saplings (*Crataegus monogyna*), Dame's Violet (*Hesperis matronalis*), Cleavers (*Galium aparine*) and Bindweed (*Convolvulus* spp.).

Scattered trees and parkland **(WD5)** comprised of Beech (*Fagus* spp.), Scots Pine (*Pinus sylvestris*) and Maple (*Acer* spp.) and was found to the south, north-east and to the west adjacent the Killinagh Upper. Hedgerow **(WL1)** was present along the perimeter and throughout the site comprising mostly of Cherry Laurel (*Prunus laurocerasus*) with Beech saplings (*Fagus* spp.) Other artificial lakes and ponds **(FL8)** were found around existing mounds with Bullrush (*Scirpoides holoschoenus*), Soft Rush (*Juncus effusus*), Willowherb (*Epilobium* spp.), Cuckoo Flower (*Cardamine pratensis*), Watercress (*Nasturtium officinale*) and Sedges (Cyperaceae). Wet grassland **(GS4)** was found to the north, west and east of the site and comprised of Soft Rush (*Juncus effusus*), Yellow Flag Iris (*Iris pseudacorus),* Cuckoo Flower (*Cardamine pratensis*), Horsetail (*Equisetum* spp.), Creeping Buttercup (*Ranunculus repens*), Ribwort Plantain (*Plantago lanceolata*) and Lesser Spearwort (*Ranunculus flammula*).

Habitats of note outside the red line boundary include a partial **treeline (WL2)** habitat forms the eastern boundary outside the drainage ditch. It is comprised of Willow (*Salix* spp.), Elder (*Sambucus* spp.), Cypress (*Cupressus* spp.), Hawthorn (*Crataegus monogyna*) and Bramble (*Rubus fructicosus*). Another treeline is located north of the proposed development consisting of Hawthorn (*Crataegus monogyna*), Beech (*Fagus* spp.), Willow (*Salix* spp.), Scots Pine (*Pinus sylvestris*), Cypress (*Cupressus* spp.), Poplar (*Populus* spp.), Sycamore (*Acer pseudoplatanus*) and with an understory of Daisy (*Bellis perennis*), Dock (*Rumex* spp.),

Bramble (*Rubus fructicosus*), Nettle (*Urtica dioica*) and Willowherb (*Epilobium* spp.). A partial treeline is to the west of the proposed development between the Killinagh Upper and adjacent properties. It comprised of Alder (*Alnus* spp.), Willow (*Salix* spp.), Sycamore (*Acer pseudoplatanus*) and Hawthorn (*Crataegus monogyna*). A final treeline to the south comprised of Willow (*Salix* spp.), Elder (*Sambucus* spp.), Hawthorn (*Crataegus monogyna*), Cypress (*Cupressus* spp.) with an understory of Bluebells ( *Hyacinthoides non-scripta*), Cowslip (*Primula veris*). To the south-west outside the development boundary, is cutover bog **(PB4)** habitat with evidence of bare peat and stacked turf.

The majority of habitats identified within the boundary of the site are considered to be of low conservation value. The dry calcareous and neutral grassland, the wet grassland and the other artificial lakes and ponds would be considered to be of moderate conservation value, while the depositing/lowland river is of high conservation value. There are no plant species of high conservation value or Third Schedule high impact invasive plant species recorded within the redline boundary of the site. See Appendix C for Photo Log of the site and Table 4.1 for summary for habitats located at the proposed development.

**Table 4.1:** Habitats found in and adjacent to the development site

| **HABITAT CLASSIFICATION HIERARCHY** | | |
|---|---|---|
| **LEVEL 1** | **LEVEL 2** | **LEVEL 3** |
| **F -** Freshwater | **FW -** Watercourses | **FW2 –** Depositing/lowland rivers |
| | | **FW4 –** Drainage ditches |
| | **FL –** Lakes and ponds | **FL8 –** Other artificial lakes and ponds |
| **G –** Grassland and marsh | **GS –** Semi-natural grassland | **GS1 –** Dry calcareous and neutral grassland |
| | | **GS2 –** Dry meadows and grassy verges |
| | | **GS4 –** Wet grassland |
| **W –** Woodland and scrub | **WL-** Linear woodland/scrub | **WL1–** Hedgerows |
| | | **WL2 –** Treelines |
| | **WD –** Highly modified/non-native woodland | **WD5 –** Scattered trees and parkland |
| **B –** Cultivated and built land | **BL –** Built land | **BL3 –** Buildings and artificial surfaces |
| **E –** Exposed rock and disturbed ground | **ED –** Disturbed ground | **ED2 –** Spoil and bare ground |
| **P -** Peatland**s** | **PB -** Bogs | **PB4 –** Cutover Bog |

Bird species noted during the site walkover included Blackbird (*Turdus merula*), Blue Tit (*Parus caeruleus*), Buzzard (*Buteo buteo*), Chaffinch (*Fringilla coelebs*), Curlew (*Numenius Arquata*), Dunnock (*Prunella modularis*), Grey Heron (*Ardea cinerea*), Goldcrest (*Regulus regulus*), Goldfinch (*Carduelis carduelis*), Great Tit (*Parus major*), Cuckoo (*Cuculus canorus*), House Sparrow (*Passer domesticus*), Jackdaw (*Corvus monedula*), Magpie (*Pica pica*), Mallard (*Anas platyrhynchos*), Meadow Pipit (*Anthus pratensis*), Pheasant (*Phasianus colchicus*), Pied Wagtail (*Motacilla alba*), Robin (*Erithacus rubecula*), Rook (*Corvus*

*frugilegus*), Skylark (*Alauda arvensis*), Snipe (*Gallinago gallinago*), Song Thrush (*Turdus philomelos*), Starling (*Sturnus vulagaris*), Swallow (*Hirundo rustica*), Willow Warbler (*Phylloscopus trochilus*), Woodpigeon (*Columba palumbus*) and Wren (*Troglodytes troglodytes*). Goldcrest, Mallard, Skylark, Starling, Snipe and Swallow are Amber listed under the BoCCI classification (Gilbert *et al*, 2021). Curlew and Meadow Pipit are the only Red list species recorded. Only one bird species recorded at the proposed development site are listed under Annex I of the E.U, Birds Directive, the Curlew. No other fauna was observed within the site boundary. Evidence of mammal footprints were observed along the Killinagh Upper watercourse however, the prints fit that of a cat. Fauna typical of that found throughout the rest of Ireland which would be expected to be found in the area would include; Bat species, Badger (*Meles meles*), Rabbit (*Oryctalagus cuniculus*) Otter (*Lutra lutra*), Brown Rat (*Rattus norvegicus*), Pine Marten (*Martes martes*), Stoat (*Mustela erminea hibernica*), American Mink (*Mustela vison*), Irish Hare (*Lepus timidus hibernicus*), Hedgehog (*Erinus europaeus*), Red Squirrel (*Sciurus vulgaris*), Grey Squirrel (*Sciurus carolinensis*), Wood Mouse (*Apodemus sylvaticus*) and Pygmy Shrew (*Sorex minutus*). There was no evidence of Badger (including setts or latrines) or Otter (including spraints, holts or slides) at the proposed development site.

In addition to the site walkover, flora and fauna records were reviewed on the National Biodiversity Data Centre (NBDC) website for the proposed development site and vicinity. No protected plant species under the Flora (Protection) Order, 2022 (S.I. No. 235 of 2022) were recorded within the 10km square (Tetrad – N72) in which the proposed development site is located. There are no records of threatened flora within this tetrad. Endangered species include Cornish Heath (*Erica vagans*) and Opposite-leaved Pondweed (*Groenlandia densa*). Three invasive plant species are *Rhododendron ponticum*, Canadian Waterweed (*Elodea canadensis*) and Japanese Knotweed (*Fallopia japonica*). Protected fauna species are Common Frog (*Rana temporaria*), Smooth Newt (*Lissotriton vulgaris*), Freshwater White-clawed Crayfish (*Austropotamobius pallipes*), Desmoulin's Whorl Snail (*Vertigo* (*Vertigo*) *moulinsiana*), Common Lizard (*Zootoca vivipara*), Brown Long-eared Bat (Plecotus auritus), Daubenton's Bat (*Myotis daubentonii*), Badger (*Meles meles*), Pygmy Shrew (*Sorex minutus*), Red Squirrel (*Sciurus vulgaris*), Otter (*Lutra lutra*), Lesser Noctule (*Nyctalus leisleri*), Pine Marten (*Martes martes*), Pipistrelle (*Pipistrellus pipistrellus sensu lato*), Soprano Pipistrelle (*Pipistrellus pygmaeus*) and Hedgehog (*Erinaceus europaeus*). High impact invasive species are Brown Rat (*Rattus norvegicus*), Eastern Grey Squirrel (*Sciurus carolinensis*) and Fallow Deer (*Dama dama*). Bird species of note include Swallow (*Hirundo rustica*), Grasshopper Warbler (*Locustella naevia*), Kestrel (*Falco tinnunculus*), Kingfisher (*Alcedo atthis*), Linnet (*Carduelis cannabina*), Snipe (*Gallinago gallinago*), Starling (*Sturnus vulgaris*), Swift (*Apus apus*), Curlew (*Numenius arquata*), Teal (*Anas crecca*), Tree Sparrow (*Passer montanus*), Woodcock (*Scolopax rusticola*), Golden Plover (*Pluvialis apricaria*), Hen Harrier (*Circus cyaneus*), Herring Gull (*Larus argentatus*), House Martin (*Delichon urbicum*), House Sparrow (*Passer domesticus*), Little Egret (*Egretta garzetta*), Little Grebe (*Tachybaptus ruficollis*), Mallard (*Anas platyrhynchos*), Merlin (*Falco columbarius*), Mew Gull (*Larus canus*), Mute Swan (*Cygnus olor*), Northern Lapwing (*Vanellus vanellus*), Peregrine Falcon (*Falco peregrinus*), Rock Pigeon (*Columba livia*), Sand Martin (*Riparia riparia*), Sky Lark (*Alauda arvensis*), Spotted Flycatcher (*Muscicapa striata*), Stock Pigeon (*Columba oenas*), Whinchat (*Saxicola rubetra*) and Yellowhammer (*Emberiza citrinella*).

## 4.3 WATER ENVIRONMENT

The development site is located within the Barrow Catchment (ID 14), Sub Catchment Slate_SC_010. The closest watercourse to the development site is the Killinagh Upper (EPA Code: 14K17 – Order 1) which flows along the western boundary of the development site. The Killinagh Upper flows for approximately 1.5km in a southerly direction where it joins the River Slate (EPA Code: 14S01 – Order 3), part of the River Barrow and River Nore SAC (Site Code: 002162). The Ballyteige North (EPA Code: 14B26 – Order 1) is located approximately 332m south of the development site. It flows south and joins the Slate confluence. Other watercourses in the area include the Allenwood Middle (EPA Code: 14A12 - Order 1) located approximately 1.6km east of the development site. There is no water quality status for the Killinagh Upper. See Figure 4.3 for mapped watercourses relative to the development site.




**Figure 4.3:** Watercourses surrounding the development site

The Conservation Objectives document for the SAC shows that water quality objectives have been set for White-clawed Crayfish (*Austropotamobius pallipes*) and Atlantic Salmon (*Salmo salar*), with a Q3-4 (moderate status) and Q4 (good status) values set as objectives in freshwater. Water quality objectives have also been set for Twaite Shad, with a target of oxygen levels no lower than 5mg/l. The EPA does not undertake water monitoring along the Killinagh_Upper watercourse however, the EPA does undertake water monitoring on the River Slate. The results for the nearest monitoring stations (as per Table 4.2) with available monitoring results for the period 2000-2022 are summarised in Figure 4.4 below for indicative purposes.

**Table 4.2:** Active Monitoring Stations of the River Slate

| STATION NO. | STATION LOCATION | EASTING | NORTHING | APPROX. DISTANCE FROM SITE |
|---|---|---|---|---|
| RS14S010050 | Ford Br | 276234.27 | 225490.97 | 64.7km Upstream |
| RS14S010100 | Agar Bridge | 270342 | 221685 | 5.6km Downstream |
| RS14S010150 | E Br rathangan (Opp Church) | 267541.98 | 219531.25 | 10.7km Downstream |

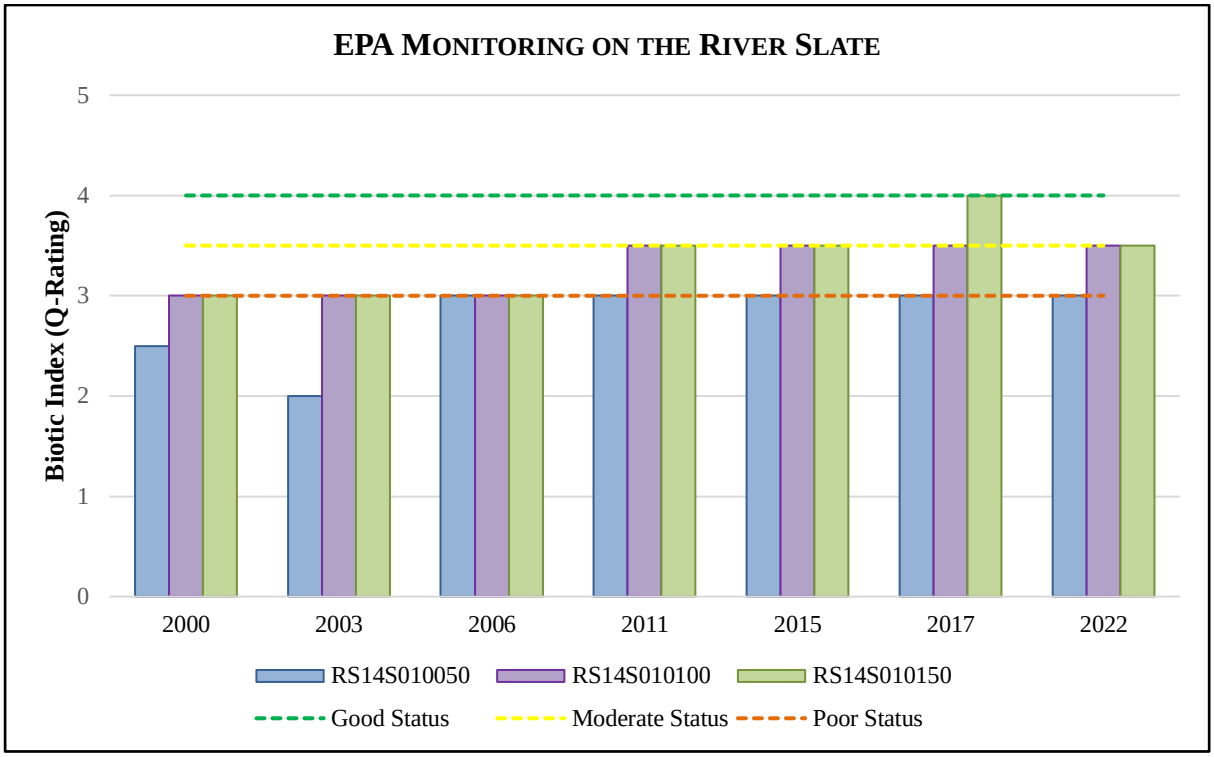



**Figure 4.4:** EPA Ecological Monitoring of the River Slate from 2000 – 2022

As can be seen in Figure 4.4 above, the River Slate is mainly achieving a water quality status of between Q2 (Bad) and Q4 (Good) between 2000 and 2020 (Table 4.3).

EPA comments on the most recent monitoring results for the River Slate are as follows; "*All of the six stations surveyed on the Slate River were in unsatisfactory ecological condition in August 2020. Poor ecological conditions persisted at the upstream sites (0020) and Allenwood (0050). Moderate quality was evident in the lower reaches*".

According to the Preliminary Flood Risk Assessment (PFRA) Mapping tool by the OPW, the development site is located within an area of low to medium probability of present fluvial or pluvial flood, indicative of 10% AEP (10-yr) event, 1% AEP (100-yr) event or 0.1% AEP (1000-yr) event. However, it should be noted that this map is based on broad-scale simple analysis and may not be accurate for a specific location. There is no recorded history of flooding at the development site. It is unlikely that the development site would have had an impact to the River Barrow and River Nore SAC due to a deterioration in water quality caused

by flooding as the earth mounds would have quickly recolonised with vegetation, securing loose substrate onsite.

## 5.0 EUROPEAN SITES (NATURA 2000 SITES) WITHIN ZONE OF INNFLUENCE

In assessing the zone of influence of this project upon European sites, the following factors must be considered:

- Potential impacts arising from the project,
- The location and nature of European sites,
- Pathways between the development and European sites.

The project impact sources, environmental pathways and protected site characteristics were screened to identify European sites potentially within the zone of influence of the project.

No Special Protection Area (SPA) sites occur within the zone of potential influence of the proposed development. Six Special Area of Conservation (SAC) sites occur within the potential zone of influence of the proposed development site and are shown in the following table:

**Table 5.1:** Special Areas of Conservation and Special Protection Area potentially within the zone of influence

| SITE NAME | DESIGNATION | SITE CODE | DISTANCE TO PROPOSED SITE |
|---|---|---|---|
| Ballynafagh Lake | SAC | 001387 | 5.5km E |
| Ballynafagh Bog | SAC | 000391 | 6.9km E |
| The Long Derries, Edenderry | SAC | 000925 | 7km NW |
| Mouds Bog | SAC | 002331 | 7.7km SE |
| Pollardstown Fen | SAC | 000396 | 8.8km SE |
| River Barrow and River Nore | SAC | 002162 | 18.1 SW |

There is a hydrological connection between the proposed development and the River Barrow and River Nore SAC (Site Code: 002162) approximately 24km downstream. Therefore, for this assessment this site is considered to be within the potential zone of influence due to hydrological connection.

The proposed development is located downstream from the Ballyfanagh Lake SAC (Site Code: 001387) and the Ballyfanagh Bog SAC (Site Code: 000391). Therefore, due to the absence of a source-pathway-receptor relationship, these sites have been screened out.

The development site is located approximately 7km from the Long Derries, Edenderry SAC (Site Code: 000925). There is a hydrological distance between the SAC and the development site however, this hydrological connectivity is a great distance upstream. The proposed development site is in a separate WFD subcatchment area (Slate_SC_010) to the Long Derries, Edenderry SAC (Site Code: 000925), which is within the Figile_SC_010. In the absence of a source-pathway-receptor relationship and associated habitats, this site has been screened out.

The proposed development site is in a separate WFD catchment area (Barrow) to the majority of the Mouds Bog SAC (Site Code: 002331), which is within the Liffey and Dublin Bay

catchment. Nonetheless, the areas of the Mouds Bog SAC located in the same catchment as the proposed site would not be downstream from the development, hence, there would not be a direct hydrological connection between the two sites. The development site would not contain the peatland habitats for which this site has been designated. Therefore, due to lack of direct hydrological connection and associated habitats, Mouds Bog SAC has been screened out.

Pollardstown Fen SAC (Site Code: 000396) is located approximately 8.8km from the proposed development site. It is located upstream on the Cloncumber (Stream). Therefore, no direct source-pathway-relationship exists between the two sites. Given the distance, lack of direct hydrological connection, this site has been screened out.

### 5.1 RIVER BARROW AND RIVER NORE SAC (SITE CODE: 002162)

This SAC is composed of the freshwater stretches of the Barrow and Nore catchments, as far upstream as the Slieve Bloom Mountains, and the tidal elements and estuary as far downstream as Creadun Head in Waterford. The larger tributaries include the Lerr, Fushoge, Mountain, Aughavaud, Owenass, Boherbaun and Stradbally Rivers of the Barrow and the Delour, Dinin, Erkina, Owveg, Munster, Arrigle and King's Rivers on the Nore. The site is a SAC selected for the following habitats and/or species listed on Annex I / II of the E.U. Habitats Directive:

| TABLE 5.1.1: ANNEX I HABITATS | |
|---|---|
| **CODE** | **DESCRIPTION** |
| 1130 | Estuaries |
| 1140 | Tidal Mudflats and Sandflats |
| 1170 | Reefs |
| 1310 | *Salicornia* Mud |
| 1330 | Atlantic Salt Meadows (*Glauco-Puccinellietalia maritimae*) |
| 1410 | Mediterranean Salt Meadows (*Juncetalia maritimi*) |
| 3260 | Floating River Vegetation |
| 4030 | Dry Heath |
| 6430 | Hydrophilous Tall Herb Communities |
| 7220 | Petrifying Springs* |
| 91A0 | Old Oak Woodlands |
| 91E0 | Alluvial Forests* |

* *denotes a priority habitat*

| TABLE 5.1.2: ANNEX II SPECIES | | |
|---|---|---|
| **CODE** | **COMMON NAME** | **SCIENTIFIC NAME** |
| 1016 | Desmoulin's Whorl Snail | *Vertigo moulinsiana* |
| 1029 | Freshwater Pearl Mussel | *Margaritifera margaritifera* |
| 1092 | White-clawed Crayfish | *Austropotamobius pallipes* |
| 1095 | Sea Lamprey | *Petromyzon marinus* |
| 1096 | Brook Lamprey | *Lampetra planeri* |
| 1099 | River Lamprey | *Lampetra fluviatilis* |
| 1103 | Twaite Shad | *Alosa fallax* |
| 1106 | Atlantic Salmon | *Salmo salar* |
| 1355 | Otter | *Lutra lutra* |

| TABLE 5.1.2: ANNEX II SPECIES | | |
|---|---|---|
| **CODE** | **COMMON NAME** | **SCIENTIFIC NAME** |
| 1421 | Killarney Fern | *Trichomanes speciosum* |
| 1990 | Nore Freshwater Pearl Mussel | *Margaritifera durrovensis* |

An excerpt from the site synopsis for River Barrow and River Nore SAC is included below.

This site consists of the freshwater stretches of the Barrow and Nore River catchments as far upstream as the Slieve Bloom Mountains. The larger of the many tributaries include the Lerr, Fushoge, Mountain, Aughavaud, Owenass, Boherbaun and Stradbally Rivers of the Barrow, and the Delour, Dinin, Erkina, Owveg, Munster, Arrigle and King's Rivers on the Nore. Both rivers rise in the Old Red Sandstone of the Slieve Bloom Mountains before passing through a band of Carboniferous shales and sandstones. The upper reaches of the Barrow runs through limestone, with the middle reaches and many of the eastern tributaries running through Leinster Granite. The southern end runs over intrusive rocks poor in silica. Good examples of alluvial forest are seen at Rathsnagadan, Murphy's of the River and along other shorter stretches of both the tidal and freshwater elements of the site. Typical species include Almond Willow (*Salix triandra*), White Willow (*S. alba*), Rusty Willow (*S. cinerea* subsp. *oleifolia*), Crack Willow (*S. fragilis*) and Osier (*S. viminalis*), along with Iris (*Iris pseudacorus*), Hemlock Water-dropwort (*Oenanthe crocata*), Thin-spiked Wood-sedge (*Carex strigosa*), Pendulous Sedge (*C. pendula*), Meadowsweet (*Filipendula ulmaria*) and the Red Data Book species Nettle-leaved Bellflower (*Campanula trachelium*).

Good examples of old oak woodlands include those at Cloghristic Wood, Drummond Wood and Borris Demesne. Borris Demesne contains a very good example of a semi-natural broadleaved woodland in very good condition, with a high degree of natural regeneration of oak and ash. Drummond Wood consists of three blocks of deciduous woods situated on steep slopes. The deciduous trees are mostly oak species. The woods have a well-established understorey of Holly, and the herb layer is varied. Eutrophic tall herb vegetation occurs within various areas of alluvial forest and where the river floodplain is intact. Characteristic species include Meadowsweet, Purple Loosestrife (*Lythrum salicaria*), Marsh Ragwort (*Senecio aquaticus*) and Hedge Bindweed (*Calystegia sepium*). The invasive Indian Balsam (*Impatiens glandulifera*) is abundant in places. Floating river vegetation is well represented in the Barrow and many of its tributaries. Species include water-starworts (*Callitriche* spp.), Bulbous Rush (*Juncus bulbosus*), water-milfoils (*Myriophyllum* spp.), pondweeds (*Potamogeton* spp.) and crowfoots (*Ranunculus* spp.).

Dry heath occurs in pockets along the steep valley sides of the rivers. Dry heath vegetation consists of Bracken and Gorse (*Ulex europaeus*) with patches of acidic grassland vegetation. Additional typical species include Heath Bedstraw (*Galium saxatile*), Foxglove (*Digitalis purpurea*), Common Sorrel (*Rumex acetosa*) and Creeping Bent (*Agrostis stolonifera*). Dry heath generally grades into wet woodland or wet swamp vegetation lower down the slopes on the riverbank. In the foothills associated with the Aughnabrisky, Aughavaud and Mountain Rivers there are wet heath areas dominated by Purple Moor-grass (*Molinia caerulea*) with Heather (*Calluna vulgaris*) and Bell Heather (*Erica cinerea*). Salt meadows occur at the site's southern section. In the larger salt meadow areas, the Atlantic and Mediterranean sub types are generally intermixed. At the salt meadow's upper edge, the legally protected Borrer's Saltmarsh-grass (*Puccinellia fasciculata*), Meadow Barley (*Hordeum secalinum*) and Divided Sedge (*Carex divisa*) are found. Other flora present includes Sea Rush (*Juncus maritimus*), Sea Aster (*Aster tripolium*), Thrift (*Armeria maritima*), Sea Couch (*Elymus pycnanthus*), Spear-

leaved Orache (*Atriplex prostrata*), Lesser Sea-spurrey (*Spergularia marina*) and Sea Arrowgrass (*Triglochin maritima*). Glassworts (*Salicornia* spp.) and other annuals colonising mud / sand are found in the saltmarsh creeks and at seaward edges.

The site is of ornithological importance for a number of E.U. Birds Directive Annex I species, including Greenland White-fronted Goose, Whooper Swan, Bewick's Swan, Bar-tailed Godwit, Peregrine and Kingfisher. Nationally important numbers of Golden Plover and Bar-tailed Godwit are found during the winter. Wintering flocks of migratory birds are seen in Shanahoe Marsh, the Curragh, Goul Marsh and along the Barrow Estuary in Waterford Harbour. There is also an extensive autumnal roosting site in the reedbeds of the Barrow Estuary used by Swallows before they leave the country.
Land use at the site consists mainly of agricultural activities. The spreading of slurry and fertiliser poses a threat to the water quality and to the populations of Annex II species within the site. Many of the woodlands along the rivers belong to old estates and support many non-native species. Little active woodland management occurs. Fishing is a main tourist attraction along stretches of the main rivers and their tributaries, with both commercial and leisure fishing taking place. Other recreational activities such as boating, golfing and walking are also popular. Several industrial developments, which discharge into the river, border the site. The main threats to the site and current damaging activities include high inputs of nutrients into the river system from agricultural run-off and several sewage plants, over-grazing within woodland areas and invasion by non-native species. The water quality of the site remains vulnerable. Good quality water is necessary to maintain the populations of the Annex II animal species listed above. Good quality is dependent on controlling fertilisation of the grasslands. It also requires that sewage be properly treated before discharge. Drainage activities in the catchment can lead to flash floods which can damage the many Annex II species present. Capital and maintenance dredging within the lower reaches of the system pose a threat to migrating fish species such as lamprey and shad. Land reclamation also poses a threat to the salt meadows and the populations of legally protected species therein.

Overall, the site is of considerable conservation significance for the occurrence of good examples of habitats and of populations of plant and animal species that are listed on Annexes I and II of the E.U. Habitats Directive. Furthermore, it is of high conservation value for the populations of bird species that use it.

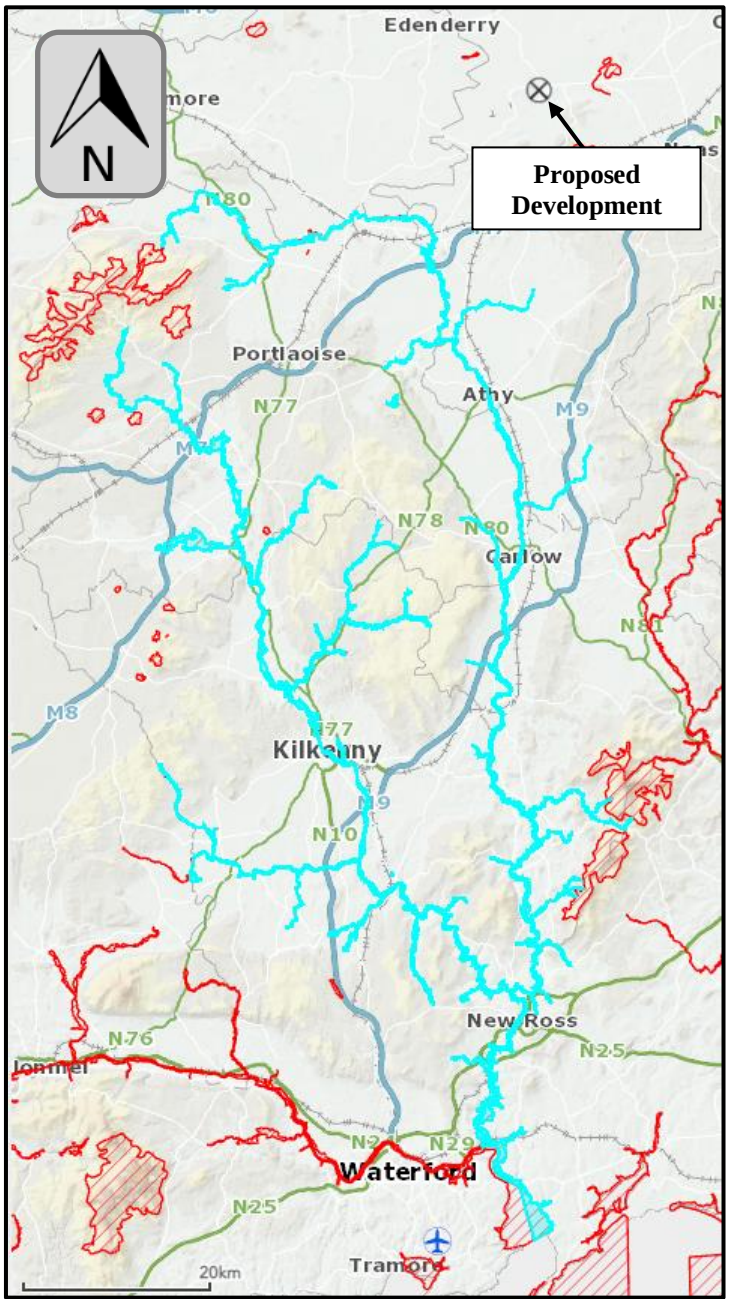



**Figure 5.1:** River Barrow and River Nore SAC (Highlighted in blue)

***River Barrow and River Nore SAC Conservation Objectives***

The conservation objectives for the SAC site are to maintain or restore the favourable conservation condition of the qualifying interests. Site specific conservation objectives (SSCOs) for the qualifying interests of the River Barrow and River Nore SAC are provided in the table below, where available from the NPWS document "Conservation Objectives: River Barrow and River Nore SAC 002162" (NPWS, 2011).

| TABLE 5.1.3: RIVER BARROW AND RIVER NORE SAC CONSERVATION OBJECTIVES | | | |
|---|---|---|---|
| **ATTRIBUTE** | **MEASURE** | **TARGET** | **SELECTED NOTES** |
| **[1130] Estuaries** | | | |
| Habitat area | Hectares | The permanent habitat area is stable or increasing, subject to natural processes | Habitat area was estimated using OSI data and the defined Transitional Water Body area under the Water Framework Directive as 3856ha |
| Community distribution | Hectares | The following sediment communities should be maintained in a natural condition: Muddy estuarine community complex; Sand to muddy fine sand community complex; Fine sand with *Fabulina fabula* community. | |
| Community extent | Hectares | Maintain the natural extent of the *Sabellaria alveolata* reef, subject to natural process | |
| **[1140] Tidal Mudflats and Sandflats** | | | |
| Habitat area | Hectares | The permanent habitat area is stable or increasing, subject to natural processes. | Habitat area was estimated using OSI data as 926ha |
| Community distribution | Hectares | The following sediment communities should be maintained in a natural condition: Muddy estuarine community complex; Sand to muddy fine sand community complex | |
| **[1170] Reefs** | | | |
| None Specified | - | - | |
| **[1310] Salicornia Mud** | | | |
| Habitat area | Hectares | Area stable or increasing, subject to natural processes, including erosion and succession. | The Ringville sub-site was mapped and no additional areas of potential Salicornia mudflat were identified from an examination of aerial photographs, giving a total estimated area of 0.03ha. Note further unsurveyed areas maybe present within the site |
| Habitat distribution | Occurrence | No decline, subject to natural processes | |
| Physical structure: sediment supply | Presence/absence of physical barriers | Maintain or where necessary restore natural circulation of sediments and organic matter, without any physical obstructions | |
| Physical structure: flooding regime | Hectares flooded; frequency | Maintain natural tidal regime | |
| Physical structure: creeks and pans | Occurrence | Maintain/restore creek and pan structure, subject to natural processes, including erosion and succession | |
| Vegetation structure: zonation | Occurrence | Maintain range of saltmarsh habitat zonations including transitional zones, subject to natural processes including erosion and succession | |

| TABLE 5.1.3: RIVER BARROW AND RIVER NORE SAC CONSERVATION OBJECTIVES | | | |
|---|---|---|---|
| **ATTRIBUTE** | **MEASURE** | **TARGET** | **SELECTED NOTES** |
| Vegetation structure: vegetation height | Centimetres | Maintain structural variation within sward | |
| Vegetation structure: vegetation cover | Percentage cover at a representative sample of monitoring stops | Maintain more than 90% of area outside creeks vegetated. | |
| Vegetation composition: typical species and sub-communities | Percentage cover at a representative sample of monitoring stops | Maintain range of sub- communities with typical species listed in Saltmarsh Monitoring Project | |
| Vegetation structure: negative indicator species: *Spartina anglica* | Hectares | No significant expansion of Spartina. No new sites for this species and an annual spread of less than 1% where it is already known to occur | |
| **[1330] Atlantic Salt Meadows** | | | |
| Habitat area | Hectares | Area stable or increasing, subject to natural processes, including erosion and succession | Four sub-sites were mapped and additional areas of potential saltmarsh were identified from an examination of aerial photographs, giving a total estimated area of Atlantic salt meadow of 35.07ha. Note further unsurveyed areas maybe present within the site |
| Habitat distribution | Occurrence | No decline, subject to natural processes | |
| Physical structure: sediment supply | Presence/absence of physical barriers | Maintain/restore natural circulation of sediments and organic matter, without any physical obstructions | |
| Physical structure: flooding regime | Hectares flooded; frequency | Maintain natural tidal regime | |
| Physical structure: creeks and pans | Occurrence | Maintain/restore creek and pan structure, subject to natural processes, including erosion and succession | |
| Vegetation structure: zonation | Occurrence | Maintain range of saltmarsh habitat zonations including transitional zones, subject to natural processes including erosion and succession. | |
| Vegetation structure: vegetation height | Centimetres | Maintain structural variation within sward | |
| Vegetation structure: vegetation cover | Percentage cover at a representative sample of monitoring stops | Maintain more than 90% of area outside creeks vegetated | |

| TABLE 5.1.3: RIVER BARROW AND RIVER NORE SAC CONSERVATION OBJECTIVES | | | |
|---|---|---|---|
| **ATTRIBUTE** | **MEASURE** | **TARGET** | **SELECTED NOTES** |
| Vegetation composition: typical species and sub-communities | Percentage cover at a representative sample of monitoring stops | Maintain range of sub- communities with typical species listed in Saltmarsh Monitoring Project | |
| Vegetation structure: negative indicator species: *Spartina anglica* | Hectares | No significant expansion of *Spartina*. No new sites for this species and an annual spread of less than 1% where it is already known to occur | |
| **[1410] Mediterranean Salt Meadows** | | | |
| Habitat area | Hectares | Area stable or increasing, subject to natural processes, including erosion and succession. For sub-sites mapped: Dunbrody Abbey - 0.08ha, Rochestown - 0.04ha, Ringville - 6.70ha | Three sub-sites were mapped and no additional areas of potential saltmarsh were identified from an examination of aerial photographs, giving a total estimated area of Mediterranean salt meadow of 6.82ha. Note further unsurveyed areas maybe present within the site |
| Habitat distribution | Occurrence | No decline, subject to natural processes | |
| Physical structure: sediment supply | Presence/absence of physical barriers | Maintain or where necessary restore natural circulation of sediments and organic matter, without any physical obstructions | |
| Physical structure: flooding regime | Hectares flooded; frequency | Maintain natural tidal regime | |
| Physical structure: creeks and pans | Occurrence | Maintain/restore creek and pan structure, subject to natural processes, including erosion and succession | |
| Vegetation structure: zonation | Occurrence | Maintain range of saltmarsh habitat zonations including transitional zones, subject to natural processes including erosion and succession | |
| Vegetation structure: vegetation height | Centimetres | Maintain structural variation within sward | |
| Vegetation structure: vegetation cover | % cover at a representative sample of monitoring stops | Maintain more than 90% of area outside creeks vegetated. | |
| Vegetation composition: typical species and sub-communities | % cover at a representative sample of monitoring stops | Maintain range of sub- communities with typical species listed in Saltmarsh Monitoring Project | |
| Vegetation structure: negative indicator species: *Spartina anglica* | Hectares | No significant expansion of *Spartina*. No new sites for this species and an annual spread of less than 1% where it is already known to occur | |

| TABLE 5.1.3: RIVER BARROW AND RIVER NORE SAC CONSERVATION OBJECTIVES | | | |
|---|---|---|---|
| **ATTRIBUTE** | **MEASURE** | **TARGET** | **SELECTED NOTES** |
| **[3260] Floating River Vegetation** | | | |
| Habitat distribution | Occurrence | No decline, subject to natural processes | The full distribution of this habitat and its sub-types in this site is currently unknown. The basis of the selection of the SAC for the habitat is the presence of an excellent example of the vegetation assemblage associated with tidal reaches of large rivers between Enniscorthy and Polladerg townland.<br><br>Due to regular disturbance (through variations in flow), river macrophytes rarely reach a climax condition but frequently occur as transient communities. A natural (relatively unmodified) flow regime is required for both plant communities and channel geomorphology to be in favourable condition, exhibiting typical dynamics for the river type |
| Habitat area | Kilometres | Area stable or increasing, subject to natural processes | |
| Hydrological regime: river flow | Metres per second | Maintain appropriate hydrological regimes | |
| Hydrological regime: groundwater discharge | Metres per second | The groundwater flow to the habitat should be permanent and sufficient to maintain tufa formation | |
| Substratum composition: particle size range | Millimetres | The substratum should be dominated by large particles and free from fine sediments | |
| Water chemistry: minerals | Milligrammes per litre | The groundwater and surface water should have sufficient concentrations of minerals to allow deposition and persistence of tufa deposits | |
| Water quality: suspended sediment | Milligrammes per litre | The concentration of suspended solids in the water column should be sufficiently low to prevent excessive deposition of fine sediments | |
| Water quality: nutrients | Milligrammes per litre | The concentration of nutrients in the water column should be sufficiently low to prevent changes in species composition or habitat condition | |
| Vegetation composition: typical species | Occurrence | Typical species of the relevant habitat sub-type should be present and in good condition | |
| Floodplain connectivity | Area | The area of active floodplain at and upstream of the habitat should be maintained | |
| **[4030] Dry Heath** | | | |
| Habitat distribution | Occurrence | No decline from current habitat distribution, subject to natural processes | Spatial extent currently unmapped but indicated as occurring on the steep, free-draining, river valley sides especially the Barrow and tributaries in the foothills of the Blackstairs Mountains.<br><br>Dry heath in this SAC occurs on free-draining nutrient poor soils and is often characterised by gorse and open acid |
| Habitat area | Hectares | Area stable or increasing, subject to natural processes. Habitat area is not known but estimated as less than 400ha of the area of the SAC, occurring in dispersed locations | |
| Physical structure: free-draining, acid, low nutrient soil; rock outcrops | Occurrence | No significant change in soil nutrient status, subject to natural processes. No increase or decrease in area of natural rock outcrop | |

| TABLE 5.1.3: RIVER BARROW AND RIVER NORE SAC CONSERVATION OBJECTIVES | | | |
|---|---|---|---|
| **ATTRIBUTE** | **MEASURE** | **TARGET** | **SELECTED NOTES** |
| Vegetation structure: sub- shrub indicator species | Percentage cover | Cover of characteristic sub- shrub indicator species at least 25%: gorse (*Ulex europaeus*) and where rocky outcrops occur bilberry (*Vaccinium myrtillus*) and woodrush (*Luzula sylvatica*). Some rock outcrops support English stonecrop (*Sedum anglicum*), sheep's bit (*Jasione montana*) and wild madder (*Rubia peregrina*) as well as important moss and lichen assemblages | grassland areas. And locally bilberry and woodrush.<br><br>Bracken appears to be quite dense in places and before any management action is considered its rate of spread needs to be established as well as its threat, if any, to other dry heath species and its potential value to important fauna (e.g. Twite).<br><br>Broomrape is dependent on gorse at this site as it is parasitic on gorse roots. It is recorded as occurring on steep slopes above New Ross. A small area of excellent dry coastal heath at Ballyhack is interspersed with patches rock and of dry lowland grassland and has a high species diversity. Notably there is an excellent range of Clover (*Trifolium*) species including the legally protected clustered clover, a species known only from one other site in Ireland. Also *T. ornithopodiodes*, *T. striatum* and *Torilus nodosa.* |
| Vegetation structure: senescent gorse | Percentage cover | Cover of senescent gorse less than 50% | |
| Vegetation structure: browsing | Percentage cover | Long shoots of bilberry with signs of browsing collectively less than 33% | |
| Vegetation structure: native trees and shrubs | Percentage cover | Cover of scattered native trees and shrub less than 20% | |
| Vegetation composition: positive indicator species | Number | Number of positive indicator species at least 2 e.g. gorse and associated dry heath/ acid grassland flora | |
| Vegetation structure: positive indicator species | Percentage cover | Cover of positive indicator species at least 60%. This should include plant species characteristic of dry heath in this SAC including gorse, bilberry and associated acid grassland flora | |
| Vegetation composition: bryophyte and non-crustose lichen species | Number | Number of bryophyte or non- crustose lichen species present at least 2 | |
| Vegetation composition: bracken (*Pteridium aquilinum*) | Percentage cover | Cover of bracken less than 10% | |
| Vegetation structure: weedy negative indicator species | Percentage cover | Cover of agricultural weed species (negative indicator species) less than 1% | |
| Vegetation composition: non-native species | Percentage cover | Cover of non-native species less than 1%. | |
| Vegetation composition: rare/scarce heath species | Location, area and number | No decline in distribution or population sizes of rare, threatened or scarce species, including Greater Broomrape (*Orobanche rapum-genistae*) | |

| TABLE 5.1.3: RIVER BARROW AND RIVER NORE SAC CONSERVATION OBJECTIVES | | | |
|---|---|---|---|
| **ATTRIBUTE** | **MEASURE** | **TARGET** | **SELECTED NOTES** |
| | | and the legally protected clustered clover (*Trifolium glomeratum*) | |
| Vegetation structure: disturbed bare ground | Percentage cover | Cover of disturbed bare ground less than 10% (but if peat soil less than 5%) | |
| Vegetation structure: burning | Occurrence | No signs of burning within sensitive areas | |
| **[6430] Hydrophilous Tall Herb Communities** | | | |
| Habitat distribution | Occurrence | No decline, subject to natural processes | Distribution of this habitat in this site is currently unknown. Considered to occur in association with some riverside woodlands, unmanaged river islands and in narrow bands along the floodplain of slow-flowing stretches of river.<br><br>This habitat requires winter inundation, which results in deposition of naturally nutrient-rich sediment.<br><br>Bare ground, due to natural indundation processes may often be present. Attribute and target based on the Irish Semi-natural Grassland Survey (O'Neill et al., 2010) |
| Habitat area | Hectares | Area stable or increasing, subject to natural processes | |
| Hydrological regime: Flooding depth/height of water table | Metres | Maintain appropriate hydrological regimes | |
| Vegetation structure: sward height | Centimetres | 30-70% of sward is between 40 and 150cm in height | |
| Vegetation composition: broadleaf herb: grass ratio | Percentage | Broadleaf herb component of vegetation between 40 and 90% | |
| Vegetation composition: typical species | Number | At least 5 positive indicator species present | |
| Vegetation composition: negative indicator species | Occurrence | Negative indicator species, particularly non-native invasive species, absent or under control- NB Indian balsam (*Impatiens glandulifera*), monkeyflower (*Mimulus guttatus*), Japanese knotweed (*Fallopia japonica*) and giant hogweed (*Heracleum mantegazzianum*) | |
| **[7220] Petrifying Springs** | | | |
| Habitat area | Square metres | Area stable or increasing, subject to natural processes | Full distribution of this habitat in this site is currently unknown. It has been described in woodlands at Dysart, |
| Habitat distribution | Occurrence | No decline | |

| TABLE 5.1.3: RIVER BARROW AND RIVER NORE SAC CONSERVATION OBJECTIVES | | | |
|---|---|---|---|
| **ATTRIBUTE** | **MEASURE** | **TARGET** | **SELECTED NOTES** |
| Hydrological regime: height of water table; water flow | Metres; metres per second | Maintain appropriate hydrological regimes | between Thomastown and Inistioge.<br><br>Current hydrological regimes are unknown. Petrifying springs rely on permanent irrigation, usually from upwelling groundwater sources or seepage sources.<br><br>Water chemistry is currently unknown. Water supply to petrifying springs is characteristically oligotrophic and calcareous<br>The bryophytes *Cratoneuron commutatum* and *Eucladium verticillatum* are diagnostic of this habitat. |
| Water quality | Water chemistry measures | Maintain oligotrophic and calcareous conditions | |
| Vegetation composition: typical species | Occurrence | Maintain typical species | |
| **[91A0] Old Oak Woodlands** | | | |
| Habitat area | Hectares | Area stable or increasing, subject to natural processes, at least 85.08ha for sub-sites surveyed | The sizes of at least some of the existing woodlands need to be increased in order to reduce habitat fragmentation and benefit those species requiring 'deep' woodland conditions.<br><br>Oak regenerates poorly. In suitable sites ash can regenerate in large numbers although few seedlings reach pole size.<br><br>Mature and veteran trees are important habitats for bryophytes, lichens, saproxylic organisms and some bird species. Their retention is important to ensure continuity of habitats/niches and |
| Habitat distribution | Occurrence | No decline. | |
| Woodland size | Hectares | Area stable or increasing. Where topographically possible, "large" woods at least 25ha in size and "small" woods at least 3ha in size | |
| Woodland structure: cover and height | Percentage and metres | Diverse structure with a relatively closed canopy containing mature trees; subcanopy layer with semi- mature trees and shrubs; and well-developed herb layer | |
| Woodland structure: community diversity and extent | Hectares | Maintain diversity and extent of community types | |
| Woodland structure: natural regeneration | Seedling:sapling:pole ratio | Seedlings, saplings and pole age-classes occur in adequate proportions to ensure survival of woodland canopy | |

| TABLE 5.1.3: RIVER BARROW AND RIVER NORE SAC CONSERVATION OBJECTIVES | | | |
|---|---|---|---|
| **ATTRIBUTE** | **MEASURE** | **TARGET** | **SELECTED NOTES** |
| Woodland structure: dead wood | m³ per hectare; number per hectare | At least 30m³/ha of fallen timber greater than 10cm diameter; 30 snags/ha; both categories should include stems greater than 40cm diameter | propagule sources. Dead wood is a valuable resource and an integral part of a healthy, functioning woodland ecosystem.<br><br>The following are the most common invasive species in this woodland type: Beech (*Fagus sylvatica*), Rhododendron (*Rhododendron ponticum*), Cherry laurel (*Prunus laurocerasus*) |
| Woodland structure: veteran trees | Number per hectare | No decline | |
| Woodland structure: indicators of local distinctiveness | Occurrence | No decline | |
| Vegetation composition: native tree cover | Percentage | No decline. Native tree cover not less than 95% | |
| Vegetation composition: typical species | Occurrence | A variety of typical native species present, depending on woodland type, including oak (*Quercus petraea*) and birch (*Betula pubescens*) | |
| Vegetation composition: negative indicator species | Occurrence | Negative indicator species, particularly non-native invasive species, absent or under control | |
| **[91E0] Alluvial Forests** | | | |
| Habitat area | Hectares | Area stable or increasing, subject to natural processes, at least 181.54ha for sites surveyed | The sizes of at least some of the existing woodlands need to be increased in order to reduce habitat fragmentation and benefit those species requiring 'deep' woodland conditions.<br><br>Alder and oak regenerate poorly. Ash often regenerates in large numbers although few seedlings reach pole size.<br><br>Dead wood is a valuable resource and an integral part of a healthy, functioning woodland ecosystem.<br><br>Mature and veteran trees are important |
| Habitat distribution | Occurrence | No decline. | |
| Woodland size | Hectares | Area stable or increasing. Where topographically possible, "large" woods at least 25ha in size and "small" woods at least 3ha in size | |
| Woodland structure: cover and height | Percentage and metres | Diverse structure with a relatively closed canopy containing mature trees; subcanopy layer with semi- mature trees and shrubs; and well-developed herb layer | |
| Woodland structure: community diversity and extent | Hectares | Maintain diversity and extent of community types | |
| Woodland structure: natural regeneration | Seedling:sapling:pole ratio | Seedlings, saplings and pole age-classes occur in adequate proportions to ensure survival of woodland canopy | |

| TABLE 5.1.3: RIVER BARROW AND RIVER NORE SAC CONSERVATION OBJECTIVES | | | |
|---|---|---|---|
| **ATTRIBUTE** | **MEASURE** | **TARGET** | **SELECTED NOTES** |
| Hydrological regime: Flooding depth/height of water table | Metres | Appropriate hydrological regime necessary for maintenance of alluvial vegetation | habitats for bryophytes, lichens, saproxylic organisms and some bird species. Their retention is important to ensure continuity of habitats/niches and propagule sources.<br><br>The following are the most common invasive species in this woodland type: Sycamore (*Acer pseudoplatanus*), Beech (*Fagus sylvatica*), Rhododendron (*Rhododendron ponticum*), Cherry laurel (*Prunus laurocerasus*), Dogwood (*Cornus sericea*), Himalayan honeysuckle (*Leycesteria formosa*) and Himalayan balsam (*Impatiens grandiflora*). |
| Woodland structure: dead wood | $m^3$ per hectare; number per hectare | At least 30$m^3$/ha of fallen timber greater than 10cm diameter; 30 snags/ha; both categories should include stems greater than 40cm diameter (greater than 20cm diameter in the case of alder) | |
| Woodland structure: veteran trees | Number per hectare | No decline | |
| Woodland structure: indicators of local distinctiveness | Occurrence | No decline | |
| Vegetation composition: native tree cover | Percentage | No decline. Native tree cover not less than 95% | |
| Vegetation composition: typical species | Occurrence | A variety of typical native species present, depending on woodland type, including ash (*Fraxinus excelsior*) alder (*Alnus glutinosa*), willows (*Salix* spp) and locally, oak (*Quercus robur*) | |
| Vegetation composition: negative indicator species | Occurrence | Negative indicator species, particularly non-native invasive species, absent or under control | |
| **[1016] Desmoulin's Whorl Snail** | | | |
| Distribution: occupied sites | Number | No decline. Two known sites: Borris Bridge, Co. Carlow S711503; Boston Bridge, Kilnaseer S338774, Co. Laois. | |
| Population size: adults | Number per positive sample | At least 5 adults snails in at least 50% of samples | |
| Population density | Percentage positive samples | Adult snails present in at least 60% of samples per site | |
| Area of occupancy | Hectares | Minimum of 1ha of suitable habitat per site | |
| Habitat quality: vegetation | Percentage of samples with suitable vegetation | 90% of samples in habitat classes I and II | |

| TABLE 5.1.3: RIVER BARROW AND RIVER NORE SAC CONSERVATION OBJECTIVES | | | |
|---|---|---|---|
| **ATTRIBUTE** | **MEASURE** | **TARGET** | **SELECTED NOTES** |
| Habitat quality: soil moisture levels | Percentage of samples with appropriate soil moisture levels | 90% of samples in moisture class 3-4 | |
| **[1029] Freshwater Pearl Mussel** | | | |
| The status of the FPM as a qualifying Annex II species for the River Barrow and River Nore SAC is currently under review | | | |
| **[1092] White-clawed Crayfish** | | | |
| Distribution | Occurrence | No reduction from baseline | The crayfish is present almost throughout this SAC. The records extend as far downstream as Thomastown on the Nore and Graiguenamanagh on the Barrow.<br><br>Alien crayfish species are identified as major direct threat to this species and as disease vector.<br>Crayfish need high habitat heterogeneity. Larger crayfish must have stones to hide under, or an earthen bank in which to burrow. Hatchlings shelter in vegetation, gravel and among fine tree-roots. Smaller crayfish are typically found among weeds and debris in shallow water. Larger juveniles in particular may also be found among cobbles and detritus such as leaf litter. These conditions must be available on the whole length of occupied habitat |
| Population structure: recruitment | % occurrence of juveniles and females with eggs | Juveniles and/or females with eggs in at least 50% of positive samples | |
| Negative indicator species | Occurrence | No alien crayfish species | |
| Disease | Occurrence | No instances of disease | |
| Water quality | EPA Q value | At least Q3-4 at all sites sampled by EPA | |
| Habitat quality: heterogeneity | Occurrence of positive habitat features | No decline in heterogeneity or habitat quality | |
| **[1095] Sea Lamprey** | | | |
| Distribution: extent of anadromy | % of river accessible | Greater than 75% of main stem length of rivers accessible from estuary | Artificial barriers can block or cause difficulties to lampreys' upstream migration, thereby limiting species to lower stretches and restricting access to spawning areas. |
| Population structure of juveniles | Number of age/size groups | At least three age/size groups present | |
| Juvenile density in fine sediment | Juveniles/m² | Juvenile density at least 1/m² | |

| TABLE 5.1.3: RIVER BARROW AND RIVER NORE SAC CONSERVATION OBJECTIVES | | | |
|---|---|---|---|
| **ATTRIBUTE** | **MEASURE** | **TARGET** | **SELECTED NOTES** |
| Extent and distribution of spawning habitat | m² and occurrence | No decline in extent and distribution of spawning beds | Juveniles burrow in areas of fine sediment in still water.<br><br>Lampreys spawn in clean gravels. |
| Availability of juvenile habitat | Number of positive sites in 3rd order channels (and greater), downstream of spawning areas | More than 50% of sample sites positive | |
| **[1096] Brook Lamprey** | | | |
| Distribution | % of river accessible | Access to all water courses down to first order streams | Artificial barriers can block lampreys' upstream migration, thereby limiting species to lower stretches and restricting access to spawning areas.<br><br>It is impossible to distinguish between brook and river lamprey juveniles in the field.<br><br>Juveniles burrow in areas of fine sediment in still water. Lampreys spawn in clean gravels. |
| Population structure of juveniles | Number of age/size groups | At least three age/size groups of brook/river lamprey present | |
| Juvenile density in fine sediment | Juveniles/m² | Mean catchment juvenile density of brook/river lamprey at least 2/m² | |
| Extent and distribution of spawning habitat | m² and occurrence | No decline in extent and distribution of spawning beds | |
| Availability of juvenile habitat | Number of positive sites in 2nd order channels (and greater), downstream of spawning areas | More than 50% of sample sites positive | |
| **[1099] River Lamprey** | | | |
| Distribution: extent of anadromy | % of river accessible | Greater than 75% of main stem and major tributaries down to second order accessible from estuary | Artificial barriers can block lampreys' upstream migration, thereby limiting species to lower stretches and restricting access to spawning areas.<br><br>It is impossible to distinguish between brook and river lamprey juveniles in the field.<br><br>Juveniles burrow in areas of fine sediment |
| Population structure of juveniles | Number of age/size groups | At least three age/size groups of river/brook lamprey present | |
| Juvenile density in fine sediment | Juveniles/m² | Mean catchment juvenile density of brook/river lamprey at least 2/m² | |
| Extent and distribution of spawning habitat | m² and occurrence | No decline in extent and distribution of spawning beds | |
| Availability of juvenile habitat | Number of positive sites in 2nd order | More than 50% of sample sites positive | |

| TABLE 5.1.3: RIVER BARROW AND RIVER NORE SAC CONSERVATION OBJECTIVES | | | |
|---|---|---|---|
| **ATTRIBUTE** | **MEASURE** | **TARGET** | **SELECTED NOTES** |
| | channels (and greater), downstream of spawning areas | | in still water. Lampreys spawn in clean gravels. |
| **[1103] Twaite Shad** | | | |
| Distribution: extent of anadromy | % of river accessible | Greater than 75% of main stem length of rivers accessible from estuary | In some catchments, artificial barriers block twaite shads' upstream migration, thereby limiting species to lower stretches and restricting access to spawning areas.<br><br>Regular breeding has been confirmed in the River Barrow in recent years, but not in the Nore. |
| Population structure- age classes | Number of age classes | More than one age class present | |
| Extent and distribution of spawning habitat | $m^2$ and occurrence | No decline in extent and distribution of spawning habitats | |
| Water quality- oxygen levels | Milligrammes per litre | No lower than 5mg/l | |
| Spawning habitat quality: Filamentous algae; macrophytes; sediment | Occurrence | Maintain stable gravel substrate with very little fine material, free of filamentous algal (macroalgae) growth and macrophyte (rooted higher plants) growth | |
| **[1106] Atlantic Salmon** | | | |
| Distribution: extent of anadromy | % of river accessible | 100% of river channels down to second order accessible from estuary | Artificial barriers block salmons' upstream migration, thereby limiting species to lower stretches and restricting access to spawning areas.<br><br>Smolt abundance can be negatively affected by a number of impacts such as estuarine pollution, predation and sea lice (*Lepeophtheirus salmonis*).<br><br>Salmon spawn in clean gravels.<br><br>Q values based on triennial water quality surveys carried out by the EPA. |
| Adult spawning fish | Number | Conservation Limit (CL) for each system consistently exceeded | |
| Salmon fry abundance | Number of fry/5 minutes electrofishing | Maintain or exceed 0+ fry mean catchment-wide abundance threshold value. Currently set at 17 salmon fry/5 min sampling | |
| Out-migrating smolt abundance | Number | No significant decline | |
| Number and distribution of redds | Number and occurrence | No decline in number and distribution of spawning redds due to anthropogenic causes | |

| TABLE 5.1.3: RIVER BARROW AND RIVER NORE SAC CONSERVATION OBJECTIVES | | | |
|---|---|---|---|
| **ATTRIBUTE** | **MEASURE** | **TARGET** | **SELECTED NOTES** |
| Water quality | EPA Q value | At least Q4 at all sites sampled by EPA | |
| **[1355] Otter** | | | |
| Distribution | % positive survey sites | No significant decline | Otters need lying up areas throughout their territory where they are secure from disturbance.<br><br>Broad diet that varies locally and seasonally, but dominated by fish, in particular salmonids, eels and sticklebacks in freshwater and wrasse and rockling in coastal waters<br><br>Otters will utilise freshwater habitats from estuary to headwaters within 80m of the shoreline. |
| Extent of terrestrial habitat | Hectares | No significant decline. Area mapped and calculated as 122.8ha above high water mark (HWM); 1136.0ha along river banks / around ponds | |
| Extent of marine habitat | Hectares | No significant decline. Area mapped and calculated as 857.7ha | |
| Extent of freshwater (river) habitat | Kilometres | No significant decline. Length mapped and calculated as 616.6km | |
| Extent of freshwater (lake) habitat | Hectares | No significant decline. Area mapped and calculated as 2.6ha | |
| Couching sites and holts | Number | No significant decline | |
| Fish biomass available | Kilograms | No significant decline | |
| **[1421] Killarney Fern** | | | |
| Distribution | Location | No decline. Three locations known, with three colonies of gametophyte and one sporophyte colony | 'Juvenile' sporophytes, which appear as small entire fronds, are known from this site. However, it is unknown whether they are due to apogamous growth or sexual reproduction. |
| Population size | Number | Maintain at least three colonies of gametophyte, and at least one sporophyte colony of over 35 fronds | |
| Population structure: juvenile fronds | Occurrence | At least one of the locations to have a population structure comprising sporophyte, unfurling fronds, 'juvenile' sporophyte and gametophyte generations | |
| Habitat extent | $m^2$ | No loss of suitable habitat, such as shaded rock crevices, caves or gullies in or near to, known colonies. No loss of woodland canopy at or near to known locations | |

| TABLE 5.1.3: RIVER BARROW AND RIVER NORE SAC CONSERVATION OBJECTIVES | | | |
|---|---|---|---|
| **ATTRIBUTE** | **MEASURE** | **TARGET** | **SELECTED NOTES** |
| Hydrological conditions: visible water | Occurrence | Maintain hydrological conditions at the locations so that all colonies are in dripping or damp seeping habitats, and water is visible at all locations | |
| Hydrological conditions: humidity | Number of dessicated fronds | No increase. Presence of dessicated sporophyte fronds or gametophyte mats indicates conditions are unsuitable | |
| Light levels: shading | Percentage | No changes due to anthropogenic impacts | |
| Invasive species | Occurrence | Absent or under control | |
| **[1990] Nore Freshwater Pearl Mussel** | | | |
| Distribution | Kilometres | Maintain at 15.5km. | The population stretches from Poorman's Bridge (S407859) to Lismaine Bridge (S442660), with most of the population found between Poorman's Bridge and the Avonmore Creamery above Ballyragget (S 440 722).<br><br>The extant wild population of Nore freshwater pearl mussel is estimated as 300 adult individuals.<br>Mussels of no more than 65mm are considered 'young mussels' and may be found buried in the substratum and/or beneath adult mussels. Mussels of no more than 30mm are 'juvenile mussels' and are always buried in the substratum. This species is known not to have reproduced successfully in the River Nore since 1970.<br><br>Juvenile mussels require full oxygenation while buried in gravel. |
| Population size: adult mussels | Number | Restore to 5,000 adult mussels | |
| Population structure: recruitment | Percentage per size class | Restore to at least 20% of population no more than 65mm in length; and at least 5% of population no more than 30mm in length | |
| Population structure: adult mortality | Percentage | No more than 5% decline from previous number of live adults counted; dead shells less than 1% of the adult population and scattered in distribution | |
| Habitat extent | Kilometres | Restore suitable habitat in length of river corresponding to distribution target (15.5km) and any additional stretches necessary for salmonid spawning | |
| Water quality: Macroinvertebrate s and phytobenthos (diatoms) | Ecological quality ratio (EQR) | Restore water quality- macroinvertebrates: EQR greater than 0.90; phytobenthos: EQR greater than 0.93 | |
| Substratum quality: Filamentous algae (macroalgae), macrophytes (rooted higher plants) | Percentage | Restore substratum quality- filamentous algae: absent or trace (<5%) | |

| TABLE 5.1.3: RIVER BARROW AND RIVER NORE SAC CONSERVATION OBJECTIVES | | | |
|---|---|---|---|
| **ATTRIBUTE** | **MEASURE** | **TARGET** | **SELECTED NOTES** |
| Substratum quality: sediment | Occurrence | Restore substratum quality- stable cobble and gravel substrate with very little fine material; no artificially elevated levels of fine sediment. | Salmonid fish are host to the larval form of freshwater pearl mussels and thus, they are essential to the completion of the life cycle. As native brown trout appear to be favoured by the Nore freshwater pearl mussel, it is particularly important that these are not outcompeted by stocked fish. |
| Substratum quality: oxygen availability | Redox potential | Restore to no more than 20% decline from water column to 5cm depth in substrate | |
| Hydrological regime: flow variability | Metres per second | Restore appropriate hydrological regimes | |
| Host fish | Number | Maintain sufficient juvenile salmonids to host glochidial larvae | |

***River Barrow and River Nore SAC Conservation Status***

According to the Habitat's Directive, favourable conservation status of a habitat is achieved when:

- Its natural range and areas 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 as defined below.

According to the Habitat's Directive, favourable conservation status of a species is achieved 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 statuses for the qualifying interests of the River Barrow and River Nore SAC site are outlined below.

**TABLE 5.1.4: RIVER BARROW AND RIVER NORE SAC CONSERVATION STATUS**

| CODE | QUALIFYING INTEREST | NATIONAL CONSERVATION STATUS* |
|---|---|---|
| 1130 | Estuaries | Inadequate |
| 1140 | Tidal Mudflats and Sandflats | Inadequate |
| 1170 | Reefs | Inadequate |
| 1310 | *Salicornia* Mud | Favourable |
| 1330 | Atlantic Salt Meadows | Inadequate |
| 1410 | Mediterranean Salt Meadows | Inadequate |
| 3260 | Floating River Vegetation | Inadequate |
| 4030 | Dry Heath | Bad |
| 6430 | Hydrophilous Tall Herb Communities | Bad |
| 7220 | Petrifying Springs | Inadequate |
| 91A0 | Old Oak Woodlands | Bad |
| 91E0 | Alluvial Forests | Bad |
| 1016 | Desmoulin's Whorl Snail | Inadequate |
| 1029 | Freshwater Pearl Mussel | Bad |
| 1092 | White-clawed Crayfish | Bad |
| 1095 | Sea Lamprey | Bad |
| 1096 | Brook Lamprey | Favourable |
| 1099 | River Lamprey | Unknown |
| 1103 | Twaite Shad | Bad |
| 1106 | Atlantic Salmon | Inadequate |
| 1355 | Otter | Favourable |
| 1421 | Killarney Fern | Favourable |
| 1990 | Nore Freshwater Pearl Mussel | Bad |

**Sourced from the Status of EU Protected Habitats and Species in Ireland (NPWS, 2019b and 2019c).*

# 6.0 ASSESSMENT OF LIKELY IMPACTS

## 6.1 DISTURBANCE TO PROTECTED HABITATS AND SPECIES

The development site does not directly impinge on any part of a European site, and as such would not be expected to have had an impact upon a protected site through destruction of habitat, fragmentation of habitat, disturbance of habitat or direct reduction in species density.

The development site is located approximately 18.1km from the River Barrow and River Nore SAC. There is a direct hydrological connection via the Killinagh Upper watercourse located along the western boundary.

It is not considered that the development site would contain the habitats or species for which the River Moy SAC has been designated. No areas of natural woodland exist on the development site; therefore, the site does not contain any habitat which would have potential links to Old Oak Woodlands [91A0] or Alluvial Forests [91E0]. The closest Old Oak Woodlands is located approximately 82km to the south (109km hydrologically downstream) of the proposed development site. The closest Alluvial woodlands is located approximately 29.7km (44.2km hydrologically downstream) south-west of the development site. No trees or hedgerows were removed to facilitate the development.

No areas of heath or marsh / swamp habitats occur on the development site, therefore the site does not contain any habitat which would have potential links to Dry Heath [4030] or Hydrophilous Tall Herb Communities [6430]. Dry Heath is currently unmapped however it is known to be along the River Barrow and tributaries in the Blackstairs Mountains. This habitat is not within or adjacent the site boundary. Hydrophilous Tall Herb Communities distribution is currently unknown. Considered to occur in association with some riverside woodlands, unmanaged river islands and in narrow bands along the floodplain of slow-flowing stretches of river. This habitat is not found with or adjacent the development site.

The development site is located more than 115km (hydrologically upstream) from the tidal stretches of the River Barrow at St. Mullins, thus qualifying interests associated with saltwater and tidal conditions would not be present. It is not considered that the proposed development site would contain any habitats which would have potential links to Estuaries [1130], Tidal Mudflats and Sandflats [1140], Reefs [1170], *Salicornia* Mud [1310], Atlantic Salt Meadows [1330] or Mediterranean salt meadows [1410].

The closest mapped watercourse to the development site is the Killinagh Upper located along the western boundary. As this watercourse is directly connected to the River Barrow and River Nore SAC, it may contain aquatic species of conservation value.

While no sightings of otter, or evidence of otter (including holts, slides, spraints and tracks) were recorded during the site walkover, otter may be present within the general area. Otter have been recorded as part of survey results from the General Biodiversity Records from Ireland north of the site near the Killinagh Upper watercourse approximately 383m (hydrologically). The majority of the proposed development would not offer suitable habitat for Otter.

Nore Pearl Mussel is located approximately 51km south-west of the site, in the Nore catchment (NPWS, 2011). There are records for White-Clawed Crayfish (*Austropotamobius pallipes*)

[1092] throughout the River Barrow and extends downstream as far as Graiguenamanagh with the closest record to the development site located approximately 5.7km downstream on the River Slate. The nearest record within the SAC is located approximately 24.8km downstream on the River Barrow. This species has been recorded in water quality as low as Q3. Inland Fisheries Ireland note that Twaite Shad are present in the River Barrow but mainly at the confluence with the River Nore. Walk-over surveys along tributaries of the Barrow have not identified river lamprey redds. Lamprey sp. have been recorded throughout the Barrow Catchment. Lamprey were frequently found to stay within the Barrow to spawn in the substantial accumulation of gravels and larger alluvial material in the downstream areas of weirs (King, James. J., 2006). No works took place within a watercourse or drainage ditch, therefore, it is not anticipated that the development site would have had an impact upon qualifying interests of the River Barrow and River Nore SAC.

During the site assessment, no Killarney Fern [1421] was present with the closest records approximately 82km (109km hydrologically downstream) to the south near Graiguenamanagh. In the absence of swamp, fen, and marsh habitat at the site, and in the absence of historic records, it is not considered that the proposed development site would be suitable to support populations of Desmoulin's Whorl Snail. The only records for this species on the River Barrow catchment are located approximately 75km (100km hydrologically downstream) south from the proposed development near Borris. No Petrifying springs with tufa formation (*Cratoneurion*) [7220] occur within the Barrow catchment, the closest example is found approximately 88km (terrestrial distance) south in the Nore catchment, near Inistioge.

The pre-existing habitats onsite appear to be managed grassland according to Google Map imagery as far back as 1985. This habitat would be considered as having been modified and of low ecological value. Over the 37 years of Google Imagery, the site appears to become wetter with surface water observed during the winter months. During the summer months, the grassland appears drier with no obvious variation in vegetation in recent years. The works undertaken as part of this development would have increased the diversity of habitats and species. Areas of small man-made ponds have formed as a result of the development allowing for wetland species to colonise.

The potential disturbance on protected habitats and species due to dust during the construction phase would not be considered significant. Dust particles would likely have settled away from a watercourse or drainage ditch or be captured within the tall vegetation along the boundaries as the drainage ditches and watercourse would be atleast 1-2m below the elevation of the development site.

It is therefore considered that the development would not have posed any significant risk to the protected habitats and species of the River Barrow and River Nore SAC due to habitat fragmentation or loss, disturbance or reduction in species density.

## 6.2 INVASIVE SPECIES

Under Regulation 49(2) of the European Communities (Birds and Natural Habitats) Regulations 2011 (S.I. No. 477 of 2011), save in accordance with a licence granted under paragraph (7), any person who plants, disperses, allows or causes to disperse, spreads or otherwise causes to grow in any place specified in relation to any plant which is included in Part 1 of the Third Schedule shall be guilty of an offence. Materials containing invasive species

such as Japanese Knotweed are considered "controlled waste", and, as such, there are legal restrictions on their handling and disposal. Under Regulation 49(7) of the European Communities (Birds and Natural Habitats) Regulations 2011, it is a legal requirement to obtain a license to move "vector materials" listed in the Third Schedule, Part 3.

**Table 6.1:** National Biodiversity Data Centre records of high impact invasive species within 10km square (Tetrad-N72) of the proposed development

| **INVASIVE FLORA SPECIES** | |
|---|---|
| *Rhododendron ponticum* | Canadian Waterweed (*Elodea canadensis*) |
| Japanese Knotweed (*Fallopia japonica*) | |

The spread of invasive plant and animal species can negatively impact on the conservation objectives of certain Annex I habitats and species designated within SACs.

There are no third schedule invasive species within or adjacent the site boundary.

The development site did not require the importation of any topsoil. The existing mounds which retention is sought for were constructed using soil within the red line boundary. Other than gravel to create the existing entranceways, the risk of invasive species being introduced onto the site is considered low. After a site assessment, it was confirmed that no third schedule invasive species was found. Cherry laurel, a high impact unscheduled invasive species was recorded within the red line boundary however, this hedging will be removed.

## 6.3 POTENTIAL IMPACTS ON WATER QUALITY

The development site is located within the Barrow Catchment, thus the proposed development would be hydrologically linked to the to the River Barrow and River Nore SAC. The closest watercourse is the Killinagh Upper which flows along the western boundary. As no works took place outside the boundary of the development site or within a watercourse/drainage ditch, it is not anticipated to have had an impact on the hydrological regime of the area or increase flood risk elsewhere.

During the construction phase of projects, a deterioration in water quality can arise through the release of suspended solids during soil disturbance works, the release of uncured concrete and the release of hydrocarbons (fuels and oils). The works for retention were confined to the development footprint. No works took place within a drainage ditch, watercourse or a riparian habitat.

During construction works (retention) suspended solids could become entrained in surface water run-off. Surface water would have percolated to ground. The retention works were located a minimum distance of 13.63m from the Killinagh Upper watercourse. The banks of the Killinagh Upper and boundary drains are classified as Dry meadows and grassy verges habitat. During the site assessment, it was noted that the vegetation along the watercourse was tall and approximately 1m in width forming a natural buffer zone between the retention works and the watercourse. In terms of suspended solids being released in surface water run-off, it is not anticipated that there would have been a significant impact as the mounds for retention would have naturally re-vegetated, holding the soil in place. While this would not have been immediate, the likelihood of suspended solids reaching the watercourse would have been low

given the distance. Therefore, it would not be considered that the development works would have had an impact on the River Barrow and River Nore SAC due to a deterioration in water quality as a result of suspended solids. The risk of water quality deterioration as a result of the limited uncured concrete would not be considered significant as there was no pouring of concrete onsite as part of the retention development. Given the construction footprint and the limited construction plant and equipment required, the risk of the development impacting significantly upon water quality would have been greatly reduced. The area has been a managed grassland for some time as per remote imaging (Source Google Earth©). The development for retention would not have altered the infiltration capacity of soil as the infiltration capacity of the soil is still available.

The existing hardcore surfaces at the proposed entrance are comprised of loose gravel materials and are located to the south-east of the development. It is not adjacent to the watercourse but adjacent to an existing drainage ditch. A buffer area of tall vegetation on an earth mound remains between the gravelled surface and the existing drainage ditch at this location. No loose gravel was observed within the watercourse or drainage ditches during the site assessment. Due to the distance and nature of the works, it is unlikely that the retention development had a significant impact on protected habitats and/or species of the River Barrow and River Nore SAC due to a deterioration in water quality.

### 6.4 IN COMBINATION EFFECTS

The following plans and projects were reviewed and considered for in-combination effects with the development site:

- Kildare County Development Plan 2023-2029
- Proposed and permitted developments in the area available on Kildare County Council planning system.

The proposed development is located in Allenwood South townland approximately 1.98km from Allenwood town, which is described as a Village, according to the Kildare County Council Development Plan 2023-2029. The development site is accessed via the L70042 Nursery Road along the south-eastern boundary. The Nursery Road joins with the R414 regional road approximately 750m to the north-east of the site entrance. It also connects to other local roads in the area. The following plans and projects were reviewed and considered for in-combination effects with the development site.

**Table 11.1:** Recent planning applications close to the proposed site

| Application No. | Development Type | Outcome | Approximate Distance |
|---|---|---|---|
| 2076 | For: (1) a Dormer dwelling as constructed; (2) Planning permission to complete the construction of the dwelling, revise the site boundary and all associated siteworks, previously granted permission under planning Ref. 08/615 | Granted | 85m W |
| 23667 | Construction of a single storey bungalow, secondary effluent treatment system, recessed entrance, domestic garage and all associated site works | Granted | 95m W |
| 21841 | Of an existing domestic shed | Granted | 95m W |

| Application No. | Development Type | Outcome | Approximate Distance |
|---|---|---|---|
| 23180 | Constructing a detached domestic garage, and all associated ancillary siteworks | Granted | 122m S |
| 20813 | Replacement of former dormer bungalow (granted planning permission under file ref. 00/2136, since demolished due to fire) on existing foundations, altered to comply with current Building Regulations, and all associated ancillary site-works. | Granted | 122m S |
| 19116 | Alterations to previously granted planning permission Ref. 16/55. The alteration consists of a proposed extension to be located to the rear of the house as opposed to the already granted extension to the side | Granted | 195m W |
| 22676 | For existing single storey detached domestic garage which has been converted as a home office and recreation room ancillary to the main house on site with attic storage, retention as constructed and all associated site works. | Granted | 510m NW |
| 21879 | Single storey side extension to existing detached house for use as a family unit and all associated site works | Granted | 550m NW |
| 23158 | Replacement of existing septic tank serving existing house with new wastewater treatment system & associated percolation areas, and also the erection of a new single storey ancillary garden room accommodation (51.5m2 nett internal area) unit to garden at side of existing house with new gravel pathway on existing site comprising (2030m2) 0.203 hectares approximately | Granted | 760m NE |
| 22964 | (A) the erection of a single storey house, (B) garage/fuel store for domestic use, (C) the installation of a proprietary wastewater treatment system with percolation area and (D) upgrade of existing vehicular entrance and access drive way and all associated site works. Revised by Significant Further Information which consists of amendment of red line boundary to include works to reposition existing percolation area. | Granted | 760m N |
| 203 | To construct a bungalow, domestic garage, tertiary waste water treatment system and percolation area and all associated works. | Granted | 1.4km NW |

In-combination residential impacts would be controlled by national energy policies, grant schemes and motor fuel emission targets. During construction works the potential impact on air quality would not have been significant due to the small scale and duration of the works. It is considered that there would be no cumulative air quality impacts which would pose a significant risk to designated sites.

Continued implementation of the Water Framework Directive would result in achieving, or maintaining, improvements to water quality in the Barrow Catchment. Developments such as

this could act in combination with existing environmental pressures on the Barrow Catchment, including agriculture, anthropogenic, domestic and urban wastewater, urban run-off, industry and forestry. However, as noted in Section 6.3, it is not considered that the development would not have posed a significant risk upon any Natura 2000 site due to a deleterious effect on water quality, during either the construction phase.

As discussed in Sections 6.1 – 6.3 above, it is considered that there would be no significant in-combination risk to any European site owing to the development. As there are no anticipated significant risks from the development and given the scale and nature of recent nearby developments, the type of proposed development, the distances of other developments in the area, it is considered that there would be no cumulative water, noise or air impacts which would pose a significant risk to designated sites or species.

## 7.0 SCREENING STATEMENT AND CONCLUSIONS

This report identified the presence of European sites (Natura 2000) within the potential zone of influence. The potential for impacts to European sites as a result of the development site such as potential water quality impacts, introduction of invasive species, habitat destruction and impacts from noise and dust were considered and the level of risk posed assessed.

During Stage 1 Screening for Appropriate Assessment, it was considered that there would be no potential for a significant impact upon the qualifying interests / special conservation interests of the River Barrow and River Nore SAC (002162) due to the development site.

This report presents a Stage 1 Appropriate Assessment Screening for the development site, outlining the information required for the competent authority to screen for appropriate assessment and to determine whether or not the development site, either alone or in combination with other plans and projects, in view of best scientific knowledge, is likely to have a significant effect on any European or Natura 2000 site. It is considered that there would have been no significant risk of negative impact, either alone or in combination with other plans or projects, to the integrity of the Natura 2000 network. Therefore, a Natura Impact Statement is not required for the proposed retention.

Accordingly, having carried out the Stage 1 Appropriate Assessment Screening, the competent authority may determine that a Stage 2 Appropriate Assessment of the development site is not required as it can be excluded, on the basis of objective scientific information following screening under this Regulation 42 of the European Communities (Birds and Natural Habitats) Regulations 2011, as amended, that the development site, individually or in combination with other plans or projects, will not have a significant effect on any European site.

It can be objectively concluded that no significant effects arising from the retention component of the development site are likely to occur in relation to the River Barrow and River Nore SAC (Site Code 002162) or indeed any other Natura 2000 site in the wider hinterland.

# APPENDIX A
## ALL QUALIFYING INTERESTS

| QUALIFYING INTEREST | OCCURRENCE / ASSESSMENT | POTENTIAL FOR IMPACTS FROM THE DEVELOPMENT | LISTED FOR FURTHER EXAMINATION IN APPENDIX B |
|---|---|---|---|
| [1130] Estuaries<br>[1140] Tidal Mudflats and Sandflats<br>[1170] Reefs<br>[1310] Salicornia Mud<br>[1330] Atlantic Salt Meadows (*Glauco-Puccinellietalia maritimae*)<br>[1410] Mediterranean salt meadows (*Juncetalia maritimi*) | The development site is located outside the current known distribution, current range and favourable reference range of these qualifying interests (NPWS, 2019b). The nearest examples of these qualifying interests are located approximately 115km (hydrologically) downstream of the development site (NPWS, 2011). Given the considerable distance, it is not anticipated that the development would have the potential to negatively impact upon these qualifying interests. | No | No |
| [3260] Floating River Vegetation | The development site is located within the current distribution, current range and favourable reference range of this qualifying interest (NPWS, 2019b). The Conservation Objectives for this qualifying interest include water quality attributes. Therefore, there is potential for the development site to have an impact upon this qualifying interest due to a potential deterioration in water quality during construction works. | Yes | Yes |
| [4030] Dry Heath | The development site is located outside the current known distribution, current range and favourable reference range of this qualifying interest (NPWS, 2019b). The SAC Conservation Objectives report notes that the spatial extent of this habitat is currently unmapped, but is indicated as occurring on steep, free-draining river valley sides. Dry heath is a terrestrial habitat, therefore a potential deterioration in water quality during construction works would not be anticipated to have an adverse effect upon this qualifying interest should it be present adjacent to the Killinagh Upper or to other tributaries of River Slate near the site. | No | No |
| [6430] Hydrophilous Tall Herb Communities | The development site is located outside the current known distribution, the current range and favourable reference range of this qualifying interest (NPWS, 2019b). The SAC Conservation Objectives report notes that the distribution of this habitat within the SAC site is currently unknown, but is considered to occur at some riverside woodlands, river islands and in narrow bands along the floodplain of slow-flowing river stretches. Water quality is not listed as a conservation objective for this qualifying interest. Therefore, a potential deterioration in water quality during construction works would not be anticipated to have an adverse effect upon this qualifying interest | No | No |

| QUALIFYING INTEREST | OCCURRENCE / ASSESSMENT | POTENTIAL FOR IMPACTS FROM THE DEVELOPMENT | LISTED FOR FURTHER EXAMINATION IN APPENDIX B |
|---|---|---|---|
| [7220] Petrifying Springs* | The development site is located within the current known distribution, the current range and favourable reference range of this qualifying interest (NPWS, 2019b). The nearest example of this qualifying interest is located approximately 88km south of the site, in the Nore catchment (NPWS, 2011). Given the distance it is not anticipated that the proposed development would have direct or indirect negative impacts upon this qualifying interest. | No | No |
| [91A0] Old Oak Woodlands | The development site is located within the current known distribution, current range and favourable reference range of this qualifying interest (NPWS, 2019b). According to the SAC Conservation Objectives report, old oak woodlands are located approximately 82km (109km hydrologically downstream) to the south near Graiguenamanagh) of the development site. However, the report notes that further unsurveyed areas may be present within the SAC. Old oak woodlands are a terrestrial habitat, therefore a potential deterioration in water quality during construction works would not be anticipated to have an adverse effect upon this qualifying interest. | No | No |
| [91E0] Alluvial Forests* | The development site is located within the current known distribution, current range and favourable reference range of this qualifying interest (NPWS, 2019b). According to the SAC Conservation Objectives report, alluvial forests are located approximately 29.7km (44.2km hydrologically downstream) south-west of the development site. However, the report notes that further unsurveyed areas may be present within the SAC. Water quality is not listed as a conservation objective for this qualifying interest. Therefore, a potential deterioration in water quality during construction works would not be anticipated to have an adverse effect upon this qualifying interest. | No | No |
| [1016] Desmoulin's Whorl Snail (*Vertigo moulinsiana*) | The development site is located outside the current known distribution, but within the current and favourable reference range of this qualifying interest (NPWS, 2019c). According to the SAC Conservation Objectives report, the nearest record of Desmoulin's whorl snail is located approximately 75km (100km hydrologically downstream) south from the development site near Borris. Given the distance of this qualifying interest from the development site and given that water quality is not listed as a conservation objective for this qualifying interest, it is not anticipated that the proposed development would have the potential to adversely impact upon the Desmoulin's whorl snail. | No | No |
| [1029] Freshwater Pearl Mussel (*Margaritifera margaritifera*) | The development site is located outside the current known distribution, current range and favourable reference range of the freshwater pearl mussel (NPWS, 2019c). The SAC Conservation Objectives report notes that the status of *Margaritifera margaritifera* as a qualifying interest for the site is currently | Yes | Yes |

| QUALIFYING INTEREST | OCCURRENCE / ASSESSMENT | POTENTIAL FOR IMPACTS FROM THE DEVELOPMENT | LISTED FOR FURTHER EXAMINATION IN APPENDIX B |
|---|---|---|---|
| [1990] Nore Freshwater Pearl Mussel (*Margaritifera durrovensis*) | under review, while *M. m. durrovensis* is confined to a 15km (approximate) stretch of the River Nore. The nearest example of this qualifying interest is located approximately 88km south of the site, in the Nore catchment (NPWS, 2011).<br><br>The Conservation Objectives for this qualifying interest notes Salmonid fish are host to the larval form of freshwater pearl mussels. A deterioration in water quality could impact on Salmonid fish thereby impact on Freshwater Pearl Mussel. | | |
| [1092] White-clawed Crayfish (*Austropotamobius pallipes*) | The development site is located within the current distribution, current range, and favourable reference range of this qualifying interest (NPWS, 2019c). The SAC Conservation Objectives report notes that crayfish are present almost throughout the SAC. According to the Conservation Objectives report, the nearest records for white-clawed crayfish within the SAC are located within the River Slate approximately 24.8km downstream of the development site. The conservation status of crayfish in the SAC is dependent on good water quality status, as this species requires clean water (Q3-4). Therefore, there is potential for the proposed development to have an impact upon this qualifying interest due to a potential deterioration in water quality during construction works. | Yes | Yes |
| [1095] Sea Lamprey (*Petromyzon marinus*) | The development site is located outside the current known distribution, current range and favourable reference range of the Sea Lamprey (NPWS, 2019b). The SAC Conservation Objectives report notes that upstream migration may be inhibited by artificial barriers, and that artificial barriers are currently preventing juvenile lampreys from accessing the full extent of suitable habitat. The River Barrow was not developed for navigation in its freshwater reaches and downstream of weirs there is accumulation of gravels and larger alluvial material that provide suitable spawning grounds for adult sea lamprey (King 2006). The closest records of Lamprey are in the Barrow_SC_110 sub-catchment. The Conservation Objectives for this qualifying interest include water quality attributes. | Yes | Yes |

| QUALIFYING INTEREST | OCCURRENCE / ASSESSMENT | POTENTIAL FOR IMPACTS FROM THE DEVELOPMENT | LISTED FOR FURTHER EXAMINATION IN APPENDIX B |
|---|---|---|---|
| [1096] Brook Lamprey (*Lampetra planeri*)<br>[1099] River Lamprey (*Lampetra fluviatilis*) | The development site is located within the current known distribution and current range of brook lamprey, but outside of the current known distribution, current range and favourable reference range of river lamprey (NPWS, 2019c). The SAC Conservation Objectives report notes that diffuse source pollution maybe having localised impacts on populations of *L. fluviatilis*. Water quality impacts are from runoff have the potential to impact on the populations of both species. The closest records of Lamprey are in the Barrow_SC_050 sub-catchment (King, 2006). The Conservation Objectives for this qualifying interest include water quality attributes. | Yes | Yes |
| [1103] Twaite Shad (*Alosa fallax*) | The development site is located outside the current known distribution, current range and favourable reference range of the Twaite Shad (NPWS, 2019c). The nearest records on the NBDC for Twaite Shad are located along the River Barrow at St Mullins. Due to the hydrological distance (117km) it is not anticipated that the development would have the potential to negatively impact upon these qualifying interests. | No | No |
| [1106] Atlantic Salmon (*Salmo salar*) | According to the NBDC, the closest records of Atlantic Salmon are in the Ovoca-Vartry catchment approximately 47km to the south-east. The River Barrow is not designated as a Salmonid Water EC (Quality of Salmonid Waters) Regulations (S.I. no. 293 of 1988). However, the development site is located within the current known distribution, current range and favourable reference range of this qualifying interest (NPWS, 2019c). Additionally, salmon are known to be present throughout much of the Barrow catchment. The Conservation Objectives for this qualifying interest include water quality attributes. | Yes | Yes |
| [1355] Otter (*Lutra lutra*) | The development site is located within the current distribution, current range and favourable reference range of otter (NPWS, 2019c). The National Otter Survey of Ireland 2010/12 (Reid *et al.*, 2013) report noted that the occurrence of otter within survey sites for the south-eastern river basin district was 70.8%. While no evidence of otter (including spraints and tracks) was recorded during the site assessment, according to the NBDC, otter has been recorded north of the site near the Killinagh Upper watercourse approximately 383m (hydrologically upstream). A significant impact on water quality could indirectly impact upon this qualifying interest by causing a reduction in prey populations and availability. The Conservation Objectives for this qualifying interest include water quality attributes. | Yes | Yes |
| [1421] Killarney Fern (*Trichomanes speciosum*) | The development site is located outside the current known distribution, current range and favourable reference range of this qualifying interest (NPWS, 2019c). According to the SAC Conservation | No | No |

| QUALIFYING INTEREST | OCCURRENCE / ASSESSMENT | POTENTIAL FOR IMPACTS FROM THE DEVELOPMENT | LISTED FOR FURTHER EXAMINATION IN APPENDIX B |
|---|---|---|---|
| | Objectives report, the nearest record of Killarney fern to the proposed site is located approximately 82km (109 km hydrologically downstream) to the south near Graiguenamanagh but none within the vicinity of the proposed site. It is therefore not anticipated that the development site would have any adverse impacts upon this qualifying interest. | | |

# APPENDIX B

## QUALIFYING INTERESTS WITHIN THE PROJECT ZONE OF INTEREST

| CONSERVATION OBJECTIVES (NPWS 2011) | THREATS AND PRESSURES (NPWS 2019) | KEY ENVIRONMENTAL CONDITIONS | POTENTIAL IMPACTS FROM THE DEVELOPMENT |
|---|---|---|---|
| [3260] Floating River Vegetation | • Agricultural activities generating point source pollution to surface or ground waters.<br>• Modification of hydrological flow.<br>• Physical alteration of water bodies.<br>• Discharge of urban wastewater (excluding storm overflows and/or urban run-offs) generating pollution to surface or ground water.<br>• Forestry activities generating pollution to surface or ground waters.<br>• Pollution to surface or ground water due to urban runoffs.<br>• Peat extraction.<br>• Plants contaminated or abandoned industrial sites generating pollution to surface or ground water.<br>• Abstraction from groundwater, surface water or mixed water. | A potential deterioration in Water Quality* could potentially impact on this habitat.<br><br><u>Key Conservation Measures</u><br><br>• Reversal/rehabilitation of hydro-morphological changes, including in-stream structures and catchment drainage impacts/restoration of hydrological regime.<br><br>• Reducing pollution (with dissolved and/or particulate nutrients, humic substances, organic matter and fine sediment/turbidity) from agricultural, forestry, turf-cutting, and domestic and urban waste-water sources. | No potential for a significant impact on water quality as there is no potential for significant groundwater contamination or significant runoff (sediments or hydrocarbons) from the development site that would enter any watercourse or drainage system that is hydrologically connected to the SAC. |
| [1029] Freshwater Pearl Mussel (*Margaritifera margaritifera*)<br><br>[1990] Nore Freshwater Pearl Mussel (*Margaritifera durrovensis*) | • Drainage for use as agricultural land.<br>• Modification of hydrological conditions, or physical alteration of water bodies and drainage for forestry (including dams).<br>• Other modification of hydrological conditions for residential or recreational development.<br>• Agricultural activities generating diffuse pollution to surface or ground waters.<br>• Forestry activities generating pollution to surface or ground waters.<br>• Discharge of urban wastewater (excluding storm overflows and/or urban run-offs) | Freshwater Pearl Mussels are sensitive to sedimentation and nutrient enrichment. Furthermore, as the larval stages relay on salmonid fish hosts, any potential impact on salmonids can have an impact upon the Freshwater Pearl Mussel.<br><br><u>Key Conservation Measures</u><br>• Manage drainage and irrigation operations and infrastructures in agriculture. | No potential for a significant impact on water quality as there is no potential for significant groundwater contamination or significant runoff (sediments or hydrocarbons) from the development site |

| CONSERVATION OBJECTIVES (NPWS 2011) | THREATS AND PRESSURES (NPWS 2019) | KEY ENVIRONMENTAL CONDITIONS | POTENTIAL IMPACTS FROM THE DEVELOPMENT |
|---|---|---|---|
| | generating pollution to surface or ground water.<br>• Peat extraction.<br>• Modification of flooding regimes, flood protection for residential or recreational development.<br>• Hydropower (dams, weirs, run-off-the-river), including infrastructure.<br>• Abstraction of ground and surface waters (including marine) for public water supply and recreational use. | • Reduce diffuse pollution to surface or ground waters from agricultural activities.<br>• Adapt mowing, grazing and other equivalent agricultural activities.<br>• Manage the use of natural fertilisers and chemicals in agricultural (plant and animal) production.<br>• Adapt/manage reforestation and forest regeneration.<br>• Stop forest management and exploitation practices.<br>• Adapt/change forest management and exploitation practices.<br>• Manage drainage and irrigation operations and infrastructures. | that would enter any watercourse or drainage system that is hydrologically connected to the SAC. |
| [1092] White-clawed Crayfish (*Austropotamobius pallipes*) | • Plant and animal diseases, pathogens and pests.<br>• Invasive alien species of Union concern | A potential deterioration in Water Quality* could potentially impact on this species.<br><u>Key Conservation Measures</u><br>• Early detection and rapid eradication of invasive alien species of Union concern.<br>• Controlling and eradicating plant and animal diseases, pathogens and pests. | No potential for a significant impact on water quality as there is no potential for significant groundwater contamination or significant runoff (sediments or hydrocarbons) from the development site that would enter any watercourse or |

| CONSERVATION OBJECTIVES (NPWS 2011) | THREATS AND PRESSURES (NPWS 2019) | KEY ENVIRONMENTAL CONDITIONS | POTENTIAL IMPACTS FROM THE DEVELOPMENT |
|---|---|---|---|
| | | | drainage system that is hydrologically connected to the SAC. |
| [1095] Sea Lamprey (*Petromyzon marinus*) | • Hydropower (dams, weirs, run-off-the-river), including infrastructure.<br>• Increases or changes in precipitation due to climate change.<br>• Application of natural fertilisers on agricultural land.<br>• Application of synthetic (mineral) fertilisers on agricultural land.<br>• Drainage for use as agricultural land.<br>• Marine fish and shellfish harvesting (professional, recreational) causing reduction of species/prey populations.<br>• Threats and pressures from outside the Member State.<br>• Temperature changes (e.g. rise of temperature & extremes) due to climate change.<br>• Droughts and decreases in precipitation due to climate change. | Sea lamprey may be adversely impacted upon by sedimentation and water pollution.<br><br><u>Key Conservation Measures</u><br><br>• Reduce impact of hydropower operations and infrastructure.<br>• Manage changes in hydrological and coastal systems and regimes for construction and development.<br>• Any measure to reduce diffuse pollution to surface or ground waters from agricultural activities would benefit water quality in rivers. This would have a knock-on beneficial effect on sea lamprey during the freshwater spawning phase, when spawning grounds can experience substantial filamentous algal growth. | No potential for a significant impact on water quality as there is no potential for significant groundwater contamination or significant runoff (sediments or hydrocarbons) from the development site that would enter any watercourse or drainage system that is hydrologically connected to the SAC. |
| [1096] Brook Lamprey (*Lampetra planeri*) | • Application of synthetic (mineral) fertilisers on agricultural land.<br>• Drainage for use as agricultural land.<br>• Clear-cutting, removal of all trees.<br>• Hydropower (dams, weirs, run-off-the-river), including infrastructure. | Brook lamprey may be adversely impacted upon by sedimentation and water pollution.<br><br><u>Key Conservation Measures</u> | No potential for a significant impact on water quality as there is no potential for significant |

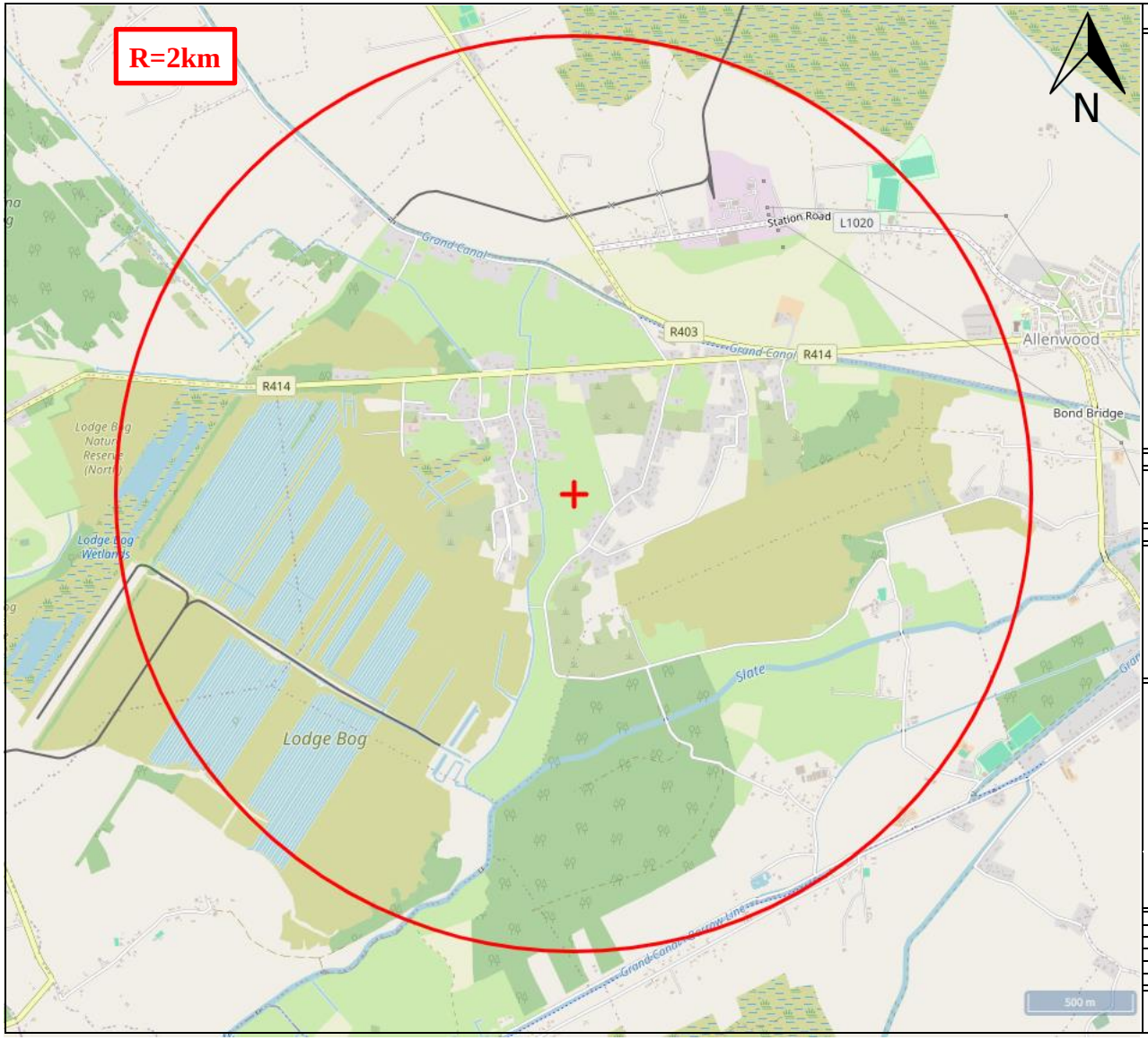
| CONSERVATION OBJECTIVES (NPWS 2011) | THREATS AND PRESSURES (NPWS 2019) | KEY ENVIRONMENTAL CONDITIONS | POTENTIAL IMPACTS FROM THE DEVELOPMENT |
|---|---|---|---|
| | • Pollution to surface or ground water due to urban runoffs.<br>• Discharge of urban wastewater (excluding storm overflows and/or urban run-offs) generating pollution to surface or ground water.<br>• Temperature changes (e.g. rise of temperature & extremes) due to climate change.<br>• Droughts and decreases in precipitation due to climate change. | • Diffuse and point source pollution may be having localised impacts on populations of *L. planeri.* There has been a 3% reduction in river water quality in the national territory since 2015 (EPA, 2018) and the main sources of nutrient inputs are agriculture (slurry and chemical fertilisers) and sewage (waste water treatment plants). | groundwater contamination or significant runoff (sediments or hydrocarbons) from the development site that would enter any watercourse or drainage system that is hydrologically connected to the SAC. |
| [1099] River Lamprey (*Lampetra fluviatilis*) | • Hydropower (dams, weirs, run-off-the-river), including infrastructure.<br>• Increases or changes in precipitation due to climate change.<br>• Application of natural fertilisers on agricultural land.<br>• Application of synthetic (mineral) fertilisers on agricultural land.<br>• Drainage for use as agricultural land.<br>• Shipping lanes, ferry lanes and anchorage infrastructure (e.g. canalisation, dredging).<br>• Temperature changes (e.g. rise of temperature & extremes) due to climate change.<br>• Droughts and decreases in precipitation due to climate change. | River lamprey may be adversely impacted upon by sedimentation and water pollution.<br><br><u>Key Conservation Measures</u><br><br>• Reduce impact of hydropower operations and infrastructure.<br>• Manage changes in hydrological and coastal systems and regimes for construction and development. | No potential for a significant impact on water quality as there is no potential for significant groundwater contamination or significant runoff (sediments or hydrocarbons) from the development site that would enter any watercourse or drainage system that is hydrologically connected to the SAC. |

| CONSERVATION OBJECTIVES (NPWS 2011) | THREATS AND PRESSURES (NPWS 2019) | KEY ENVIRONMENTAL CONDITIONS | POTENTIAL IMPACTS FROM THE DEVELOPMENT |
|---|---|---|---|
| [1106] Atlantic Salmon (*Salmo salar*) | • Marine fish and shellfish harvesting (professional, recreational) causing reduction of species/prey populations.<br>• Freshwater fish and shellfish harvesting (recreational).<br>• Bycatch and incidental killing (due to fishing and hunting activities).<br>• Other invasive alien species (other than species of Union concern).<br>• Temperature changes (e.g. rise of temperature & extremes) due to climate change.<br>• Droughts and decreases in precipitation due to climate change. | Salmon, particularly juveniles and spawning beds, are sensitive to sedimentation and water pollution. A potential deterioration in Water Quality* could impact on this species.<br><br><u>Key Conservation Measures</u><br><br>• Manage the use of natural fertilisers and chemicals in agricultural (plant and animal) production.<br>• Reduce/eliminate point pollution to surface or ground waters from agricultural activities.<br>• Reduce diffuse pollution to surface or ground waters from agricultural activities.<br>• Adapt/change forest management and exploitation practices.<br>• Reduce diffuse pollution to surface or ground waters from forestry activities.<br>• Management of professional /commercial fishing (including shellfish and seaweed harvesting).<br>• Management of hunting, recreational fishing and recreational or commercial harvesting or collection of plants.<br>• Control/eradication of illegal killing, fishing and harvesting. | No potential for a significant impact on water quality as there is no potential for significant groundwater contamination or significant runoff (sediments or hydrocarbons) from the development site that would enter any watercourse or drainage system that is hydrologically connected to the SAC. |

| CONSERVATION OBJECTIVES (NPWS 2011) | THREATS AND PRESSURES (NPWS 2019) | KEY ENVIRONMENTAL CONDITIONS | POTENTIAL IMPACTS FROM THE DEVELOPMENT |
|---|---|---|---|
| | | • Manage water abstraction for public supply and for industrial and commercial use.<br>• Support conservation measures in countries outside the EU. | |
| [1355] Otter (*Lutra lutra*) | None listed | A significant impact on water quality could indirectly impact upon this qualifying interest by causing a reduction in prey populations and availability.<br><br><u>Key Conservation Measures</u><br><br>• The network of mammal underpasses on new roads are examples of positive measures that have been taken to reduce otter roadkill.<br><br>• Diffuse and point-source pollution of freshwaters and coastal waters is likely to impact otters indirectly through changes to prey abundance. | No potential for a significant impact on water quality as there is no potential for significant groundwater contamination or significant runoff (sediments or hydrocarbons) from the development site that would enter any watercourse or drainage system that is hydrologically connected to the SAC. |

# APPENDIX C

## PROTECTED SITES & SITE PLANS




Notes

– Location of Development

- SAC

- SPA

Project Title:

Protected Sites Map

Client Name:

ELECTRIC BIKE PARK, ALLENWOOD, CO. KILDARE

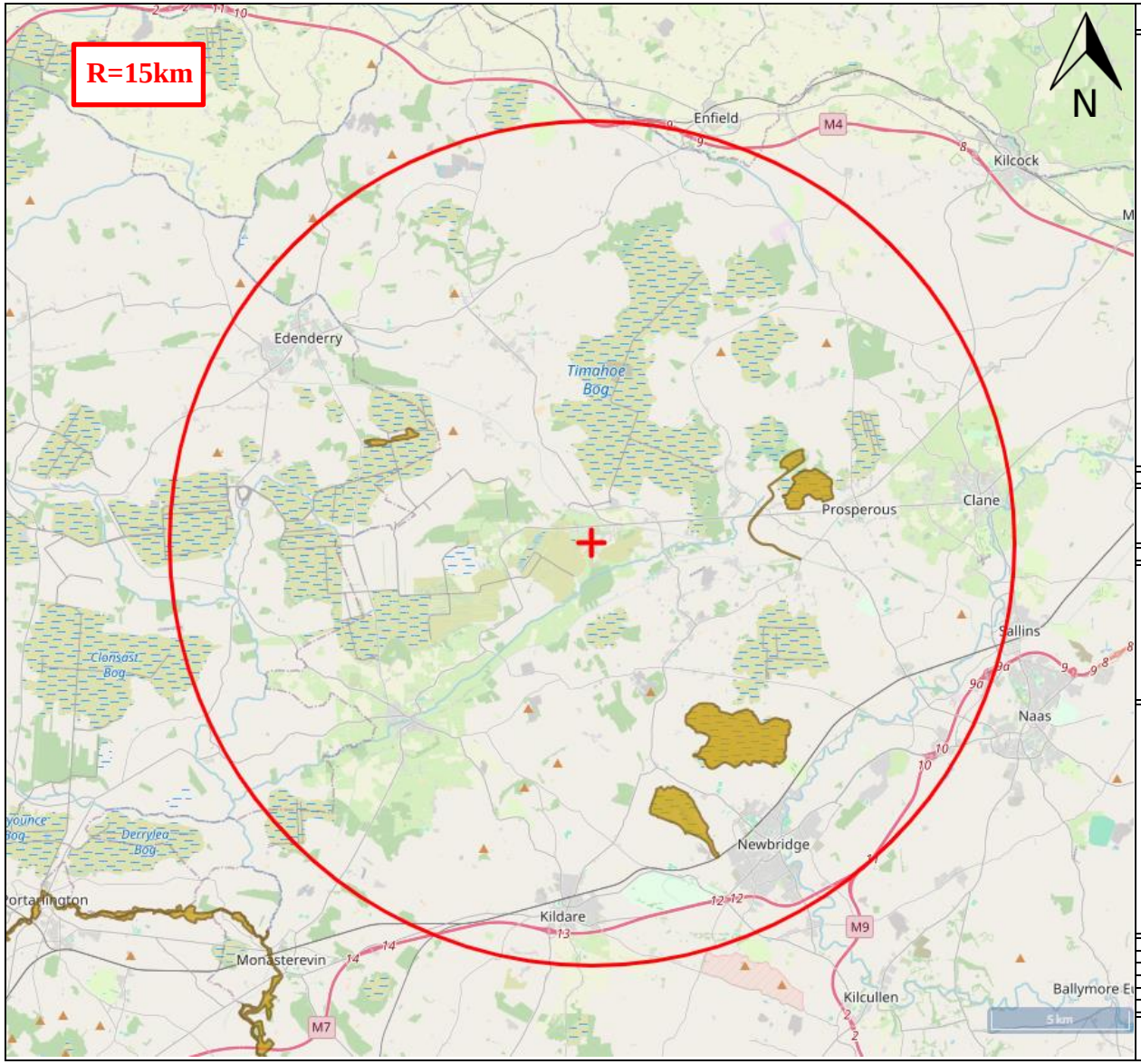
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|---|---|---|---|
| Report | Datum: | EPA Maps | |
| Drawing Number: | Drawn: | PES | |
| AA_10155 | Checked: | MF | |
| Revision: | Approved: | | |
| | Date: | 01/02/2024 | |

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Notes

– Location of Development

- SAC

- SPA

Project Title:

Protected Sites Map

Client Name:

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| **Drawing Status:** | **Scale:** | NTS | A4 |
| Report | **Datum:** | | EPA Maps |
| **Drawing Number:** | **Drawn:** | | PES |
| AA_10155 | **Checked:** | | MF |
| **Revision:** | **Approved:** | | - |
| | **Date:** | | 01/02/2024 |

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SITE TOPOGRAPHY - GRADIENT
SHOWING THE TERRAIN AND LEVEL CHANGE, FROM THE HIGHEST POINT +76.50 TO THE LOWEST POINT +72.00
72.00-72.50
72.50-73.00
73.00-73.50
73.50-74.00
74.00-74.50
74.50-75.00
75.00-75.50
75.50-76.00
76.00-76.50
Green Infrastructure Strategy
NORTH
Existing Site Layout

# APPENDIX D

## PHOTO LOG



Plate 1: Hardcore areas for retention



Plate 2: Dry calcareous and neutral grassland (GS1)



Plate 3: Buildings and artificial surfaces (BL3)



Plate 4: Other artificial ponds and lakes (FL8)

Notes:

ELECTRIC BIKE PARK, ALLENWOOD, CO. KILDARE

**APPENDIX C**
**PHOTO LOG**

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| drawing status: | REPORT | datum: | N/A |
| | | drawn: | PES |
| drawing no. | rev | checked: | MF |
| | | approved: | - |
| AA_10155 | A | date: | May – June 23 |

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Plate 5: Drainage ditch (FW4) near site entrance



Plate 6: Killinagh Upper (FW2)



Plate 7: Existing mounds to be retained



Plate 8: Dry meadows and grassy verges (GS2) along watercourse

Notes:

ALLENWOOD
CO. KILDARE

**APPENDIX C**
**PHOTO LOG**

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|---|---|---|---|
| file location: | | scale: N/A | A4 |
| drawing status: | REPORT | datum: | N/A |
| | | drawn: | PES |
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# SECTION B

# NATURA IMPACT STATEMENT FOR PROPOSED NEW DEVELOPMENT

## EXECUTIVE SUMMARY

Panther Ecology Ltd. was commissioned by David Mulcahy Planning Consultant acting on behalf of Cable Technical Service Ltd, to prepare a Natura Impact Statement (NIS) as part of a planning application at Allenwood, Co. Kildare, (ITM Coordinates 673645.64, 725779.07).

The proposed development includes an: extension of existing earth mounds to create an electric bike track, along with improvements to the existing mounds, use of the site as an outdoor facility for exclusive use by off-road electric bikes, extension of the internal access tracks, a walking track, provision of an ancillary small bike track with an ancillary jump area and pump track for use by mountain bikes, provision of a reception building, shed and car parking, provision of on-site foul treatment system and associated percolation area to serve the reception building, use of existing entrance off Nursery Road for access and all associated site works including landscaping and groundworks and new water supply connection.

The proposed development is hydrologically connected to the River Barrow and River Nore SAC (Site Code: 002162) via the Killinagh Upper (Order 1) located along the western boundary of the development.

The potential for impacts to European sites as a result of the proposed development such as potential surface water quality impacts, introduction of invasive species, habitat destruction and impacts from noise and dust were considered and the level of risk posed assessed.

During Stage 1 Screening for Appropriate Assessment, it was considered that there may be an impact upon the qualifying interests / special conservation interests of River Barrow and River Nore SAC due to a potential deterioration in water quality during the construction phase. Therefore, a Natura Impact Statement was prepared.

Due to the recommended control measures and standard practice during the construction phase, it is considered that there would be no significant risks to the conservation objectives of the habitats and species for which the aforementioned designated site has been designated.

It is considered that there would be no significant risk of negative impact, either alone or in combination with other plans or projects, to the integrity of the Natura 2000 network.

## 1.0 INTRODUCTION

Panther Ecology Ltd. was commissioned by David Mulcahy Planning Consultant acting on behalf of Cable Technical Service Ltd, to prepare a Natura Impact Statement (NIS) as part of a planning application to create an electric bike park at Allenwood, Co. Kildare, (ITM Coordinates 673645.64, 725779.07).

The principal aim of this study is to assess whether significant effects to European sites (the Natura 2000 network) are likely to occur as a result of this project in accordance with Article 6(3) of the Habitats Directive and the Planning and Development (Amendment) Act, 2001, as amended.

A study was undertaken by Ms Paula Farrell of Panther Ecology Ltd. who has a BSc in Wildlife Biology from Munster Technological University (formerly IT Tralee) and has experience in elasmobranch, amphibian, bird, invertebrate and floral surveys. This survey was supervised by Martin O'Looney who has a BSc Degree in Environmental Science and Technology from Atlantic Technological University Sligo (formerly IT Sligo) and over 10 years' experience in environmental consultancy and environmental impact assessment. This comprised a review of the proposed development, site visits on 3rd May 2023, 19th May 2023 and 31st May 2023 to examine the ecological context of the proposed development, a desk study of the information on European sites within the potential zone of influence of the site and an analysis of the information in the context of the guidance to determine if a Natura Impact Statement is required.

## 2.0 Legislative Context

The EU Habitats Directive (92/43/EEC) on the conservation of natural habitats and of wild fauna by council directive 97/62/EC, 2006/105/EC, and Regulation EC1882/2003 of September 2003, as transposed into Irish law by the European Communities (Birds and Natural Habitats) Regulations 2011 (S.I. 477/11), provides the framework for legal protection for habitats and species of European importance. The Natura 2000 network provides an ecological infrastructure for the protection of sites that are of particular importance for rare, endangered or vulnerable habitats and species within the EU. The Natura 2000 network in Ireland is made up of European Sites which include:

- Special Areas of Conservation (SACs)
- Special Protection Areas (SPAs)

Article 6(3) of the Habitats Directive establishes the requirement for appropriate assessment when planning new developments that might affect a Natura 2000 site. Article 6(3) of the Habitats Directive states;

"*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.*

## 3.0 Methodology

**Stage 1 - Screening**

Screening is the first stage in the Appropriate Assessment process and is carried out to determine whether a Stage 2 Appropriate Assessment and a Natura Impact Statement (NIS) is required. Screening addresses and records the reasoning and conclusions in relation to the first two tests of Article 6(3);

3. Whether a plan or project is directly connected to or necessary for the management of the European (Natura 2000) site; and

4. Whether a plan or project, alone or in combination with other plans or projects, is likely to have significant effects on a European (Natura 2000) site, in view of its conservation objectives.

Screening should be undertaken without the inclusion of mitigation measures. If the effects are deemed to be significant, potentially significant, or uncertain, or if the screening process becomes overly complicated, then the process must proceed to Stage 2 AA and an NIS.

The findings and conclusions of the screening process should be documented, with the necessary supporting evidence and objective criteria. This is of particular importance in the cases where the Appropriate Assessment process ends at the screening stage because the conclusion is that no significant effects are likely.

Following Stage 1 Screening, it was considered that there may be potential for an indirect impact upon the qualifying interests of a European site, therefore, the assessment progressed to Stage 2.

**Stage 2 – Natura Impact Assessment**

The scope of this assessment follows the appropriate assessment statement methodology as defined within the European Commission guidance document "*Assessment of plans and projects significantly affecting Natura 2000 sites"* (2002), Section 3, Part 2. Guidance from the Department of the Environment, Heritage and Local Government "*Appropriate Assessment of Plans and Projects in Ireland*" (2009) and "*Managing Natura 2000 sites: The provisions of Article 6 of the 'Habitats' Directive*" (2018) have also been used in the preparation of this report. In accordance with this guidance, the following methodology has been used to produce this Natura Impact Statement:

Step 1**:** Information Required

Identifying the conservation objectives of the Natura 2000 site and the aspects of the project, alone or in combination with other projects or plans, which have the potential to affect those conservation objectives.

This process involves gathering information for the Natura 2000 site, including the conservation objectives of the site, factors contributing to conservation value, aspects sensitive to change and the existing baseline condition of the site. The principal source of information used for Natura 2000 sites, their qualifying interests and conservation objectives is the National Parks and Wildlife Service (NPWS). Information is also required for the project including the size and scale of the project, the relationship (distance, connectivity etc.) of the project to the Natura 2000 site and the characteristics of existing, proposed or other projects which have the potential to affect the Natura 2000 site.

Step 2: Impact Prediction
This process predicts and identifies the likely impacts of the project on the Natura 2000 site. Potential impacts are identified as; direct and indirect; short or long-term duration; construction, operational or decommissioning; and isolated, interactive and cumulative effects.

Step 3: Conservation Objectives
Once the potential impacts of the project have been predicted and identified, it will be necessary to assess whether these impacts will adversely impact upon the integrity of the Natura 2000 site, as defined by the site's conservation objectives and status of the site. Where it cannot be demonstrated that there will be no adverse impacts upon the Natura 2000 site, mitigation measures must be proposed for the project.

Step 4: Mitigation Measures
Upon the identification of potential impacts, the project will have on the Natura 2000 site (alone or in combination with other projects or plans), mitigation measures will be proposed to eliminate, reduce or offset these negative impacts. Mitigation measures should be considered with preference to the hierarchy of preferred options outlined in the guidance document "*Assessment of plans and projects significantly affecting Natura 2000 sites"*.

## 3.1 METHODOLOGY BACKGROUND

This Appropriate Assessment has been carried with reference to the following guidelines:

- Appropriate Assessment of Plans and Projects in Ireland. Guidelines for Planning Authorities. DoEHLG, 2010.

- Circular NPWS 1/10 & PSSP 2/10 Appropriate Assessment under Article 6 of the Habitats Directive: Guidance for Planning Authorities

- Managing Natura 2000 sites – The Provisions of Article 6 of The Habitats Directive 92/43/EEC. European Commission, 2000.

- Circular L8/08 Water Services Investment and Rural Water Programmes – Protection of Natural Heritage and National Monuments 2 September 2008

- 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, 2002.

- Commission Notice "Managing Natura 200 sites The provisions of Article 6 of the Habitats Directive 92/43/EEC. European Commission, 21.11.2018

- CIEEM (2018) Guidelines for Ecological Impact Assessment in the UK and Ireland: Terrestrial, Freshwater, Coastal and Marine version 2.1. Chartered Institute of Ecology and Environmental Management, Winchester.

## 3.2 SITE SURVEY

A site characterisation assessment was undertaken on the 3rd May 2023, 19th May 2023 and 31st May 2023 to examine the ecological context of the development site, by systematically walking the site and boundaries and determining the habitats present. The habitat survey was undertaken in accordance with the standard methodology outlined in Fossitt's "*A Guide to Habitats in Ireland*", a hierarchical classification scheme based upon the characteristics of vegetation present. The Fossitt system also indicates when there are potential links with Annex I habitats of the E.U. Habitats Directive (92/43/EEC). Cognisance was also taken of the Heritage Council guidelines, "*Best Practice Guidance for Habitat Survey and Mapping*", (Smith *et al.,* 2011).

Bird species and signs of fauna activity and dwellings were also noted. Particular attention was given to the possible presence of habitats and/or species, which are legally protected under Irish and European legislation and to assessing any potential ecological connectivity with Natura 2000 sites or supplementary or steppingstone habitats of relevance to Natura 200 sites.

## 3.3 DESKTOP RESEARCH

Desktop research was carried out to gather information on the ecology of the site and surrounding areas. The locations of the Natura 2000 sites within the potential zone of influence of Ballintrane, Fenagh, Co. Carlow were identified from National Parks and Wildlife Service (NPWS) online map viewer. Other Natura sites beyond 15km were also reviewed and considered for the potential for the project to have a negative effect.

Water quality data from the EPA was reviewed for the assessment of biological and environmental data collected on waterbodies in Ireland as per the Water Framework Directive (WFD) Monitoring Programme of River Ecology Monitoring Results (2021).

Information on the characteristics of the Natura 2000 sites within the potential zone of influence was reviewed from the conservation objectives documents, site synopses and Standard Natura 2000 data forms available on the NPWS website.

# 4.0 DESCRIPTION OF PROPOSED DEVELOPMENT AND EXISTING SITE

## 4.1 PROPOSED DEVELOPMENT

The proposed development will consist of permission for an electric bike park at Allenwood, Co. Kildare, (ITM Coordinates 673645.64, 725779.07). The applicant also seeks permission for:

- extension of existing earth mounds to create an electric bike track, along with improvements to the existing mounds;
- use of the site as an outdoor facility for exclusive use by off-road electric bikes ;
- extension of the internal access tracks ;
- provision of an ancillary small bike track with an ancillary jump area and pump track for use by mountain bikes;
- provision of a reception building, shed and car parking;
- provision of on-site foul treatment system and associated percolation area to serve the reception building;
- use of existing entrance off Nursery Road for access;
- all associated site works including landscaping and groundworks and new water supply connection;
- A walking track around the electric bike track.

Use of the facility will be by prior booking only with 6 one-hour sessions in any one day and a limit of 20 persons per session (with no activity on Sundays or Mondays). It will not be used for the purpose of competitions.

The proposed development will also include the installation of a new walking pathway around the perimeter of the electric bike track (refer to landscape plan). This pathway will be comprised of permeable materials (250mm depth limestone blinding on 25mm compacted hardcore) and will be constructed at a minimum distance of 10m from the watercourse along the western boundary.

The proposed road will be elevated to 0.7m above existing ground levels as per Flood Risk Assessment. The topographical map shows the minimum height of 72m above sea level and the highest point at 76.5m above sea level.

The proposed development is hydrologically connected to the River Barrow and River Nore SAC (Site Code: 002162) via the Killinagh Upper (Order 1) located along the western boundary see Figure 4.1 below.

The landscape plan intends to retain much of the existing vegetation and planted trees with the addition of native and non-native non-invasive species throughout. This includes a variety of habitats including woodland and Bio Retention planting species includes Mountain Ash (*Sorbus acuparia),* Sessile Oak *(Quercus petraea),* Black Alder *(Alnus glutinosa),* European White Birch *(Betula pendula),* Wild Cherry *(Prunus avium),* Bird Cherry *(Prunus padus),* Hazel *(Corylus avellana),* Hawthorn *(Crataegus monogyna),* Holly *(Ilex aquifolium),* Crab Apple *(Malus sylvestris),* Grey Willow *(Salix cinnerea ssp. Oleifolia),* Common Broom *(Cytisus scoparius),* Spindletree *(Euonymus europaeus),* Blackthorn *(Prunus spinosa),*

Willow *(Salix aurita)*, European Cranberry *Bush (Viburnum opulus)*, Downy Birch *(Betula pubescens)*, Elder *(Sambucus nigra)*, Dog Rose *(Rosa canina)*, Goat Willow *(Salix caprea)*, Alder Buckthorn *(Frangula alnus)*, Yellow Flag Iris *(Iris pseudacorus)*, Marsh Marigold *(Caltha palustris)*, Floating Sweet-grass *(Glyceria fluitans) and* Amphibious Bistort *(Persicaria amphibia)*. The Species Rich grassland and wet grassland species includes Cornfield annual mix, Birds-foot Trefoil, Bulbous Buttercup, Common Knapweed, Common Sainfoín, Devil's-bit Scabious, Field Scabious, Greater Knapweed, Kidney Vetch, Lady's Bedstraw, Meadow Buttercup, Meadowsweet, Oxeye Daisy, Red Campion, Salad Burnet, Self-Heal, Small Scabious, Wild Carrot, Yarrow, Yellow Rattle, Crested Dogstail, Chewings Fescue, Slender Creeping Red Fescue, Hard Fescue, Browntop Bentgrass, Yellow Oatgrass, Sweet Vernal Grass, Meadow Foxtail, Creeping Bent, Yorkshire Fog and Red Fescue. Boundary treatment includes a fence and noise barriers throughout. See Appendix C for site plans.

Water will be provided to the proposed development via connection to the nearby public mains with proposed upgrades as per Irish Water confirmation of feasibility with upgrades required. According to the Engineering Services Report, "*Approximately 425m of new 100mm ID main is required to replace the existing 2inch uPVC main along River Road*". Surface water from hard surfaces will be directed to a series of bio-retention swales, tree pits. Rainwater run-off from rooftops will be directed to a 5,700L rainwater harvesting tank and overflow to main line before being discharged to a 250m$^2$ rain garden with 0.5m deep filter drain beneath with 40% void stone providing 60m$^3$ of attenuation storage within the site boundary. The proposed surface water drainage network will include two hydrobrakes manhole (limiting flow to 2.0l/s & 3.0l/s), a manhole hydrobrake (limiting flow to 2.0l/s) and Class 1 bypass interceptor prior to entering the Killinagh_Upper watercourse along the western boundary. The proposed development will also include permeable paving and green roof structures. Foul water will be directed to the proposed O'Reilly Oakstown BAF 20 waste water treatment system (WWTS) with inspection chamber and pumped to a raised treatment bed percolation area and sand polishing filter. The WWTS will be located atleast 10m from a watercourse or drainage ditch.

The development will require instream works within the Killinagh_Upper watercourse along the western boundary for the construction of a headwall as part of the surface water drainage network. This headwall will be constructed of pre-cast concrete and will be placed at high water level. To prevent bank erosion beneath, the bank will be armoured with 150mm crushed rock.

Construction works would be confined to the development footprint. The estimated construction duration is 12-18 months. Any materials excavated as part of the proposed development will be used onsite. The development will only require the importation of typical building aggregates for the construction phase and will not require the importation of any soils.

The following project elements of the development site have been examined for relevance to possible effects on the Natura 2000 sites;

- Earthworks & Excavation
- Sediment & Hydrocarbon Runnoff
- Stormwater & Waste Water
- Disturbance to Protected Species
- Impact on Protected Habitats
- Dust and Noise
- Invasive Species

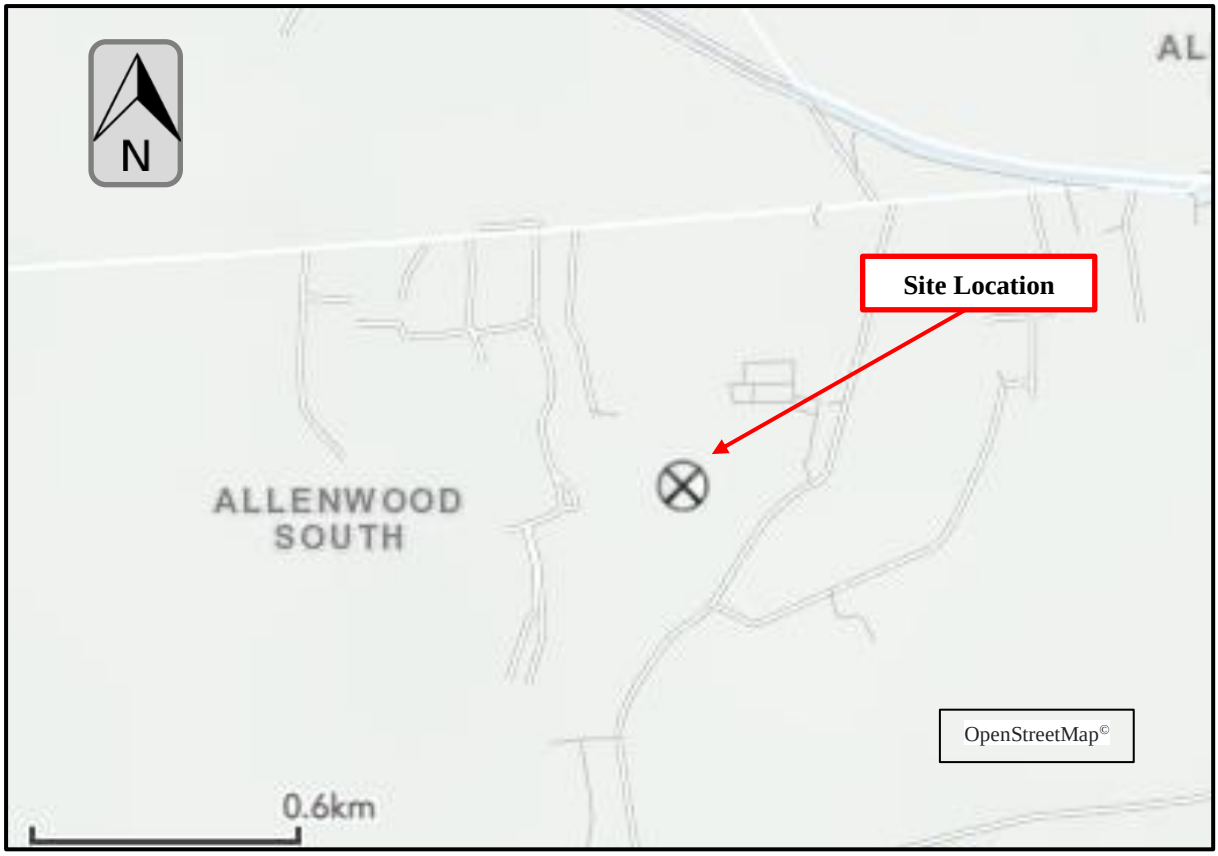



**Figure 4.1:** Location of Proposed Site at Allenwood Co. Kildare

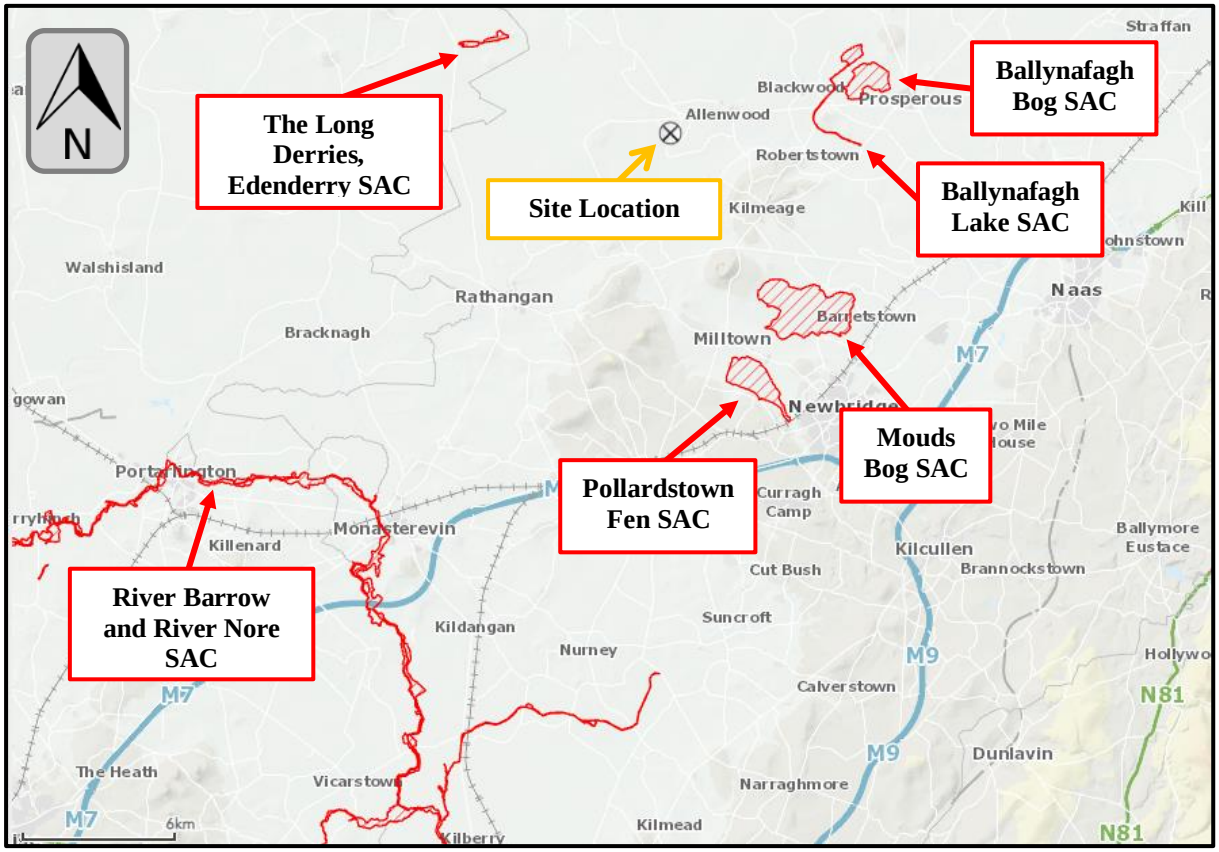



**Figure 4.2:** Location of Proposed Development and Protected Habitats

## 4.2 EXISTING ENVIRONMENT

The development site is mainly comprised of grassland, spoil and recolonising habitats that have been modified with drainage ditch and a watercourse along the boundaries. Cut bog, agricultural land and residential premises are located within the immediate vicinity. The surrounding area is semi-rural in nature within the environs of Allenwood village. The closest mapped watercourse is the Killinagh Upper located along the western boundary.

A percolation test has been prepared as part of the planning application (File Ref: 22370). The site is located on an Aquifer with low vulnerability. The soil type is listed as cutaway peat. The subsoil is listed as cutover raised peat. The Bedrock type is listed as Dinantian Lower Impure Limestone. A trial hole was dug to a depth of 2.0m as part of this assessment. It noted that there is 0.5m of loam, 0.3m of sandy silt, 0.9m of gravely, sandy silt and 0.3m of Silt. The percolation test result for surface was 19 (noted as surface test passed). The percolation test result for subsurface was 30 (noted as subsurface test passed) indicating it is suitable for proposed secondary treatment system and soil polishing filter (as per EPA Code of Practice 2021).

A site assessment was undertaken on the 3rd May 2023, 19th May 2023 and 31st May 2023 . species and signs of fauna activity and dwellings were also noted. Particular attention was given to the possible presence of habitats and/or species, which are legally protected under Irish and European legislation. The habitats within the overall site are as follows;

Dry calcareous and neutral grassland **(GS1)** is the main habitat found within the site. The species composition comprised of Yorkshire Fog (*Holcus lanatus*), Creeping Bent Grass (*Agrostis stolonifera*), Dock (*Rumex* spp.), Soft Rush, (*Juncus effusus*), Horsetail (*Equisetum* spp.), Creeping Buttercup (*Ranunculus repens*), Ribwort Plantain (*Plantago lanceolata*), Clover (*Trifolium* spp.), Silverweed (*Potentilla anserina*), Sedge (Cyperaceae), Meadow Buttercup (*Ranunculus acris*), Thistle (*Cirsium* spp.), Bent grasses (*Agrostis* spp.), Cuckoo Flower (*Cardamine pratensis*), Nettle (*Urtica dioica*), Fescues, Oil-seed Rape (*Brassica napus*), Dock (*Rumex* spp.), Marsh Foxtail (*Alopecurus geniculatus*), Ragwort (*Jacobaea vulgaris*) and Cocksfoot grass (*Dactylis glomerata*).

Spoil and bare ground **(ED2)** was found throughout the development included Dock (*Rumex* spp.), Thistle (*Cirsium* spp.), Creeping Buttercup (*Ranunculus repens)*, Oil-seed Rape (*Brassica napus*), Creeping Bent Grass (*Agrostis stolonifera*), Silverweed (*Potentilla anserina*), Creeping Cinquefoil (*Potentilla reptans*), Daisy (*Bellis perennis*) and Ribwort Plantain (*Plantago lanceolata*).

Buildings and artificial surfaces **(BL3)** consist of the entrance and an agricultural shed to the north-west. It comprised of the species Creeping bent grass (*Agrostis stolonifera*), Dock (*Rumex* spp.), Clover (*Trifolium* spp.), Dandelion (*Taraxacum* spp.), Ribwort Plantain (*Plantago lanceolata*), Meadow Buttercup (*Ranunculus acris*), Shepherds' Purse (*Capsella bursa-pastoris*), Willowherb (*Epilobium* spp.) and Oil-seed Rape (*Brassica napus*).

Depositing/lowland **(FW2) River** and with a species composition of Yellow Iris (*Iris pseudoacorus*), Watercress (*Nasturtium officinale*), Rushes (*Juncus* spp.) and Reed-canary Grass (*Phalaris arundinaceae*). Drainage ditches **(FW2)** bordered the site and included the species Reed-Canary Grass (*Phalaris arundinacea*), Watercress (*Nasturtium officinale*), Willowherb (*Epilobium* spp.), Rushes (*Juncus* spp.), Horsetail (*Equisetum* spp.), Duckweed (Lemnoideae), Starwort (*Callitriche* spp.), Cleavers (*Galium aparine*), Ivy (*Hedera helix*),

Fern (*Asplenium* spp.), Wild Angelica (*Angelica sylvestris*), Creeping Buttercup (*Agrostis stolonifera*), Brown (Phaeophyceae) and Green Algae (Chlorophyta).

Dry meadows and grassy verges **(GS2)** was predominantly along the west of the site and comprised of Couch grass (*Elymus repens*), Dock (*Rumex* spp.), Clover (*Trifolium* spp.), Vetch (*Vicia* spp.), Creeping Buttercup (*Ranunculus repens*), Dandelion (*Taraxacum* spp.), Nettle (*Urtica dioica*), Herb Robert (*Geranium robertianum*), Willowherb (*Epilobium* spp.), Hairy Bittercress (*Cardamine hirsuta*), Cow Parsley (*Anthrisvus sylvestris*), Ribwort Plantain (*Plantago lanceolata*), Meadowsweet (*Filipendula ulmaria*), Black Medick (*Medicago lupulina*), Devil's-bit Scabious (*Succisa pratensis*), Hawthorn saplings (*Crataegus monogyna*), Dame's Violet (*Hesperis matronalis*), Cleavers (*Galium aparine*) and Bindweed (*Convolvulus* spp.).

Scattered trees and parkland **(WD5)** comprised of Beech (*Fagus* spp.), Scots Pine (*Pinus sylvestris*) and Maple (*Acer* spp.) and was found to the south, north-east and to the west adjacent the Killinagh Upper. Hedgerow **(WL1)** was present along the perimeter and throughout the site comprising mostly of Cherry Laurel (*Prunus laurocerasus*) with Beech saplings (*Fagus* spp.) Other artificial lakes and ponds **(FL8)** were found around existing mounds with Bullrush (*Scirpoides holoschoenus*), Soft Rush (*Juncus effusus*), Willowherb (*Epilobium* spp.), Cuckoo Flower (*Cardamine pratensis*), Watercress (*Nasturtium officinale*) and Sedges (Cyperaceae). Wet grassland **(GS4)** was found to the north, west and east of the site and comprised of Soft Rush (*Juncus effusus*), Yellow Flag Iris (*Iris pseudacorus),* Cuckoo Flower (*Cardamine pratensis*), Horsetail (*Equisetum* spp.), Creeping Buttercup (*Ranunculus repens*), Ribwort Plantain (*Plantago lanceolata*) and Lesser Spearwort (*Ranunculus flammula*).

Habitats of note outside the red line boundary include a partial treeline **(WL2)** habitat forms the eastern boundary outside the drainage ditch. It is comprised of Willow (*Salix* spp.), Elder (*Sambucus* spp.), Cypress (*Cupressus* spp.), Hawthorn (*Crataegus monogyna*) and Bramble (*Rubus fructicosus*). Another treeline is located north of the proposed development consisting of Hawthorn (*Crataegus monogyna*), Beech (*Fagus* spp.), Willow (*Salix* spp.), Scots Pine (*Pinus sylvestris*), Cypress (*Cupressus* spp.), Poplar (*Populus* spp.), Sycamore (*Acer pseudoplatanus*) and with an understory of Daisy (*Bellis perennis*), Dock (*Rumex* spp.), Bramble (*Rubus fructicosus*), Nettle (*Urtica dioica*) and Willowherb (*Epilobium* spp.). A partial treeline is to the west of the proposed development between the Killinagh Upper and adjacent properties. It comprised of Alder (*Alnus* spp.), Willow (*Salix* spp.), Sycamore (*Acer pseudoplatanus*) and Hawthorn (*Crataegus monogyna*). A final treeline to the south comprised of Willow (*Salix* spp.), Elder (*Sambucus* spp.), Hawthorn (*Crataegus monogyna*), Cypress (*Cupressus* spp.) with an understory of Bluebells ( *Hyacinthoides non-scripta*), Cowslip (*Primula veris*). To the south-west outside the development boundary, is cutover bog **(PB4)** habitat with evidence of bare peat and stacked turf.

The majority of habitats identified within the boundary of the site are considered to be of low conservation value. The dry calcareous and neutral grassland, the wet grassland and the other artificial lakes and ponds would be considered to be of moderate conservation value, while the depositing/lowland river is of high conservation value. There are no plant species of high conservation value or Third Schedule high impact invasive plant species recorded within the redline boundary of the site. See Appendix C for Photo Log of the site and Table 4.1 for summary for habitats located at the proposed development.




**Figure 4.3 Habitat Map of Site Survey (Google Earth ©)**

**Table 4.1:** Habitats found in and adjacent to the development site

| HABITAT CLASSIFICATION HIERARCHY | | |
|---|---|---|
| **LEVEL 1** | **LEVEL 2** | **LEVEL 3** |
| **F -** Freshwater | **FW -** Watercourses | **FW2 –** Depositing/lowland rivers |
| | | **FW4 –** Drainage ditches |
| | **FL –** Lakes and ponds | **FL8 –** Other artificial lakes and ponds |
| **G –** Grassland and marsh | **GS –** Semi-natural grassland | **GS1 –** Dry calcareous and neutral grassland |
| | | **GS2 –** Dry meadows and grassy verges |
| | | **GS4 –** Wet grassland |
| **W –** Woodland and scrub | **WL-** Linear woodland/scrub | **WL1–** Hedgerows |
| | | **WL2 –** Treelines |
| | **WD –** Highly modified/non-native woodland | **WD5 –** Scattered trees and parkland |
| **B –** Cultivated and built land | **BL –** Built land | **BL3 –** Buildings and artificial surfaces |
| **E –** Exposed rock and disturbed ground | **ED –** Disturbed ground | **ED2 –** Spoil and bare ground |
| **P -** Peatlands | **PB -** Bogs | **PB4 –** Cutover Bog |

Bird species noted during the site walkover included Blackbird (*Turdus merula*), Blue Tit (*Parus caeruleus*), Buzzard (*Buteo buteo*), Chaffinch (*Fringilla coelebs*), Curlew (*Numenius*

*Arquata*), Dunnock (*Prunella modularis*), Grey Heron (*Ardea cinerea*), Goldcrest (*Regulus regulus*), Goldfinch (*Carduelis carduelis*), Great Tit (*Parus major*), Cuckoo (*Cuculus canorus*), House Sparrow (*Passer domesticus*), Jackdaw (*Corvus monedula*), Magpie (*Pica pica*), Mallard (*Anas platyrhynchos*), Meadow Pipit (*Anthus pratensis*), Pheasant (*Phasianus colchicus*), Pied Wagtail (*Motacilla alba*), Robin (*Erithacus rubecula*), Rook (*Corvus frugilegus*), Skylark (*Alauda arvensis*), Snipe (*Gallinago gallinago*), Song Thrush (*Turdus philomelos*), Starling (*Sturnus vulagaris*), Swallow (*Hirundo rustica*), Willow Warbler (*Phylloscopus trochilus*), Woodpigeon (*Columba palumbus*) and Wren (*Troglodytes troglodytes*). Goldcrest, Mallard, Skylark, Starling, Snipe and Swallow are Amber listed under the BoCCI classification (Gilbert *et al*, 2021). Curlew and Meadow Pipit are the only Red list species recorded. Only one bird species recorded at the proposed development site are listed under Annex I of the E.U, Birds Directive, the Curlew. No other fauna was observed within the site boundary. Evidence of mammal footprints were observed along the Killinagh Upper watercourse however, the prints fit that of a cat. Fauna typical of that found throughout the rest of Ireland which would be expected to be found in the area would include; Bat species, Badger (*Meles meles*), Rabbit (*Oryctalagus cuniculus*) Otter (*Lutra lutra*), Brown Rat (*Rattus norvegicus*), Pine Marten (*Martes martes*), Stoat (*Mustela erminea hibernica*), American Mink (*Mustela vison*), Irish Hare (*Lepus timidus hibernicus*), Hedgehog (*Erinus europaeus*), Red Squirrel (*Sciurus vulgaris*), Grey Squirrel (*Sciurus carolinensis*), Wood Mouse (*Apodemus sylvaticus*) and Pygmy Shrew (*Sorex minutus*). There was no evidence of Badger (including setts or latrines) or Otter (including spraints, holts or slides) at the proposed development site.

In addition to the site walkover, flora and fauna records were reviewed on the National Biodiversity Data Centre (NBDC) website for the proposed development site and vicinity. No protected plant species under the Flora (Protection) Order, 2022 (S.I. No. 235 of 2022) were recorded within the 10km square (Tetrad – N72) in which the proposed development site is located. There are no records of threatened flora within this tetrad. Endangered species include Cornish Heath (*Erica vagans*) and Opposite-leaved Pondweed (*Groenlandia densa*). Three invasive plant species are *Rhododendron ponticum*, Canadian Waterweed (*Elodea canadensis*) and Japanese Knotweed (*Fallopia japonica*).

Protected fauna species are Common Frog (*Rana temporaria*), Smooth Newt (*Lissotriton vulgaris*), Freshwater White-clawed Crayfish (*Austropotamobius pallipes*), Desmoulin's Whorl Snail (*Vertigo* (*Vertigo*) *moulinsiana*), Common Lizard (*Zootoca vivipara*), Brown Long-eared Bat (Plecotus auritus), Daubenton's Bat (*Myotis daubentonii*), Badger (*Meles meles*), Pygmy Shrew (*Sorex minutus*), Red Squirrel (*Sciurus vulgaris*), Otter (*Lutra lutra*), Lesser Noctule (*Nyctalus leisleri*), Pine Marten (*Martes martes*), Pipistrelle (*Pipistrellus pipistrellus sensu lato*), Soprano Pipistrelle (*Pipistrellus pygmaeus*) and Hedgehog (*Erinaceus europaeus*). High impact invasive species are Brown Rat (*Rattus norvegicus*), Eastern Grey Squirrel (*Sciurus carolinensis*) and Fallow Deer (*Dama dama*).

Bird species of note include Swallow (*Hirundo rustica*), Grasshopper Warbler (*Locustella naevia*), Kestrel (*Falco tinnunculus*), Kingfisher (*Alcedo atthis*), Linnet (*Carduelis cannabina*), Snipe (*Gallinago gallinago*), Starling (*Sturnus vulgaris*), Swift (*Apus apus*), Curlew (*Numenius arquata*), Teal (*Anas crecca*), Tree Sparrow (*Passer montanus*), Woodcock (*Scolopax rusticola*), Golden Plover (*Pluvialis apricaria*), Hen Harrier (*Circus cyaneus*), Herring Gull (*Larus argentatus*), House Martin (*Delichon urbicum*), House Sparrow (*Passer domesticus*), Little Egret (*Egretta garzetta*), Little Grebe (*Tachybaptus ruficollis*), Mallard (*Anas platyrhynchos*), Merlin (*Falco columbarius*), Mew Gull (*Larus canus*), Mute Swan (*Cygnus olor*), Northern Lapwing (*Vanellus vanellus*), Peregrine Falcon (*Falco peregrinus*),

Rock Pigeon (*Columba livia*), Sand Martin (*Riparia riparia*), Sky Lark (*Alauda arvensis*), Spotted Flycatcher (*Muscicapa striata*), Stock Pigeon (*Columba oenas*), Whinchat (*Saxicola rubetra*) and Yellowhammer (*Emberiza citrinella*).

## 4.3 WATER QUALITY

The proposed development is located within the Barrow Catchment (ID 14), Sub Catchment Slate_SC_010. The closest watercourse to the proposed development site is the Killinagh Upper (EPA Code: 14K17 – Order 1) which flows along the western boundary of the proposed development site. The Killinagh Upper flows for approximately 1.5km in a southerly direction where it joins the River Slate (EPA Code: 14S01 – Order 3), part of the River Barrow and River Nore SAC (Site Code: 002162). The Ballyteige North (EPA Code: 14B26 – Order 1) is located approximately 332m south of the proposed development. It flows south and joins the Slate confluence. Other watercourses in the area include the Allenwood Middle (EPA Code: 14A12 - Order 1) located approximately 1.6km east of the proposed development. There is no water quality status for the Killinagh Upper. See Figure 4.4 for mapped watercourses relative to the proposed development.




**Figure 4.4:** Watercourses surrounding the proposed development site

The Conservation Objectives document for the SAC shows that water quality objectives have been set for White-clawed Crayfish (*Austropotamobius pallipes*) and Atlantic Salmon (*Salmo salar*), with a Q3-4 (moderate status) and Q4 (good status) values set as objectives in freshwater. Water quality objectives have also been set for Twaite Shad, with a target of oxygen levels no lower than 5mg/l. The EPA does not undertake water monitoring along the Killinagh_Upper watercourse however, the EPA does undertake water monitoring on the River Slate.The results for the nearest monitoring stations (as per Table 4.2) with available monitoring results for the period 2000-2022 are summarised in Figure 4.5 below for indicative purposes.

**Table 4.2:** Active Monitoring Stations of the River Slate

| STATION NO. | STATION LOCATION | EASTING | NORTHING | APPROX. DISTANCE FROM SITE |
|---|---|---|---|---|
| RS14S010050 | Ford Br | 276234.27 | 225490.97 | 64.7km Upstream |
| RS14S010100 | Agar Bridge | 270342 | 221685 | 5.6km Downstream |
| RS14S010150 | E Br rathangan (Opp Church) | 267541.98 | 219531.25 | 10.7km Downstream |

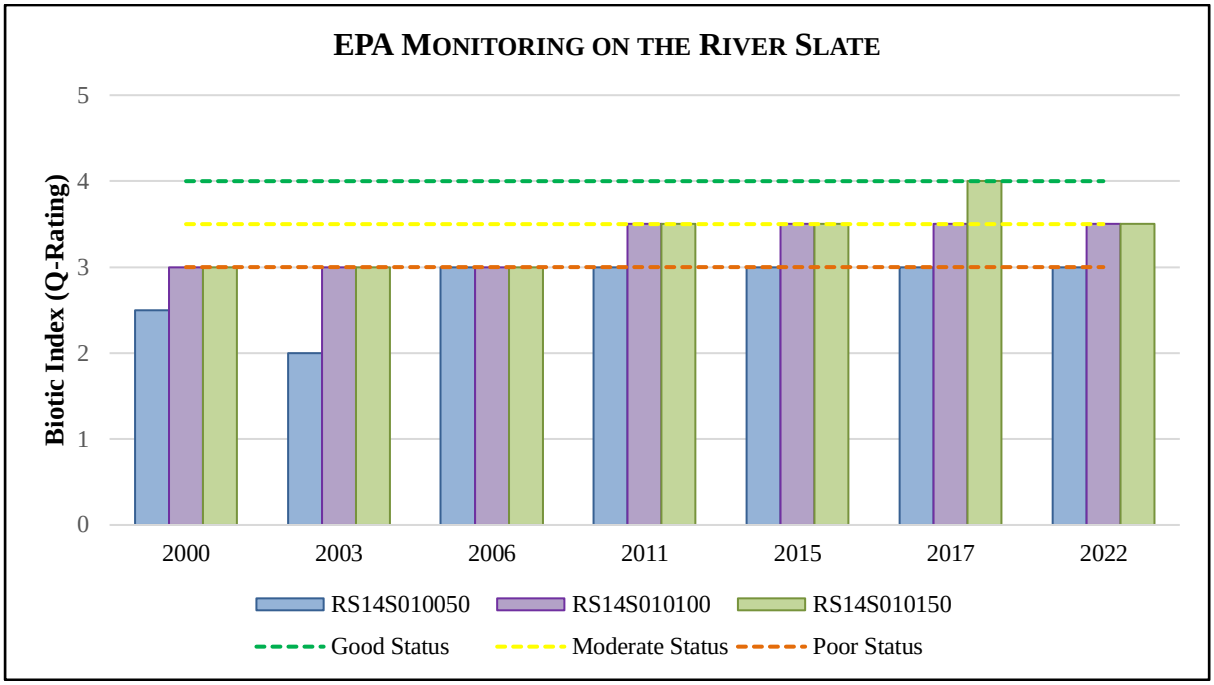



**Figure 4.5:** EPA Ecological Monitoring of the River Slate from 2000 – 2022

As can be seen in Figure 4.4 above, the River Slate is mainly achieving a water quality status of between Q2 (Bad) and Q4 (Good) between 2000 and 2020 (Table 4.2).

EPA comments on the most recent monitoring results for the River Slate are as follows; "*All of the six stations surveyed on the Slate River were in unsatisfactory ecological condition in August 2020. Poor ecological conditions persisted at the upstream sites (0020) and Allenwood (0050). Moderate quality was evident in the lower reaches*".

According to the Preliminary Flood Risk Assessment (PFRA) Mapping tool by the OPW, the proposed development site is located within an area of fluvial or pluvial flood, indicative of 10% AEP (10-yr) event, 1% AEP (100-yr) event or 0.1% AEP (1000-yr) event. However, it should be noted that this map is based on broad-scale simple analysis and may not be accurate for a specific location. There is no recorded history of flooding at the proposed site. However, a site-specific Flood Risk Assessment carried out by Donnachadh O'Brien & Associates Consulting Engineers concluded that the proposed development does not present any significant additional flooding risk on site and to adjoining properties and has minimal effects on flood volumes on site.

## 5.0 EUROPEAN SITES (NATURA 2000 SITES) WITHIN ZONE OF INFLUENCE

In assessing the zone of influence of this project upon European sites, the following factors must be considered:

- Potential impacts arising from the project,
- The location and nature of European sites,
- Pathways between the development and European sites.

The project impact sources, environmental pathways and protected site characteristics were screened to identify European sites potentially within the zone of influence of the project.

No Special Protection Area (SPA) sites occur within the zone of potential influence of the proposed development. Six Special Area of Conservation (SAC) sites occur within the potential zone of influence of the proposed development site and are shown in the following table:

**Table 5.1:** Special Areas of Conservation and Special Protection Area potentially within the zone of influence

| SITE NAME | DESIGNATION | SITE CODE | DISTANCE TO PROPOSED SITE |
|---|---|---|---|
| Ballynafagh Lake | SAC | 001387 | 5.5km E |
| Ballynafagh Bog | SAC | 000391 | 6.9km E |
| The Long Derries, Edenderry | SAC | 000925 | 7km NW |
| Mouds Bog | SAC | 002331 | 7.7km SE |
| Pollardstown Fen | SAC | 000396 | 8.8km SE |
| River Barrow and River Nore | SAC | 002162 | 18.1 SW |

There is a hydrological connection between the proposed development and the River Barrow and River Nore SAC (Site Code: 002162) approximately 24km downstream. Therefore, for this assessment this site is considered to be within the potential zone of influence due to hydrological connection.

The proposed development is located downstream from the Ballyfanagh Lake SAC (Site Code: 001387) and the Ballyfanagh Bog SAC (Site Code: 000391). Therefore, due to the absence of a source-pathway-receptor relationship, these sites have been screened out.

The development site is located approximately 7km from the Long Derries, Edenderry SAC (Site Code: 000925). There is a hydrological distance between the SAC and the development site however, this hydrological connectivity is a great distance upstream. The proposed development site is in a separate WFD subcatchment area (Slate_SC_010) to the Long Derries, Edenderry SAC (Site Code: 000925), which is within the Figile_SC_010. In the absence of a source-pathway-receptor relationship and associated habitats, this site has been screened out.

The proposed development site is in a separate WFD catchment area (Barrow) to the majority of the Mouds Bog SAC (Site Code: 002331), which is within the Liffey and Dublin Bay catchment. Nonetheless, the areas of the Mouds Bog SAC located in the same catchment as the proposed site would not be downstream from the development, hence, there would not be a direct hydrological connection between the two sites. The development site would not contain

the peatland habitats for which this site has been designated. Therefore, due to lack of direct hydrological connection and associated habitats, Mouds Bog SAC has been screened out.

Pollardstown Fen SAC (Site Code: 000396) is located approximately 8.8km from the proposed development site. It is located upstream on the Cloncumber (Stream). Therefore, no direct source-pathway-relationship exists between the two sites. Given the distance, lack of direct hydrological connection, this site has been screened out.

## 5.1 RIVER BARROW AND RIVER NORE SAC (SITE CODE: 002162)

This SAC is composed of the freshwater stretches of the Barrow and Nore catchments, as far upstream as the Slieve Bloom Mountains, and the tidal elements and estuary as far downstream as Creadun Head in Waterford. The larger tributaries include the Lerr, Fushoge, Mountain, Aughavaud, Owenass, Boherbaun and Stradbally Rivers of the Barrow and the Delour, Dinin, Erkina, Owveg, Munster, Arrigle and King's Rivers on the Nore. The site is a SAC selected for the following habitats and/or species listed on Annex I / II of the E.U. Habitats Directive:

| TABLE 5.1.1: ANNEX I HABITATS | |
|---|---|
| **CODE** | **DESCRIPTION** |
| 1130 | Estuaries |
| 1140 | Tidal Mudflats and Sandflats |
| 1170 | Reefs |
| 1310 | *Salicornia* Mud |
| 1330 | Atlantic Salt Meadows (*Glauco-Puccinellietalia maritimae*) |
| 1410 | Mediterranean Salt Meadows (*Juncetalia maritimi*) |
| 3260 | Floating River Vegetation |
| 4030 | Dry Heath |
| 6430 | Hydrophilous Tall Herb Communities |
| 7220 | Petrifying Springs* |
| 91A0 | Old Oak Woodlands |
| 91E0 | Alluvial Forests* |

** denotes a priority habitat*

| TABLE 5.1.2: ANNEX II SPECIES | | |
|---|---|---|
| **CODE** | **COMMON NAME** | **SCIENTIFIC NAME** |
| 1016 | Desmoulin's Whorl Snail | *Vertigo moulinsiana* |
| 1029 | Freshwater Pearl Mussel | *Margaritifera margaritifera* |
| 1092 | White-clawed Crayfish | *Austropotamobius pallipes* |
| 1095 | Sea Lamprey | *Petromyzon marinus* |
| 1096 | Brook Lamprey | *Lampetra planeri* |
| 1099 | River Lamprey | *Lampetra fluviatilis* |
| 1103 | Twaite Shad | *Alosa fallax* |
| 1106 | Atlantic Salmon | *Salmo salar* |
| 1355 | Otter | *Lutra lutra* |
| 1421 | Killarney Fern | *Trichomanes speciosum* |
| 1990 | Nore Freshwater Pearl Mussel | *Margaritifera durrovensis* |

An excerpt from the site synopsis for River Barrow and River Nore SAC is included below. This site consists of the freshwater stretches of the Barrow and Nore River catchments as far upstream as the Slieve Bloom Mountains. The larger of the many tributaries include the Lerr, Fushoge, Mountain, Aughavaud, Owenass, Boherbaun and Stradbally Rivers of the Barrow, and the Delour, Dinin, Erkina, Owveg, Munster, Arrigle and King's Rivers on the Nore. Both rivers rise in the Old Red Sandstone of the Slieve Bloom Mountains before passing through a band of Carboniferous shales and sandstones. The upper reaches of the Barrow runs through limestone, with the middle reaches and many of the eastern tributaries running through Leinster Granite. The southern end runs over intrusive rocks poor in silica. Good examples of alluvial forest are seen at Rathsnagadan, Murphy's of the River and along other shorter stretches of both the tidal and freshwater elements of the site. Typical species include Almond Willow (*Salix triandra*), White Willow (*S. alba*), Rusty Willow (*S. cinerea* subsp. *oleifolia*), Crack Willow (*S. fragilis*) and Osier (*S. viminalis*), along with Iris (*Iris pseudacorus*), Hemlock Water-dropwort (*Oenanthe crocata*), Thin-spiked Wood-sedge (*Carex strigosa*), Pendulous Sedge (*C. pendula*), Meadowsweet (*Filipendula ulmaria*) and the Red Data Book species Nettle-leaved Bellflower (*Campanula trachelium*).

Good examples of old oak woodlands include those at Cloghristic Wood, Drummond Wood and Borris Demesne. Borris Demesne contains a very good example of a semi-natural broadleaved woodland in very good condition, with a high degree of natural regeneration of oak and ash. Drummond Wood consists of three blocks of deciduous woods situated on steep slopes. The deciduous trees are mostly oak species. The woods have a well-established understorey of Holly, and the herb layer is varied. Eutrophic tall herb vegetation occurs within various areas of alluvial forest and where the river floodplain is intact. Characteristic species include Meadowsweet, Purple Loosestrife (*Lythrum salicaria*), Marsh Ragwort (*Senecio aquaticus*) and Hedge Bindweed (*Calystegia sepium*). The invasive Indian Balsam (*Impatiens glandulifera*) is abundant in places. Floating river vegetation is well represented in the Barrow and many of its tributaries. Species include water-starworts (*Callitriche* spp.), Bulbous Rush (*Juncus bulbosus*), water-milfoils (*Myriophyllum* spp.), pondweeds (*Potamogeton* spp.) and crowfoots (*Ranunculus* spp.).

Dry heath occurs in pockets along the steep valley sides of the rivers. Dry heath vegetation consists of Bracken and Gorse (*Ulex europaeus*) with patches of acidic grassland vegetation. Additional typical species include Heath Bedstraw (*Galium saxatile*), Foxglove (*Digitalis purpurea*), Common Sorrel (*Rumex acetosa*) and Creeping Bent (*Agrostis stolonifera*). Dry heath generally grades into wet woodland or wet swamp vegetation lower down the slopes on the riverbank. In the foothills associated with the Aughnabrisky, Aughavaud and Mountain Rivers there are wet heath areas dominated by Purple Moor-grass (*Molinia caerulea*) with Heather (*Calluna vulgaris*) and Bell Heather (*Erica cinerea*). Salt meadows occur at the site's southern section. In the larger salt meadow areas, the Atlantic and Mediterranean sub types are generally intermixed. At the salt meadow's upper edge, the legally protected Borrer's Saltmarsh-grass (*Puccinellia fasciculata*), Meadow Barley (*Hordeum secalinum*) and Divided Sedge (*Carex divisa*) are found. Other flora present includes Sea Rush (*Juncus maritimus*), Sea Aster (*Aster tripolium*), Thrift (*Armeria maritima*), Sea Couch (*Elymus pycnanthus*), Spear-leaved Orache (*Atriplex prostrata*), Lesser Sea-spurrey (*Spergularia marina*) and Sea Arrowgrass (*Triglochin maritima*). Glassworts (*Salicornia* spp.) and other annuals colonising mud / sand are found in the saltmarsh creeks and at seaward edges.

The site is of ornithological importance for a number of E.U. Birds Directive Annex I species, including Greenland White-fronted Goose, Whooper Swan, Bewick's Swan, Bar-tailed

Godwit, Peregrine and Kingfisher. Nationally important numbers of Golden Plover and Bar-tailed Godwit are found during the winter. Wintering flocks of migratory birds are seen in Shanahoe Marsh, the Curragh, Goul Marsh and along the Barrow Estuary in Waterford Harbour. There is also an extensive autumnal roosting site in the reedbeds of the Barrow Estuary used by Swallows before they leave the country.
Land use at the site consists mainly of agricultural activities. The spreading of slurry and fertiliser poses a threat to the water quality and to the populations of Annex II species within the site. Many of the woodlands along the rivers belong to old estates and support many non-native species. Little active woodland management occurs. Fishing is a main tourist attraction along stretches of the main rivers and their tributaries, with both commercial and leisure fishing taking place. Other recreational activities such as boating, golfing and walking are also popular. Several industrial developments, which discharge into the river, border the site. The main threats to the site and current damaging activities include high inputs of nutrients into the river system from agricultural run-off and several sewage plants, over-grazing within woodland areas and invasion by non-native species. The water quality of the site remains vulnerable. Good quality water is necessary to maintain the populations of the Annex II animal species listed above. Good quality is dependent on controlling fertilisation of the grasslands. It also requires that sewage be properly treated before discharge. Drainage activities in the catchment can lead to flash floods which can damage the many Annex II species present. Capital and maintenance dredging within the lower reaches of the system pose a threat to migrating fish species such as lamprey and shad. Land reclamation also poses a threat to the salt meadows and the populations of legally protected species therein.

Overall, the site is of considerable conservation significance for the occurrence of good examples of habitats and of populations of plant and animal species that are listed on Annexes I and II of the E.U. Habitats Directive. Furthermore, it is of high conservation value for the populations of bird species that use it.

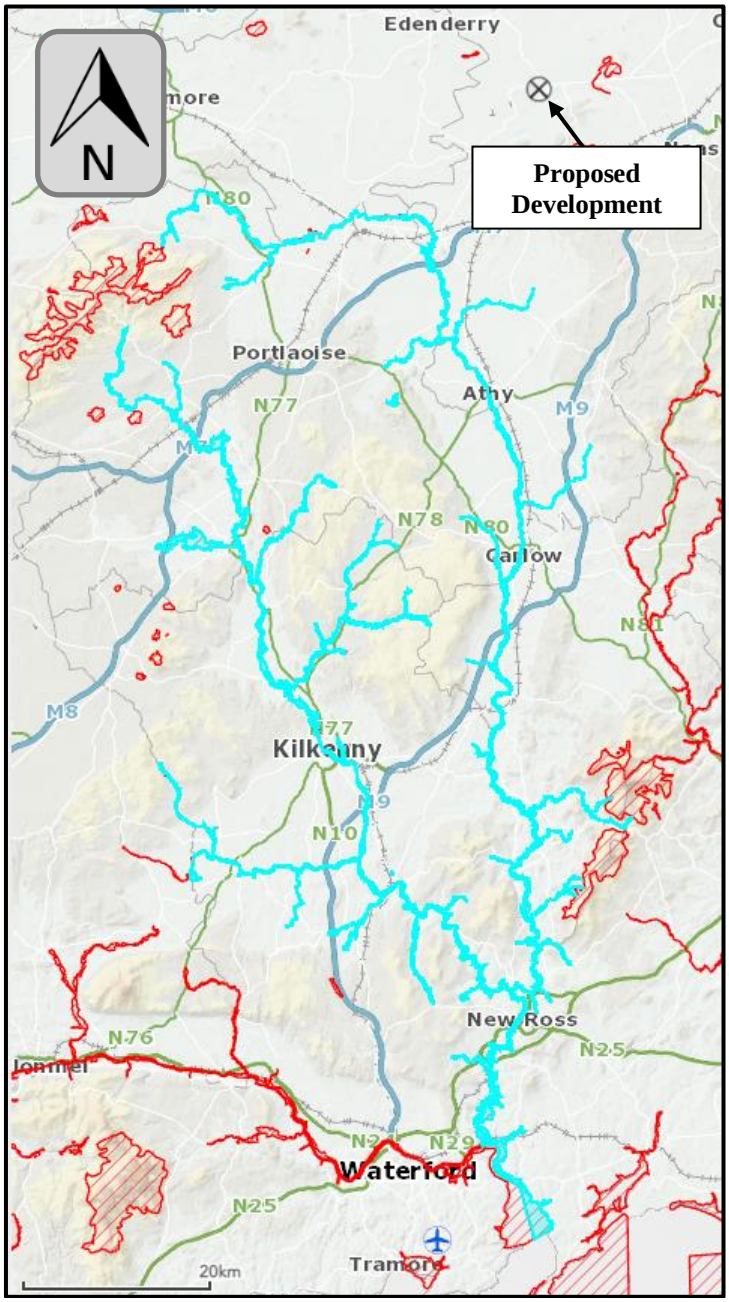



**Figure 5.1:** River Barrow and River Nore SAC

***River Barrow and River Nore SAC Conservation Objectives***

The conservation objectives for the SAC site are to maintain or restore the favourable conservation condition of the qualifying interests. Site specific conservation objectives (SSCOs) for the qualifying interests of the River Barrow and River Nore SAC are provided in the table below, where available from the NPWS document "Conservation Objectives: River Barrow and River Nore SAC 002162" (NPWS, 2011).

| TABLE 5.1.3: RIVER BARROW AND RIVER NORE SAC CONSERVATION OBJECTIVES | | | |
|---|---|---|---|
| **ATTRIBUTE** | **MEASURE** | **TARGET** | **SELECTED NOTES** |
| **[1130] Estuaries** | | | |
| Habitat area | Hectares | The permanent habitat area is stable or increasing, subject to natural processes | Habitat area was estimated using OSI data and the defined Transitional Water Body area under the Water Framework Directive as 3856ha |
| Community distribution | Hectares | The following sediment communities should be maintained in a natural condition: Muddy estuarine community complex; Sand to muddy fine sand community complex; Fine sand with *Fabulina fabula* community. | |
| Community extent | Hectares | Maintain the natural extent of the *Sabellaria alveolata* reef, subject to natural process | |
| **[1140] Tidal Mudflats and Sandflats** | | | |
| Habitat area | Hectares | The permanent habitat area is stable or increasing, subject to natural processes. | Habitat area was estimated using OSI data as 926ha |
| Community distribution | Hectares | The following sediment communities should be maintained in a natural condition: Muddy estuarine community complex; Sand to muddy fine sand community complex | |
| **[1170] Reefs** | | | |
| None Specified | - | - | |
| **[1310] Salicornia Mud** | | | |
| Habitat area | Hectares | Area stable or increasing, subject to natural processes, including erosion and succession. | The Ringville sub-site was mapped and no additional areas of potential Salicornia mudflat were identified from an examination of aerial photographs, giving a total estimated area of 0.03ha. Note further unsurveyed areas maybe present within the site |
| Habitat distribution | Occurrence | No decline, subject to natural processes | |
| Physical structure: sediment supply | Presence/absence of physical barriers | Maintain or where necessary restore natural circulation of sediments and organic matter, without any physical obstructions | |
| Physical structure: flooding regime | Hectares flooded; frequency | Maintain natural tidal regime | |
| Physical structure: creeks and pans | Occurrence | Maintain/restore creek and pan structure, subject to natural processes, including erosion and succession | |
| Vegetation structure: zonation | Occurrence | Maintain range of saltmarsh habitat zonations including transitional zones, subject to natural processes including erosion and succession | |

| TABLE 5.1.3: RIVER BARROW AND RIVER NORE SAC CONSERVATION OBJECTIVES | | | |
|---|---|---|---|
| **ATTRIBUTE** | **MEASURE** | **TARGET** | **SELECTED NOTES** |
| Vegetation structure: vegetation height | Centimetres | Maintain structural variation within sward | |
| Vegetation structure: vegetation cover | Percentage cover at a representative sample of monitoring stops | Maintain more than 90% of area outside creeks vegetated. | |
| Vegetation composition: typical species and sub-communities | Percentage cover at a representative sample of monitoring stops | Maintain range of sub- communities with typical species listed in Saltmarsh Monitoring Project | |
| Vegetation structure: negative indicator species: *Spartina anglica* | Hectares | No significant expansion of Spartina. No new sites for this species and an annual spread of less than 1% where it is already known to occur | |
| **[1330] Atlantic Salt Meadows** | | | |
| Habitat area | Hectares | Area stable or increasing, subject to natural processes, including erosion and succession | Four sub-sites were mapped and additional areas of potential saltmarsh were identified from an examination of aerial photographs, giving a total estimated area of Atlantic salt meadow of 35.07ha. Note further unsurveyed areas maybe present within the site |
| Habitat distribution | Occurrence | No decline, subject to natural processes | |
| Physical structure: sediment supply | Presence/absence of physical barriers | Maintain/restore natural circulation of sediments and organic matter, without any physical obstructions | |
| Physical structure: flooding regime | Hectares flooded; frequency | Maintain natural tidal regime | |
| Physical structure: creeks and pans | Occurrence | Maintain/restore creek and pan structure, subject to natural processes, including erosion and succession | |
| Vegetation structure: zonation | Occurrence | Maintain range of saltmarsh habitat zonations including transitional zones, subject to natural processes including erosion and succession. | |
| Vegetation structure: vegetation height | Centimetres | Maintain structural variation within sward | |
| Vegetation structure: vegetation cover | Percentage cover at a representative sample of monitoring stops | Maintain more than 90% of area outside creeks vegetated | |

| TABLE 5.1.3: RIVER BARROW AND RIVER NORE SAC CONSERVATION OBJECTIVES | | | |
|---|---|---|---|
| **ATTRIBUTE** | **MEASURE** | **TARGET** | **SELECTED NOTES** |
| Vegetation composition: typical species and sub-communities | Percentage cover at a representative sample of monitoring stops | Maintain range of sub- communities with typical species listed in Saltmarsh Monitoring Project | |
| Vegetation structure: negative indicator species: *Spartina anglica* | Hectares | No significant expansion of *Spartina*. No new sites for this species and an annual spread of less than 1% where it is already known to occur | |
| **[1410] Mediterranean Salt Meadows** | | | |
| Habitat area | Hectares | Area stable or increasing, subject to natural processes, including erosion and succession. For sub-sites mapped: Dunbrody Abbey - 0.08ha, Rochestown - 0.04ha, Ringville - 6.70ha | Three sub-sites were mapped and no additional areas of potential saltmarsh were identified from an examination of aerial photographs, giving a total estimated area of Mediterranean salt meadow of 6.82ha. Note further unsurveyed areas maybe present within the site |
| Habitat distribution | Occurrence | No decline, subject to natural processes | |
| Physical structure: sediment supply | Presence/absence of physical barriers | Maintain or where necessary restore natural circulation of sediments and organic matter, without any physical obstructions | |
| Physical structure: flooding regime | Hectares flooded; frequency | Maintain natural tidal regime | |
| Physical structure: creeks and pans | Occurrence | Maintain/restore creek and pan structure, subject to natural processes, including erosion and succession | |
| Vegetation structure: zonation | Occurrence | Maintain range of saltmarsh habitat zonations including transitional zones, subject to natural processes including erosion and succession | |
| Vegetation structure: vegetation height | Centimetres | Maintain structural variation within sward | |
| Vegetation structure: vegetation cover | % cover at a representative sample of monitoring stops | Maintain more than 90% of area outside creeks vegetated. | |
| Vegetation composition: typical species and sub-communities | % cover at a representative sample of monitoring stops | Maintain range of sub- communities with typical species listed in Saltmarsh Monitoring Project | |
| Vegetation structure: negative indicator species: *Spartina anglica* | Hectares | No significant expansion of *Spartina*. No new sites for this species and an annual spread of less than 1% where it is already known to occur | |

| TABLE 5.1.3: RIVER BARROW AND RIVER NORE SAC CONSERVATION OBJECTIVES | | | |
|---|---|---|---|
| **ATTRIBUTE** | **MEASURE** | **TARGET** | **SELECTED NOTES** |
| **[3260] Floating River Vegetation** | | | |
| Habitat distribution | Occurrence | No decline, subject to natural processes | The full distribution of this habitat and its sub-types in this site is currently unknown. The basis of the selection of the SAC for the habitat is the presence of an excellent example of the vegetation assemblage associated with tidal reaches of large rivers between Enniscorthy and Polladerg townland.<br><br>Due to regular disturbance (through variations in flow), river macrophytes rarely reach a climax condition but frequently occur as transient communities. A natural (relatively unmodified) flow regime is required for both plant communities and channel geomorphology to be in favourable condition, exhibiting typical dynamics for the river type |
| Habitat area | Kilometres | Area stable or increasing, subject to natural processes | |
| Hydrological regime: river flow | Metres per second | Maintain appropriate hydrological regimes | |
| Hydrological regime: groundwater discharge | Metres per second | The groundwater flow to the habitat should be permanent and sufficient to maintain tufa formation | |
| Substratum composition: particle size range | Millimetres | The substratum should be dominated by large particles and free from fine sediments | |
| Water chemistry: minerals | Milligrammes per litre | The groundwater and surface water should have sufficient concentrations of minerals to allow deposition and persistence of tufa deposits | |
| Water quality: suspended sediment | Milligrammes per litre | The concentration of suspended solids in the water column should be sufficiently low to prevent excessive deposition of fine sediments | |
| Water quality: nutrients | Milligrammes per litre | The concentration of nutrients in the water column should be sufficiently low to prevent changes in species composition or habitat condition | |
| Vegetation composition: typical species | Occurrence | Typical species of the relevant habitat sub-type should be present and in good condition | |
| Floodplain connectivity | Area | The area of active floodplain at and upstream of the habitat should be maintained | |
| **[4030] Dry Heath** | | | |
| Habitat distribution | Occurrence | No decline from current habitat distribution, subject to natural processes | Spatial extent currently unmapped but indicated as occurring on the steep, free-draining, river valley sides especially the Barrow and tributaries in the foothills of the Blackstairs Mountains.<br><br>Dry heath in this SAC occurs on free-draining nutrient poor soils and is often characterised by gorse and open acid |
| Habitat area | Hectares | Area stable or increasing, subject to natural processes. Habitat area is not known but estimated as less than 400ha of the area of the SAC, occurring in dispersed locations | |
| Physical structure: free-draining, acid, low nutrient soil; rock outcrops | Occurrence | No significant change in soil nutrient status, subject to natural processes. No increase or decrease in area of natural rock outcrop | |

| TABLE 5.1.3: RIVER BARROW AND RIVER NORE SAC CONSERVATION OBJECTIVES | | | |
|---|---|---|---|
| **ATTRIBUTE** | **MEASURE** | **TARGET** | **SELECTED NOTES** |
| Vegetation structure: sub- shrub indicator species | Percentage cover | Cover of characteristic sub- shrub indicator species at least 25%: gorse (*Ulex europaeus*) and where rocky outcrops occur bilberry (*Vaccinium myrtillus*) and woodrush (*Luzula sylvatica*). Some rock outcrops support English stonecrop (*Sedum anglicum*), sheep's bit (*Jasione montana*) and wild madder (*Rubia peregrina*) as well as important moss and lichen assemblages | grassland areas. And locally bilberry and woodrush.<br><br>Bracken appears to be quite dense in places and before any management action is considered its rate of spread needs to be established as well as its threat, if any, to other dry heath species and its potential value to important fauna (e.g. Twite).<br><br>Broomrape is dependent on gorse at this site as it is parasitic on gorse roots. It is recorded as occurring on steep slopes above New Ross. A small area of excellent dry coastal heath at Ballyhack is interspersed with patches rock and of dry lowland grassland and has a high species diversity. Notably there is an excellent range of Clover (*Trifolium*) species including the legally protected clustered clover, a species known only from one other site in Ireland. Also *T. ornithopodiodes*, *T. striatum* and *Torilus nodosa.* |
| Vegetation structure: senescent gorse | Percentage cover | Cover of senescent gorse less than 50% | |
| Vegetation structure: browsing | Percentage cover | Long shoots of bilberry with signs of browsing collectively less than 33% | |
| Vegetation structure: native trees and shrubs | Percentage cover | Cover of scattered native trees and shrub less than 20% | |
| Vegetation composition: positive indicator species | Number | Number of positive indicator species at least 2 e.g. gorse and associated dry heath/ acid grassland flora | |
| Vegetation structure: positive indicator species | Percentage cover | Cover of positive indicator species at least 60%. This should include plant species characteristic of dry heath in this SAC including gorse, bilberry and associated acid grassland flora | |
| Vegetation composition: bryophyte and non-crustose lichen species | Number | Number of bryophyte or non- crustose lichen species present at least 2 | |
| Vegetation composition: bracken (*Pteridium aquilinum*) | Percentage cover | Cover of bracken less than 10% | |
| Vegetation structure: weedy negative indicator species | Percentage cover | Cover of agricultural weed species (negative indicator species) less than 1% | |
| Vegetation composition: non-native species | Percentage cover | Cover of non-native species less than 1%. | |
| Vegetation composition: rare/scarce heath species | Location, area and number | No decline in distribution or population sizes of rare, threatened or scarce species, including Greater Broomrape (*Orobanche rapum-genistae*) | |

| TABLE 5.1.3: RIVER BARROW AND RIVER NORE SAC CONSERVATION OBJECTIVES | | | |
|---|---|---|---|
| **ATTRIBUTE** | **MEASURE** | **TARGET** | **SELECTED NOTES** |
| | | and the legally protected clustered clover (*Trifolium glomeratum*) | |
| Vegetation structure: disturbed bare ground | Percentage cover | Cover of disturbed bare ground less than 10% (but if peat soil less than 5%) | |
| Vegetation structure: burning | Occurrence | No signs of burning within sensitive areas | |
| **[6430] Hydrophilous Tall Herb Communities** | | | |
| Habitat distribution | Occurrence | No decline, subject to natural processes | Distribution of this habitat in this site is currently unknown. Considered to occur in association with some riverside woodlands, unmanaged river islands and in narrow bands along the floodplain of slow-flowing stretches of river.<br><br>This habitat requires winter inundation, which results in deposition of naturally nutrient-rich sediment.<br><br>Bare ground, due to natural indundation processes may often be present. Attribute and target based on the Irish Semi-natural Grassland Survey (O'Neill et al., 2010) |
| Habitat area | Hectares | Area stable or increasing, subject to natural processes | |
| Hydrological regime: Flooding depth/height of water table | Metres | Maintain appropriate hydrological regimes | |
| Vegetation structure: sward height | Centimetres | 30-70% of sward is between 40 and 150cm in height | |
| Vegetation composition: broadleaf herb: grass ratio | Percentage | Broadleaf herb component of vegetation between 40 and 90% | |
| Vegetation composition: typical species | Number | At least 5 positive indicator species present | |
| Vegetation composition: negative indicator species | Occurrence | Negative indicator species, particularly non-native invasive species, absent or under control- NB Indian balsam (*Impatiens glandulifera*), monkeyflower (*Mimulus guttatus*), Japanese knotweed (*Fallopia japonica*) and giant hogweed (*Heracleum mantegazzianum*) | |
| **[7220] Petrifying Springs** | | | |
| Habitat area | Square metres | Area stable or increasing, subject to natural processes | Full distribution of this habitat in this site is currently unknown. It has been described in woodlands at Dysart, |
| Habitat distribution | Occurrence | No decline | |

| TABLE 5.1.3: RIVER BARROW AND RIVER NORE SAC CONSERVATION OBJECTIVES | | | |
|---|---|---|---|
| **ATTRIBUTE** | **MEASURE** | **TARGET** | **SELECTED NOTES** |
| Hydrological regime: height of water table; water flow | Metres; metres per second | Maintain appropriate hydrological regimes | between Thomastown and Inistioge.<br><br>Current hydrological regimes are unknown. Petrifying springs rely on permanent irrigation, usually from upwelling groundwater sources or seepage sources.<br><br>Water chemistry is currently unknown. Water supply to petrifying springs is characteristically oligotrophic and calcareous<br>The bryophytes *Cratoneuron commutatum* and *Eucladium verticillatum* are diagnostic of this habitat. |
| Water quality | Water chemistry measures | Maintain oligotrophic and calcareous conditions | |
| Vegetation composition: typical species | Occurrence | Maintain typical species | |
| **[91A0] Old Oak Woodlands** | | | |
| Habitat area | Hectares | Area stable or increasing, subject to natural processes, at least 85.08ha for sub-sites surveyed | The sizes of at least some of the existing woodlands need to be increased in order to reduce habitat fragmentation and benefit those species requiring 'deep' woodland conditions.<br><br>Oak regenerates poorly. In suitable sites ash can regenerate in large numbers although few seedlings reach pole size.<br><br>Mature and veteran trees are important habitats for bryophytes, lichens, saproxylic organisms and some bird species. Their retention is important to ensure continuity of habitats/niches and |
| Habitat distribution | Occurrence | No decline. | |
| Woodland size | Hectares | Area stable or increasing. Where topographically possible, "large" woods at least 25ha in size and "small" woods at least 3ha in size | |
| Woodland structure: cover and height | Percentage and metres | Diverse structure with a relatively closed canopy containing mature trees; subcanopy layer with semi- mature trees and shrubs; and well-developed herb layer | |
| Woodland structure: community diversity and extent | Hectares | Maintain diversity and extent of community types | |
| Woodland structure: natural regeneration | Seedling:sapling:pole ratio | Seedlings, saplings and pole age-classes occur in adequate proportions to ensure survival of woodland canopy | |

| TABLE 5.1.3: RIVER BARROW AND RIVER NORE SAC CONSERVATION OBJECTIVES | | | |
|---|---|---|---|
| **ATTRIBUTE** | **MEASURE** | **TARGET** | **SELECTED NOTES** |
| Woodland structure: dead wood | $m^3$ per hectare; number per hectare | At least 30$m^3$/ha of fallen timber greater than 10cm diameter; 30 snags/ha; both categories should include stems greater than 40cm diameter | propagule sources. Dead wood is a valuable resource and an integral part of a healthy, functioning woodland ecosystem.<br><br>The following are the most common invasive species in this woodland type: Beech (*Fagus sylvatica*), Rhododendron (*Rhododendron ponticum*), Cherry laurel (*Prunus laurocerasus*) |
| Woodland structure: veteran trees | Number per hectare | No decline | |
| Woodland structure: indicators of local distinctiveness | Occurrence | No decline | |
| Vegetation composition: native tree cover | Percentage | No decline. Native tree cover not less than 95% | |
| Vegetation composition: typical species | Occurrence | A variety of typical native species present, depending on woodland type, including oak (*Quercus petraea*) and birch (*Betula pubescens*) | |
| Vegetation composition: negative indicator species | Occurrence | Negative indicator species, particularly non-native invasive species, absent or under control | |
| **[91E0] Alluvial Forests** | | | |
| Habitat area | Hectares | Area stable or increasing, subject to natural processes, at least 181.54ha for sites surveyed | The sizes of at least some of the existing woodlands need to be increased in order to reduce habitat fragmentation and benefit those species requiring 'deep' woodland conditions.<br><br>Alder and oak regenerate poorly. Ash often regenerates in large numbers although few seedlings reach pole size.<br><br>Dead wood is a valuable resource and an integral part of a healthy, functioning woodland ecosystem.<br><br>Mature and veteran trees are important |
| Habitat distribution | Occurrence | No decline. | |
| Woodland size | Hectares | Area stable or increasing. Where topographically possible, "large" woods at least 25ha in size and "small" woods at least 3ha in size | |
| Woodland structure: cover and height | Percentage and metres | Diverse structure with a relatively closed canopy containing mature trees; subcanopy layer with semi- mature trees and shrubs; and well-developed herb layer | |
| Woodland structure: community diversity and extent | Hectares | Maintain diversity and extent of community types | |
| Woodland structure: natural regeneration | Seedling:sapling:pole ratio | Seedlings, saplings and pole age-classes occur in adequate proportions to ensure survival of woodland canopy | |

| TABLE 5.1.3: RIVER BARROW AND RIVER NORE SAC CONSERVATION OBJECTIVES | | | |
|---|---|---|---|
| **ATTRIBUTE** | **MEASURE** | **TARGET** | **SELECTED NOTES** |
| Hydrological regime: Flooding depth/height of water table | Metres | Appropriate hydrological regime necessary for maintenance of alluvial vegetation | habitats for bryophytes, lichens, saproxylic organisms and some bird species. Their retention is important to ensure continuity of habitats/niches and propagule sources.<br><br>The following are the most common invasive species in this woodland type: Sycamore (*Acer pseudoplatanus*), Beech (*Fagus sylvatica*), Rhododendron (*Rhododendron ponticum*), Cherry laurel (*Prunus laurocerasus*), Dogwood (*Cornus sericea*), Himalayan honeysuckle (*Leycesteria formosa*) and Himalayan balsam (*Impatiens grandiflora*). |
| Woodland structure: dead wood | $m^3$ per hectare; number per hectare | At least 30$m^3$/ha of fallen timber greater than 10cm diameter; 30 snags/ha; both categories should include stems greater than 40cm diameter (greater than 20cm diameter in the case of alder) | |
| Woodland structure: veteran trees | Number per hectare | No decline | |
| Woodland structure: indicators of local distinctiveness | Occurrence | No decline | |
| Vegetation composition: native tree cover | Percentage | No decline. Native tree cover not less than 95% | |
| Vegetation composition: typical species | Occurrence | A variety of typical native species present, depending on woodland type, including ash (*Fraxinus excelsior*) alder (*Alnus glutinosa*), willows (*Salix* spp) and locally, oak (*Quercus robur*) | |
| Vegetation composition: negative indicator species | Occurrence | Negative indicator species, particularly non-native invasive species, absent or under control | |
| **[1016] Desmoulin's Whorl Snail** | | | |
| Distribution: occupied sites | Number | No decline. Two known sites: Borris Bridge, Co. Carlow S711503; Boston Bridge, Kilnaseer S338774, Co. Laois. | |
| Population size: adults | Number per positive sample | At least 5 adults snails in at least 50% of samples | |
| Population density | Percentage positive samples | Adult snails present in at least 60% of samples per site | |
| Area of occupancy | Hectares | Minimum of 1ha of suitable habitat per site | |
| Habitat quality: vegetation | Percentage of samples with suitable vegetation | 90% of samples in habitat classes I and II | |

| TABLE 5.1.3: RIVER BARROW AND RIVER NORE SAC CONSERVATION OBJECTIVES | | | |
|---|---|---|---|
| **ATTRIBUTE** | **MEASURE** | **TARGET** | **SELECTED NOTES** |
| Habitat quality: soil moisture levels | Percentage of samples with appropriate soil moisture levels | 90% of samples in moisture class 3-4 | |
| **[1029] Freshwater Pearl Mussel** | | | |
| The status of the FPM as a qualifying Annex II species for the River Barrow and River Nore SAC is currently under review | | | |
| **[1092] White-clawed Crayfish** | | | |
| Distribution | Occurrence | No reduction from baseline | The crayfish is present almost throughout this SAC. The records extend as far downstream as Thomastown on the Nore and Graiguenamanagh on the Barrow.<br><br>Alien crayfish species are identified as major direct threat to this species and as disease vector.<br>Crayfish need high habitat heterogeneity. Larger crayfish must have stones to hide under, or an earthen bank in which to burrow. Hatchlings shelter in vegetation, gravel and among fine tree-roots. Smaller crayfish are typically found among weeds and debris in shallow water. Larger juveniles in particular may also be found among cobbles and detritus such as leaf litter. These conditions must be available on the whole length of occupied habitat |
| Population structure: recruitment | % occurrence of juveniles and females with eggs | Juveniles and/or females with eggs in at least 50% of positive samples | |
| Negative indicator species | Occurrence | No alien crayfish species | |
| Disease | Occurrence | No instances of disease | |
| Water quality | EPA Q value | At least Q3-4 at all sites sampled by EPA | |
| Habitat quality: heterogeneity | Occurrence of positive habitat features | No decline in heterogeneity or habitat quality | |
| **[1095] Sea Lamprey** | | | |
| Distribution: extent of anadromy | % of river accessible | Greater than 75% of main stem length of rivers accessible from estuary | Artificial barriers can block or cause difficulties to lampreys' upstream migration, thereby limiting species to lower stretches and restricting access to spawning areas. |
| Population structure of juveniles | Number of age/size groups | At least three age/size groups present | |
| Juvenile density in fine sediment | Juveniles/m² | Juvenile density at least 1/m² | |

| TABLE 5.1.3: RIVER BARROW AND RIVER NORE SAC CONSERVATION OBJECTIVES | | | |
|---|---|---|---|
| **ATTRIBUTE** | **MEASURE** | **TARGET** | **SELECTED NOTES** |
| Extent and distribution of spawning habitat | m² and occurrence | No decline in extent and distribution of spawning beds | Juveniles burrow in areas of fine sediment in still water.<br><br>Lampreys spawn in clean gravels. |
| Availability of juvenile habitat | Number of positive sites in 3rd order channels (and greater), downstream of spawning areas | More than 50% of sample sites positive | |
| **[1096] Brook Lamprey** | | | |
| Distribution | % of river accessible | Access to all water courses down to first order streams | Artificial barriers can block lampreys' upstream migration, thereby limiting species to lower stretches and restricting access to spawning areas.<br><br>It is impossible to distinguish between brook and river lamprey juveniles in the field.<br><br>Juveniles burrow in areas of fine sediment in still water. Lampreys spawn in clean gravels. |
| Population structure of juveniles | Number of age/size groups | At least three age/size groups of brook/river lamprey present | |
| Juvenile density in fine sediment | Juveniles/m² | Mean catchment juvenile density of brook/river lamprey at least 2/m² | |
| Extent and distribution of spawning habitat | m² and occurrence | No decline in extent and distribution of spawning beds | |
| Availability of juvenile habitat | Number of positive sites in 2nd order channels (and greater), downstream of spawning areas | More than 50% of sample sites positive | |
| **[1099] River Lamprey** | | | |
| Distribution: extent of anadromy | % of river accessible | Greater than 75% of main stem and major tributaries down to second order accessible from estuary | Artificial barriers can block lampreys' upstream migration, thereby limiting species to lower stretches and restricting access to spawning areas.<br><br>It is impossible to distinguish between brook and river lamprey juveniles in the field.<br><br>Juveniles burrow in areas of fine sediment |
| Population structure of juveniles | Number of age/size groups | At least three age/size groups of river/brook lamprey present | |
| Juvenile density in fine sediment | Juveniles/m² | Mean catchment juvenile density of brook/river lamprey at least 2/m² | |
| Extent and distribution of spawning habitat | m² and occurrence | No decline in extent and distribution of spawning beds | |
| Availability of juvenile habitat | Number of positive sites in 2nd order | More than 50% of sample sites positive | |

| TABLE 5.1.3: RIVER BARROW AND RIVER NORE SAC CONSERVATION OBJECTIVES | | | |
|---|---|---|---|
| **ATTRIBUTE** | **MEASURE** | **TARGET** | **SELECTED NOTES** |
| | channels (and greater), downstream of spawning areas | | in still water. Lampreys spawn in clean gravels. |
| **[1103] Twaite Shad** | | | |
| Distribution: extent of anadromy | % of river accessible | Greater than 75% of main stem length of rivers accessible from estuary | In some catchments, artificial barriers block twaite shads' upstream migration, thereby limiting species to lower stretches and restricting access to spawning areas.<br><br>Regular breeding has been confirmed in the River Barrow in recent years, but not in the Nore. |
| Population structure- age classes | Number of age classes | More than one age class present | |
| Extent and distribution of spawning habitat | $m^2$ and occurrence | No decline in extent and distribution of spawning habitats | |
| Water quality- oxygen levels | Milligrammes per litre | No lower than 5mg/l | |
| Spawning habitat quality: Filamentous algae; macrophytes; sediment | Occurrence | Maintain stable gravel substrate with very little fine material, free of filamentous algal (macroalgae) growth and macrophyte (rooted higher plants) growth | |
| **[1106] Atlantic Salmon** | | | |
| Distribution: extent of anadromy | % of river accessible | 100% of river channels down to second order accessible from estuary | Artificial barriers block salmons' upstream migration, thereby limiting species to lower stretches and restricting access to spawning areas.<br><br>Smolt abundance can be negatively affected by a number of impacts such as estuarine pollution, predation and sea lice (*Lepeophtheirus salmonis*).<br><br>Salmon spawn in clean gravels.<br><br>Q values based on triennial water quality surveys carried out by the EPA. |
| Adult spawning fish | Number | Conservation Limit (CL) for each system consistently exceeded | |
| Salmon fry abundance | Number of fry/5 minutes electrofishing | Maintain or exceed 0+ fry mean catchment-wide abundance threshold value. Currently set at 17 salmon fry/5 min sampling | |
| Out-migrating smolt abundance | Number | No significant decline | |
| Number and distribution of redds | Number and occurrence | No decline in number and distribution of spawning redds due to anthropogenic causes | |

| TABLE 5.1.3: RIVER BARROW AND RIVER NORE SAC CONSERVATION OBJECTIVES | | | |
|---|---|---|---|
| **ATTRIBUTE** | **MEASURE** | **TARGET** | **SELECTED NOTES** |
| Water quality | EPA Q value | At least Q4 at all sites sampled by EPA | |
| **[1355] Otter** | | | |
| Distribution | % positive survey sites | No significant decline | Otters need lying up areas throughout their territory where they are secure from disturbance.<br><br>Broad diet that varies locally and seasonally, but dominated by fish, in particular salmonids, eels and sticklebacks in freshwater and wrasse and rockling in coastal waters<br><br>Otters will utilise freshwater habitats from estuary to headwaters within 80m of the shoreline. |
| Extent of terrestrial habitat | Hectares | No significant decline. Area mapped and calculated as 122.8ha above high water mark (HWM); 1136.0ha along river banks / around ponds | |
| Extent of marine habitat | Hectares | No significant decline. Area mapped and calculated as 857.7ha | |
| Extent of freshwater (river) habitat | Kilometres | No significant decline. Length mapped and calculated as 616.6km | |
| Extent of freshwater (lake) habitat | Hectares | No significant decline. Area mapped and calculated as 2.6ha | |
| Couching sites and holts | Number | No significant decline | |
| Fish biomass available | Kilograms | No significant decline | |
| **[1421] Killarney Fern** | | | |
| Distribution | Location | No decline. Three locations known, with three colonies of gametophyte and one sporophyte colony | 'Juvenile' sporophytes, which appear as small entire fronds, are known from this site. However, it is unknown whether they are due to apogamous growth or sexual reproduction. |
| Population size | Number | Maintain at least three colonies of gametophyte, and at least one sporophyte colony of over 35 fronds | |
| Population structure: juvenile fronds | Occurrence | At least one of the locations to have a population structure comprising sporophyte, unfurling fronds, 'juvenile' sporophyte and gametophyte generations | |
| Habitat extent | $m^2$ | No loss of suitable habitat, such as shaded rock crevices, caves or gullies in or near to, known colonies. No loss of woodland canopy at or near to known locations | |

| TABLE 5.1.3: RIVER BARROW AND RIVER NORE SAC CONSERVATION OBJECTIVES | | | |
|---|---|---|---|
| **ATTRIBUTE** | **MEASURE** | **TARGET** | **SELECTED NOTES** |
| Hydrological conditions: visible water | Occurrence | Maintain hydrological conditions at the locations so that all colonies are in dripping or damp seeping habitats, and water is visible at all locations | |
| Hydrological conditions: humidity | Number of dessicated fronds | No increase. Presence of dessicated sporophyte fronds or gametophyte mats indicates conditions are unsuitable | |
| Light levels: shading | Percentage | No changes due to anthropogenic impacts | |
| Invasive species | Occurrence | Absent or under control | |
| **[1990] Nore Freshwater Pearl Mussel** | | | |
| Distribution | Kilometres | Maintain at 15.5km. | The population stretches from Poorman's Bridge (S407859) to Lismaine Bridge (S442660), with most of the population found between Poorman's Bridge and the Avonmore Creamery above Ballyragget (S 440 722).<br><br>The extant wild population of Nore freshwater pearl mussel is estimated as 300 adult individuals.<br>Mussels of no more than 65mm are considered 'young mussels' and may be found buried in the substratum and/or beneath adult mussels. Mussels of no more than 30mm are 'juvenile mussels' and are always buried in the substratum. This species is known not to have reproduced successfully in the River Nore since 1970.<br><br>Juvenile mussels require full oxygenation while buried in gravel. |
| Population size: adult mussels | Number | Restore to 5,000 adult mussels | |
| Population structure: recruitment | Percentage per size class | Restore to at least 20% of population no more than 65mm in length; and at least 5% of population no more than 30mm in length | |
| Population structure: adult mortality | Percentage | No more than 5% decline from previous number of live adults counted; dead shells less than 1% of the adult population and scattered in distribution | |
| Habitat extent | Kilometres | Restore suitable habitat in length of river corresponding to distribution target (15.5km) and any additional stretches necessary for salmonid spawning | |
| Water quality: Macroinvertebrate s and phytobenthos (diatoms) | Ecological quality ratio (EQR) | Restore water quality- macroinvertebrates: EQR greater than 0.90; phytobenthos: EQR greater than 0.93 | |
| Substratum quality: Filamentous algae (macroalgae), macrophytes (rooted higher plants) | Percentage | Restore substratum quality- filamentous algae: absent or trace (<5%) | |

| TABLE 5.1.3: RIVER BARROW AND RIVER NORE SAC CONSERVATION OBJECTIVES | | | |
|---|---|---|---|
| **ATTRIBUTE** | **MEASURE** | **TARGET** | **SELECTED NOTES** |
| Substratum quality: sediment | Occurrence | Restore substratum quality- stable cobble and gravel substrate with very little fine material; no artificially elevated levels of fine sediment. | Salmonid fish are host to the larval form of freshwater pearl mussels and thus, they are essential to the completion of the life cycle. As native brown trout appear to be favoured by the Nore freshwater pearl mussel, it is particularly important that these are not outcompeted by stocked fish. |
| Substratum quality: oxygen availability | Redox potential | Restore to no more than 20% decline from water column to 5cm depth in substrate | |
| Hydrological regime: flow variability | Metres per second | Restore appropriate hydrological regimes | |
| Host fish | Number | Maintain sufficient juvenile salmonids to host glochidial larvae | |

***River Barrow and River Nore SAC Conservation Status***

According to the Habitat's Directive, favourable conservation status of a habitat is achieved when:

- Its natural range and areas 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 as defined below.

According to the Habitat's Directive, favourable conservation status of a species is achieved 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 statuses for the qualifying interests of the River Barrow and River Nore SAC site are outlined below.

**TABLE 5.1.4: RIVER BARROW AND RIVER NORE SAC CONSERVATION STATUS**

| CODE | QUALIFYING INTEREST | NATIONAL CONSERVATION STATUS* |
|---|---|---|
| 1130 | Estuaries | Inadequate |
| 1140 | Tidal Mudflats and Sandflats | Inadequate |
| 1170 | Reefs | Inadequate |
| 1310 | *Salicornia* Mud | Favourable |
| 1330 | Atlantic Salt Meadows | Inadequate |
| 1410 | Mediterranean Salt Meadows | Inadequate |
| 3260 | Floating River Vegetation | Inadequate |
| 4030 | Dry Heath | Bad |
| 6430 | Hydrophilous Tall Herb Communities | Bad |
| 7220 | Petrifying Springs | Inadequate |
| 91A0 | Old Oak Woodlands | Bad |
| 91E0 | Alluvial Forests | Bad |
| 1016 | Desmoulin's Whorl Snail | Inadequate |
| 1029 | Freshwater Pearl Mussel | Bad |
| 1092 | White-clawed Crayfish | Bad |
| 1095 | Sea Lamprey | Bad |
| 1096 | Brook Lamprey | Favourable |
| 1099 | River Lamprey | Unknown |
| 1103 | Twaite Shad | Bad |
| 1106 | Atlantic Salmon | Inadequate |
| 1355 | Otter | Favourable |
| 1421 | Killarney Fern | Favourable |
| 1990 | Nore Freshwater Pearl Mussel | Bad |

**Sourced from the Status of EU Protected Habitats and Species in Ireland (NPWS, 2019b and 2019c).*

# 6.0 ASSESSMENT OF LIKELY IMPACTS

## 6.1 DISTURBANCE TO PROTECTED HABITATS AND SPECIES

The proposed development does not directly impinge on any part of a European site, and as such would not be expected to have any in-situ effects upon a protected site through loss or destruction of habitat, fragmentation of habitat, disturbance of habitat or direct reduction in species density. `See Appendix A for summary of the Qualifying Interests and summary of potential impact from the development site.

It is not considered that the proposed development would contain the habitats or species for which the River Barrow and River Nore SAC has been designated as most of the site is comprised of dry calcareous and neutral grassland, spoil and bare ground which can be considered as being modified and of low ecological value. No areas of woodland exist within the site boundary therefore, the site does not contain any habitat which would have potential links to Old Oak Woodlands [91A0] or Alluvial Forests [91E0]. The closest Old Oak Woodlands habitat is approximately 82km to the south (109km hydrologically downstream) to) of the proposed development. The closest Alluvial Forest is located approximately approximately 29.7km (44.2km hydrologically downstream) south-west the proposed development site.

No areas of heath or marsh / swamp habitats occur on the proposed development, therefore the site does not contain any habitat which would have potential links to Dry Heath [4030] or Hydrophilous Tall Herb Communities [6430]. Dry Heath is currently unmapped however it is known to be along the River Barrow and tributaries in the Blackstairs Mountains. This habitat is not within or adjacent the site boundary. Hydrophilous Tall Herb Communities distribution is currently unknown. Considered to occur in association with some riverside woodlands, unmanaged river islands and in narrow bands along the floodplain of slow-flowing stretches of river. This habitat is not found with or adjacent the development site.

The proposed development is located more than 115km (hydrologically upstream) from the tidal stretches of the River Barrow at St. Mullins, thus qualifying interests associated with saltwater and tidal conditions would not be present. It is not considered that the proposed proposed development would contain any habitats which would have potential links to Estuaries [1130], Tidal Mudflats and Sandflats [1140], Reefs [1170], *Salicornia* Mud [1310], Atlantic Salt Meadows [1330] or Mediterranean salt meadows [1410].

The closest mapped watercourse to the development site is the Killinagh Upper located along the western boundary. As this watercourse is directly connected to the River Barrow and River Nore SAC, it may contain aquatic species of conservation value.

While no sightings of otter, or evidence of otter (including holts, slides, spraints and tracks) were recorded during the site walkover, otter may be present within the general area. Otter have been recorded as part of survey results from the General Biodiversity Records from Ireland north of the site near the Killinagh Upper watercourse approximately 383m (hydrologically). The majority of the proposed development would not offer suitable habitat for Otter.

Nore Pearl Mussel is located approximately 51km south-west of the site, in the Nore catchment (NPWS, 2011). There are records for White-Clawed Crayfish (*Austropotamobius pallipes*)

[1092] throughout the River Barrow and extends downstream as far as Graiguenamanagh with the closest record to the development site located approximately 5.7km downstream on the River Slate. The nearest record within the SAC is located approximately 24.8km downstream on the River Barrow. This species has been recorded in water quality as low as Q3. Inland Fisheries Ireland note that Twaite Shad are present in the River Barrow but mainly at the confluence with the River Nore. Walk-over surveys along tributaries of the Barrow have not identified river lamprey redds. Lamprey sp. have been recorded throughout the Barrow Catchment. Lamprey were frequently found to stay within the Barrow to spawn in the substantial accumulation of gravels and larger alluvial material in the downstream areas of weirs (King, James. J., 2006). Construction works will be required within the Killinagh Upper watercourse.

During the site assessment, no Killarney Fern [1421] was present with the closest records approximately 82km (109km hydrologically downstream) to the south near Graiguenamanagh. In the absence of swamp, fen, and marsh habitat at the site, and in the absence of historic records, it is not considered that the proposed development site would be suitable to support populations of Desmoulin's Whorl Snail. The only records for this species on the River Barrow catchment are located approximately 75km (100km hydrologically downstream) south from the proposed development near Borris. No Petrifying springs with tufa formation (*Cratoneurion*) [7220] occur within the Barrow catchment, the closest example is found approximately 88km (terrestrial distance) south in the Nore catchment, near Inistioge.

The landscape plan intends to retain much of the existing vegetation and planted trees with the addition of native and non-native non-invasive species throughout. The incorporation of a diversity of habitats including woodland, species rich grassland and wet grassland will enhance the ecological value of the proposed development. The trees and hedgerows outside the red line boundary will not be removed. The existing Cherry Laurel hedge located within the red line boundary will be removed as it is a high impact invasive species.

The potential disturbance on protected species  of the River Barrow and River Nore SAC due to noise during the operational phase would not be considered significant, given the land use and the proposed use of the site as an electric bike park. Fauna would be accustomed to noise generated from agricultural, residential and vehicular activities within the immediate vicinity. The proposed development will operate from Tuesday to Saturday between the hours of 9am and 6pm. Therefore, as operational hours will be during the daytime hours, it is not anticipated that the proposed development would have a significant impact on nocturnal species due to noise.

Curlew were recorded onsite (See accompanying Document: PE_EcIA_10071) during the site assessment. In terms of noise, it is not anticipated that the operational phase would have a significant impact on this species due to noise disturbance. A noise impact report was prepared by TMS Limited. It established that noise impacts from the proposed development that require consideration would be during the times of 7am to 7pm, in line with a maximum daytime noise level of 55dB according to the Noise Action Plan 2019-2023. The report concluded that during a worst-case scenario whereby the maximum number of electric vehicles and small bikes were using the track simultaneously, would result in a noise level below the permissible level of 55dB(A). According to a review by RPS (2018) on the effects of construction noise on birds such as the Curlew which references a report by Wright et al, (2013), the results showed that Curlew would change their behaviour but not fly away at a noise level of 72dB and would fly away but return to the site at a noise level of 76dB. The Noise Impact Assessment report

includes mitigation measures such as an acoustic barrier at selected locations around the proposed development with a minimum height of 1m. This would be expected to reduce noise levels by between 8-10dB(A).

While there would be increased noise emissions during the construction phase of the development, these would not be considered to pose a significant risk owing to the transient nature of works, the scale of proposed works and the distances between the development site and designated sites. Construction works will be carried out during daylight hours and any disturbance to nocturnal species will not have a significant impact. According to the pre-planning report, there are minimal construction works to be undertaken. Fauna within the area would be accustomed to noise generated from agricultural, urban, residential and vehicular activities. It should also be noted that an active quarry is currently in operation within the area with noise audible at the proposed development as was discovered during the site assessment. Peat extraction is evident within the area. Fauna would be accustomed to noise associated with this activity also. Earthworks would be confined to the site with the main activities being the foundations, road network and drainage network.

While the proposed development would become unsuitable for foraging Curlew during the operational phase, given the small area of freshwater habitats within the proposed development, and more suitable peatland/freshwater habitats within the locality, it is not anticipated that the proposed development would have a significant impact upon this species. Refer to accompanying Ecological Impact Assessment Report.

It is therefore considered that the development would not have posed any significant risk to the protected habitats and species of the River Barrow and River Nore SAC due to habitat fragmentation or loss, disturbance or reduction in species density.

## 6.2 INVASIVE SPECIES

Under Regulation 49(2) of the European Communities (Birds and Natural Habitats) Regulations 2011 (S.I. No. 477 of 2011), save in accordance with a licence granted under paragraph (7), any person who plants, disperses, allows or causes to disperse, spreads or otherwise causes to grow in any place specified in relation to any plant which is included in Part 1 of the Third Schedule shall be guilty of an offence. Materials containing invasive species such as Japanese Knotweed are considered "controlled waste", and, as such, there are legal restrictions on their handling and disposal. Under Regulation 49(7) of the European Communities (Birds and Natural Habitats) Regulations 2011, it is a legal requirement to obtain a license to move "vector materials" listed in the Third Schedule, Part 3.

**Table 6.1:** National Biodiversity Data Centre records of high impact invasive species within 10km square (Tetrad-N72) of the proposed development

| **INVASIVE FLORA SPECIES** | |
|---|---|
| *Rhododendron ponticum* | Canadian Waterweed (*Elodea canadensis*) |
| Japanese Knotweed (*Fallopia japonica*) | |

The spread of invasive plant and animal species can negatively impact on the conservation objectives of certain Annex I habitats and species designated within SACs.

Other than the typical building aggregates, the proposed development will not require the importation of any materials containing third schedule invasive species. Therefore, the risk of invasive species being introduced onto the site is considered low.

After a site assessment, it was confirmed that no third schedule invasive species was found. Cherry laurel, a high impact unscheduled invasive species was recorded within the red line boundary however, this hedging will be removed.

## 6.3 POTENTIAL IMPACTS ON WATER QUALITY

The development site is located within the Barrow Catchment, thus the proposed development would be hydrologically linked to the to the River Barrow and River Nore SAC. The Killinagh Upper watercourse runs along the western boundary of the proposed development with drainage ditches located around the perimeter. This watercourse provides a direct hydrological connection to the River Barrow and River Nore SAC approximately 24km downstream.

During the construction phase of projects, a deterioration in water quality can arise through the release of suspended solids during soil disturbance works, in-stream works, the release of uncured concrete and the release of hydrocarbons (fuels and oils). Precast concrete / blockwork would be used where possible and surplus concrete would be returned to the batching plant.

In the event suspended solids become entrained in surface water run-off during the construction phase, there is considered to be no significant risk of impact on water quality as suspended solids would likely be retained on site as run-off percolates to the ground. Given the construction footprint would be small in scale and the limited construction plant and equipment required, the risk of the development impacting significantly upon water quality would be greatly reduced. In-stream works will be required within the Killinagh Upper watercourse for the installation of a new headwall as part of the surface water drainage network. Apart from this, a 10m buffer zone will be maintained along this watercourse for all other construction works. There will be no additional works within any of the boundary drainage ditches.

With regards to the completed development, surface water from hard surfaces will be directed to a series of bio-retention swales, tree pits. Rainwater run-off from rooftops will be directed to a 5,700Lrainwater harvesting tank and overflow to main line before being discharged to a 250$m^2$ rain garden with 0.5m deep filter drain beneath with 40% void stone providing 60$m^3$ of attenuation storage within the site boundary. The proposed surface water drainage network will include two hydrobrakes manhole (limiting flow to 2.0l/s & 3.0l/s), a manhole hydrobrake (limiting flow to 2.0l/s) and Class 1 bypass interceptor prior to entering the Killinagh_Upper watercourse along the western boundary. The proposed development will also include permeable paving and green roof structures.

Foul water will be directed to a new waste water treatment system (WWTS) with inspection chamber and pumped to a raised treatment bed percolation area and sand polishing filter. According to the foul water drainage plans, a 0.5m high berm will be installed to the south of the wwts to protect from any potential flooding.

According to the Flood Risk Assessment, the proposed development is located within Flood Zone A however "*Due to the type of recreational facility proposed, the development including the associated changing rooms building and galvanised storage shed can be deemed a 'Water-*

*Compatible Development. In addition, as a protective measure, the proposed FFL's of the building structures shall be raised 1.00m above existing ground levels (including 0.5m freeboard) with the access road and carparking raised 0.70m (including 0.30m freeboard) The displaced flood volume from the building structures and access roads shall be compensated by reducing pre-development levels in areas by a minimum of 0.42m*". The report concludes that "*In the event of a 1 in 100 year flood event, the proposed development will be unusable and will not be opened to the public. As a result, the proposed changing rooms and other galvanised shed structures will also not be in use and can be deemed appropriate within this 'water compatible development'. As such, in our opinion, the proposed Electric Bike facility does not present any significant additional flooding risk on site, any significant additional flooding risk to adjoining properties and has minimal effects on flood volumes on site due to the cut and fill exercise*".

As in-stream works are required, It is therefore considered that control measures would need to be implemented during the construction phase to ensure there is no adverse impact upon the River Barrow and River Nore SAC due to a deterioration in water quality.

### 6.4 SCREENING CONCLUSION

In order for an effect to occur, there must be a pathway between the source and the receptor (the SAC/SPA). Where a pathway does not exist, an impact cannot occur.

The proposed development site has a direct hydrological connection to the River Barrow and River Nore SAC (Site Code: 002162) via a watercourse (Killinagh Upper) where in-stream works will take place. As detailed above, it is considered that the proposed development would not result in any significant risk to the protected habitats and species of the River Barrow and River Nore SAC due to habitat fragmentation or loss, disturbance, reduction in species density or species diversity.

However, the assessment has determined that during construction works, the proposed development has the potential to impact upon the qualifying interests / special conservation interests of the River Barrow and River Nore SAC due to a potential deterioration in water quality. Therefore, a Natura Impact Statement is required.

## 7.0 ASSESSMENT OF LIKELY EFFECTS: STAGE 2 APPROPRIATE ASSESSMENT

*Describe the significant effects, if any, on the relevant European site which have occurred, which are occurring or which can reasonably be expected to occur as a result of the project or plan (alone or in combination).*

The proposed development has the potential to impact upon the qualifying interests of the River Barrow and River Nore SAC due to a potential deterioration in water quality during the construction phase.

During construction works, there is potential for water quality deterioration through the release of suspended solids during soil disturbance works. Suspended solids could become entrained

in surface water run-off and could affect aquatic qualifying interests / special conservation interests through deposition. Nutrients can be bound in suspended solids, therefore, a significant increase in suspended solids can result in excessive eutrophication, leading to the deoxygenation of waters and subsequent asphyxia of aquatic species. An increase in sediments has the potential to impact upon fish species by damaging gravel beds required for spawning, smothering fish eggs and in extreme cases, by interfering with the gills of fish. An increase in suspended solids also has the potential to reduce water clarity, which can impact the light penetration of water and may also affect certain behaviours of aquatic fauna such as foraging success.

Runoff entering a watercourse has the potential to cause an impact on water quality and lead to eutrophication.

A potential source of chemical contamination would be from the release of hydrocarbons (oils, fuels) from construction plant, equipment. Hydrocarbons can affect water quality, potentially resulting in toxic conditions for aquatic flora and fauna. Oil films on the water surface can disrupt oxygen diffusion from the atmosphere, resulting in de-oxygen of waters.

Another potential source of contamination would be the release of uncured concrete. In the event of uncured concrete entering a waterbody, the pH would be altered locally, potentially leading to the death of aquatic flora and fauna and an alteration to the waterbody substrate.

The tables below briefly outline the occurrence of the qualifying interests of the River Barrow and River Nore SAC in relation to the proposed development site, taking cognisance of the NPWS "*Conservation Objectives: River Barrow and River Nore SAC 002162*" in addition to Volumes 1, 2 and 3 of the 2019 NPWS Reports, *"The Status of EU Protected Habitats and Species in Ireland*".

The following tables also outline which of the qualifying interests and special conservation interests may be impacted upon by a potential deterioration in water quality and spread of invasive species from the proposed development.

| TABLE 7.1: RIVER BARROW AND RIVER NORE SAC POTENTIAL IMPACTS | | |
|---|---|---|
| **QUALIFYING INTEREST** | **OCCURRENCE / ASSESSMENT** | **POTENTIAL IMPACT** |
| [1130] Estuaries<br>[1140] Tidal Mudflats and Sandflats<br>[1170] Reefs<br>[1310] Salicornia Mud<br>[1330] Atlantic Salt Meadows (*Glauco-Puccinellietalia maritimae*)<br>[1410] Mediterranean salt meadows (*Juncetalia maritimi*) | The proposed development is located outside the current known distribution, current range and favourable reference range of these qualifying interests (NPWS, 2019b). The nearest examples of these qualifying interests are located approximately 115km (hydrologically) downstream of the proposed development (NPWS, 2011). Given the considerable distance, it is not anticipated that the development would have the potential to negatively impact upon these qualifying interests. | No |
| [3260] Floating River Vegetation | The development site is located within the current distribution, current range and favourable reference range of this qualifying interest (NPWS, 2019b). The Conservation Objectives for this qualifying interest include water quality attributes. Therefore, there is potential for the proposed development to have an impact upon this qualifying interest due to a potential deterioration in water quality during construction works. | Yes |
| [4030] Dry Heath | The proposed development is located outside the current known distribution, current range and favourable reference range of this qualifying interest (NPWS, 2019b). The SAC Conservation Objectives report notes that the spatial extent of this habitat is currently unmapped, but is indicated as occurring on steep, free-draining river valley sides. Dry heath is a terrestrial habitat, therefore a potential deterioration in water quality during construction works would not be anticipated to have an adverse effect upon this qualifying interest should it be present adjacent to the Killinagh Upper or to other tributaries of River Slate near the site. | No |
| [6430] Hydrophilous Tall Herb Communities | The proposed development is located outside the current known distribution, the current range and favourable reference range of this qualifying interest (NPWS, 2019b). The SAC Conservation Objectives report notes that the distribution of this habitat within the SAC site is currently unknown, but is considered to occur at some riverside woodlands, river islands and in narrow bands along the floodplain of slow-flowing river stretches. Water quality is not listed as a conservation objective for this qualifying interest. Therefore, a potential deterioration in water quality during construction works would not be anticipated to have an adverse effect upon this qualifying interest | No |
| [7220] Petrifying Springs* | The proposed development is located within the current known distribution, the current range and favourable reference range of this qualifying interest (NPWS, 2019b). The nearest example of this qualifying interest is located approximately 88km south of the site, in the Nore catchment (NPWS, 2011). | No |

| TABLE 7.1: RIVER BARROW AND RIVER NORE SAC POTENTIAL IMPACTS | | |
|---|---|---|
| **QUALIFYING INTEREST** | **OCCURRENCE / ASSESSMENT** | **POTENTIAL IMPACT** |
| | Given the distance it is not anticipated that the proposed development would have direct or indirect negative impacts upon this qualifying interest. | |
| [91A0] Old Oak Woodlands | The proposed development is located within the current known distribution, current range and favourable reference range of this qualifying interest (NPWS, 2019b). According to the SAC Conservation Objectives report, old oak woodlands are located approximately 82km (109km hydrologically downstream) to the south near Graiguenamanagh) of the proposed site. However, the report notes that further unsurveyed areas may be present within the SAC. Old oak woodlands are a terrestrial habitat, therefore a potential deterioration in water quality during construction works would not be anticipated to have an adverse effect upon this qualifying interest. | No |
| [91E0] Alluvial Forests* | The proposed development is located within the current known distribution, current range and favourable reference range of this qualifying interest (NPWS, 2019b). According to the SAC Conservation Objectives report, alluvial forests are located approximately 29.7km (44.2km hydrologically downstream) south-west of the proposed site. However, the report notes that further unsurveyed areas may be present within the SAC. Water quality is not listed as a conservation objective for this qualifying interest. Therefore, a potential deterioration in water quality during construction works would not be anticipated to have an adverse effect upon this qualifying interest. | No |
| [1016] Desmoulin's Whorl Snail (*Vertigo moulinsiana*) | The Desmoulin's whorl snail is the largest of the whorl snail species occurring in wetlands in Ireland. It favours damp or wet habitats such as swamps, fens and marshes, where it lives mostly in moss, leaves and decaying vegetation (NPWS, 2019c). Desmoulin's whorl snail feeds on living and dead stems and leaves of tall plants in wetland habitats. The proposed development is located outside the current known distribution, but within the current and favourable reference range of this qualifying interest (NPWS, 2019c). According to the SAC Conservation Objectives report, the nearest record of Desmoulin's whorl snail is located approximately 75km (100km hydrologically downstream) south from the proposed development near Borris. Given the distance of this qualifying interest from the development site and given that water quality is not listed as a conservation objective for this qualifying interest, it is not anticipated that the proposed development would have the potential to adversely impact upon the Desmoulin's whorl snail. | No |
| [1029] Freshwater Pearl Mussel (*Margaritifera margaritifera*) | Freshwater pearl mussels (both *Margaritifera margaritifera* and *M. m. durrovensis*) are long-lived, bivalve molluscs found in clean, fast-flowing rivers. *M. margaritifera* is widespread in Ireland, however, the population has been in decline for a long time, with the current decline attributed to a combination of | Yes |

| TABLE 7.1: RIVER BARROW AND RIVER NORE SAC POTENTIAL IMPACTS | | |
|---|---|---|
| **QUALIFYING INTEREST** | **OCCURRENCE / ASSESSMENT** | **POTENTIAL IMPACT** |
| [1990] Nore Freshwater Pearl Mussel (*Margaritifera durrovensis*) | hydrological and morphological changes, sedimentation and enrichment of its habitat (NPWS, 2019a). The Nore pearl mussel (*M. m. durrovensis*) is a hard-water form of the freshwater pearl mussel and is only found within the River Nore's main channel. Previously, the Nore pearl mussel was reported separately as taxon 1990 (*M. durrovensis*), however genetic research has since placed the Nore population within the *Margaritifera margaritifera* taxon (NPWS, 2019c).<br><br>The species has an unusual life cycle. Eggs develop into the larval stage (glochidia), which are brooded in the female gills before being released into open water. A small number are inhaled by passing salmonid fish, which act as the mussels' temporary hosts. Once mature enough to exist independently, they fall off their hosts and bury into gravel where they filter feed (Moorkens, 2000).<br><br>The proposed development is located outside the current known distribution, current range and favourable reference range of the freshwater pearl mussel (NPWS, 2019c). The SAC Conservation Objectives report notes that the status of *Margaritifera margaritifera* as a qualifying interest for the site is currently under review, while *M. m. durrovensis* is confined to a 15km (approximate) stretch of the River Nore. The nearest example of this qualifying interest is located approximately 88km south of the site, in the Nore catchment (NPWS, 2011). The Freshwater Pearl Mussel Strategic Environmental Assessment (DoEHLG, 2010a) and Freshwater Pearl Mussel Nore Sub-Basin Management Plan (DoEHLG, 2010a) reports note that the River Nore is failing in its habitat quality and population demographic profile. The catchment fails most of the requirements as specified in the European Communities Environmental Objectives (Freshwater Pearl Mussel) Regulations 2009. The population in the Nore is known to be critically endangered, with evidence that there has been no recruitment for some time.<br><br>Freshwater Pearl Mussel are sensitive to sedimentation and nutrient enrichment. Furthermore, as the larval stages rely on salmonid fish hosts, any potential impact on salmonid fish can have an impact upon the Pearl Mussel. Water quality downstream of the proposed development could have a direct impact on the populations that exist within the River Nore, also there remains a possibility that water quality could impact on salmonid fish. Therefore, there is potential for the proposed development to have an impact upon this qualifying interest due to a potential deterioration in water quality during construction works. | |
| | | |

| TABLE 7.1: RIVER BARROW AND RIVER NORE SAC POTENTIAL IMPACTS | | |
|---|---|---|
| **QUALIFYING INTEREST** | **OCCURRENCE / ASSESSMENT** | **POTENTIAL IMPACT** |
| [1092] White-clawed Crayfish (*Austropotamobius pallipes*) | The White-clawed Crayfish is the only native crayfish species found in Ireland and is a relatively long-lived species with a maximum life of 10 years. It occurs in both streams and lakes in Ireland and requires relatively hard water with a pH of 7 or above and calcium concentrations of at least 5mg/l. White-clawed crayfish are omnivorous, with young crayfish more reliant than adults on animal foods.<br><br>The development site is located within the current distribution, current range, and favourable reference range of this qualifying interest (NPWS, 2019c). The SAC Conservation Objectives report notes that crayfish are present almost throughout the SAC. According to the Conservation Objectives report, the nearest records for white-clawed crayfish within the SAC are located within the River Slate approximately 24.8km downstream of the proposed site. The conservation status of crayfish in the SAC is dependent on good water quality status, as this species requires clean water (Q3-4). Therefore, there is potential for the proposed development to have an impact upon this qualifying interest due to a potential deterioration in water quality during construction works. | Yes |
| [1095] Sea Lamprey (*Petromyzon marinus*) | Lamprey can play an important role in processing nutrients, nutrient storage, and nutrient cycling in streams. In addition, they aid in creating spawning beds for salmonid species by altering the river channel and bed. Sea lamprey are an anadromous species, with adults living at sea and migrating to freshwater for spawning in late May or June. The fertilised eggs hatch within days, with the larvae burrowing into fine sediment where they filter feed for a number of years. Transformation to young adults occurs in summer and young adults can be found migrating downriver to estuarine waters in autumn – winter. The proposed development is located outside the current known distribution, current range and favourable reference range of the Sea Lamprey (NPWS, 2019b). The SAC Conservation Objectives report notes that upstream migration may be inhibited by artificial barriers, and that artificial barriers are currently preventing juvenile lampreys from accessing the full extent of suitable habitat. The River Barrow was not developed for navigation in its freshwater reaches and downstream of weirs there is accumulation of gravels and larger alluvial material that provide suitable spawning grounds for adult sea lamprey (King 2006). The closest records of Lamprey are in the Barrow_SC_110 sub-catchment. Changes in water quality have the potential to impact on the population of Sea Lamprey, the main water quality impacts are from agricultural runoff however potential pollutants from construction runoff cannot be ruled out therefore mitigation measures must be put in place to prevent changes in water quality. | Yes |

| TABLE 7.1: RIVER BARROW AND RIVER NORE SAC POTENTIAL IMPACTS | | |
|---|---|---|
| **QUALIFYING INTEREST** | **OCCURRENCE / ASSESSMENT** | **POTENTIAL IMPACT** |
| [1096] Brook Lamprey (*Lampetra planeri*) | The brook lamprey is the smallest of the three lampreys native to Ireland and is the only species that is non-parasitic and spends all its life in freshwater. Adults spawn in spring, excavating shallow nests in gravel areas of reduced flow. Adult fish die after spawning. After hatching, larvae drift/swim downstream to areas with a fine silt composition. They burrow into this bed material and live as filter feeders for years before transforming into young adult fish. The young adults overwinter before migrating short distances upstream to gravelled areas where they spawn.<br><br>River lamprey are an anadromous species, with adults living at sea and migrating to freshwater for spawning in March and April. The adult fish die after spawning. The fertilised eggs hatch within days, with the larvae burrowing into fine sediment where they filter feed for a number of years before transforming into adult fish. The young river lamprey then migrate downriver to estuarine waters.<br><br>River and brook lamprey are indistinguishable as larvae. The mature adult forms are distinguishable on the basis of body size. Lamprey surveys have necessarily focussed on juvenile lamprey. Consequently, the vast majority of available data relates to "*Lampetra* sp." and cannot be assigned to one species or the other.<br><br>The proposed development is located within the current known distribution and current range of brook lamprey, but outside of the current known distribution, current range and favourable reference range of river lamprey (NPWS, 2019c). The SAC Conservation Objectives report notes that diffuse source pollution maybe having localised impacts on populations of *L. fluviatilis*. Water quality impacts are from runoff have the potential to impact on the populations of both species. The closest records of Lamprey are in the Barrow_SC_050 sub-catchment (King, 2006). Therefore, there is potential for the proposed development to have an impact upon these qualifying interests due to a potential deterioration in water quality during construction works. | Yes |
| [1099] River Lamprey (*Lampetra fluviatilis*) | | |
| [1103] Twaite Shad (*Alosa fallax*) | Twaite Shad spend most of their life in estuaries and coastal waters but migrate upriver to spawn in late spring. Following spawning, adult Twaite Shad return to estuaries. Limited knowledge indicates that Irish Twaite Shad may live in estuarine waters for at least two full years prior to going to sea.<br><br>The proposed development is located outside the current known distribution, current range and favourable reference range of the Twaite Shad (NPWS, 2019c). The nearest records on the NBDC for Twaite Shad are located along the River Barrow at St Mullins. Due to the hydrological distance (117km) it is not | No |

| TABLE 7.1: RIVER BARROW AND RIVER NORE SAC POTENTIAL IMPACTS | | |
|---|---|---|
| **QUALIFYING INTEREST** | **OCCURRENCE / ASSESSMENT** | **POTENTIAL IMPACT** |
| | anticipated that the development would have the potential to negatively impact upon these qualifying interests. | |
| [1106] Atlantic Salmon (*Salmo salar*) | Atlantic Salmon use rivers to reproduce and as nursery areas. Eggs are deposited during winter in river gravels. The eggs hatch into alevins in spring, which in turn develop into fry. The fry feed for the summer and autumn, gradually becoming parr. Fry and parr feed primarily upon invertebrates. The Irish population generally comprises fish that spend two winters in freshwater before going to sea in spring as smolts. Adults spend 1-3 years at sea, feeding upon crustaceans and fish as they migrate to feeding grounds in the North Atlantic. The majority of Irish fish spend one winter at sea before returning to their natal rivers, mainly during the summer, as grilse.<br><br>According to the NBDC, the closest records of Atlantic Salmon are in the Ovoca-Vartry catchment approximately 47km to the south-east. The River Barrow is not designated as a Salmonid Water EC (Quality of Salmonid Waters) Regulations (S.I. no. 293 of 1988). However, the proposed development is located within the current known distribution, current range and favourable reference range of this qualifying interest (NPWS, 2019c). Additionally, salmon are known to be present throughout much of the Barrow catchment. Therefore, there is potential for the proposed development to have an impact upon this qualifying interest due to a potential deterioration in water quality during construction works. | Yes |
| [1355] Otter (*Lutra lutra*) | Otters have two basic requirements: aquatic prey and safe refuges where they can rest. Otters are opportunistic predators with a broad and varied diet. In freshwater areas, a variety of fish will be taken, while crayfish and frogs can be important locally or seasonally.<br><br>The proposed development is located within the current distribution, current range and favourable reference range of otter (NPWS, 2019c). The NBDC has otter records within the vicinity of proposed development site. The National Otter Survey of Ireland 2010/12 (Reid *et al.*, 2013) report noted that the occurrence of otter within survey sites for the south-eastern river basin district was 70.8%. While no evidence of otter (including spraints and tracks) was recorded during the site assessment, according to the NBDC, otter has been recorded north of the site near the Killinagh Upper watercourse approximately 383m (hydrologically upstream). A significant impact on water quality could indirectly impact upon this qualifying interest by causing a reduction in prey populations and availability. Therefore, there is potential for the proposed development to have an impact upon this qualifying interest due to a potential deterioration in water quality during the construction works. | Yes |

| TABLE 7.1: RIVER BARROW AND RIVER NORE SAC POTENTIAL IMPACTS | | |
|---|---|---|
| **QUALIFYING INTEREST** | **OCCURRENCE / ASSESSMENT** | **POTENTIAL IMPACT** |
| [1421] Killarney Fern (*Trichomanes speciosum*) | The Killarney fern is a type of filmy fern, with characteristically thin, membranous, translucent fronds. This fern grows in deeply shaded, humid areas such as dripping caves, crevices and overhangs of cliffs, within stream gullies, by waterfalls and on the floor of damp woodlands (NPWS, 2019c). The proposed development is located outside the current known distribution, current range and favourable reference range of this qualifying interest (NPWS, 2019c). According to the SAC Conservation Objectives report, the nearest record of Killarney fern to the proposed site is located approximately 82km (109 km hydrologically downstream) to the south near Graiguenamanagh but none within the vicinity of the proposed site. It is therefore not anticipated that the proposed development would have any adverse impacts upon this qualifying interest. | No |

***River Barrow and River Nore SAC Conservation Objectives***

The relevant site-specific conservation objectives for the qualifying interests which have been identified as being potentially impacted upon by the development are outlined below.

Floating River Vegetation
The concentration of suspended solids in the water column should be sufficiently low to prevent excessive deposition of fine sediments. Concentration of nutrients in the water column should be sufficiently low to prevent changes in species composition or habitat condition.

Freshwater Pearl Mussel (*Margaritifera margaritifera*)
The status of this species as a qualifying species for this site is currently under review and no conservation objectives are available.

Nore Freshwater Pearl Mussel (*Margaritifera durrovensis*)
Water quality: Restore water quality to an ecological quality ratio of greater than 0.90 for macroinvertebrates and greater than 0.93 for phytobenthos. Host Fish: Maintain sufficient juvenile salmonids to host glochidial larvae. A potential deterioration in water quality may affect fish populations.

White-clawed Crayfish (*Austropotamobius pallipes*)
Water quality (EPA Q value): At least Q3-4 at all sites sampled by EPA

Sea Lamprey (Petromyzon marinus)
A potential deterioration in water quality may still impact upon this species.

Brook Lamprey (*Lampetra planeri*) and River Lamprey (*Lampetra fluviatilis*)
None in relation to water quality. However, a potential deterioration in water quality may still impact upon this species.

Atlantic Salmon (*Salmo salar*)
Water quality (EPA Q value): At least Q4 at all sites sampled by EPA

Otter (*Lutra lutra*)
Fish biomass available: A potential deterioration in water quality may affect fish populations and availability.

## 8.0 MITIGATION MEASURES

This assessment has determined that the proposed development has the potential to impact upon the River Barrow and River Nore SAC due to a potential deterioration in water quality and introduction of invasive species during the construction phase.

As discussed in Section 8.0, it is considered that the proposed development has the potential to impact upon the following qualifying interests of the River Barrow and River Nore SAC:

- [3260] Floating River Vegetation
- [1029] Freshwater Pearl Mussel
- [1092] White-clawed Crayfish
- [1095] Sea Lamprey
- [1096] Brook Lamprey
- [1099] River Lamprey
- [1106] Atlantic Salmon
- [1355] Otter
- [1990] Nore Freshwater Pearl Mussel

### 8.1 GENERAL REQUIREMENTS

- Training of relevant personnel on monitoring and mitigation measure requirements;
- Daily visual inspection of proposed development/construction works and pumping operations will be competed and signed by suitably trained staff member;
- Record of all visual inspections to be kept on file and available for review by relevant authorities;
- Construction works should be planned to minimise machinery access and movement along the bankside of the drain, to avoid and minimise disturbance of freshwater habitat downstream;
- No hedgerows and treelines will be removed during the 1st March to the 31st August, so as not to disturb nesting bird species.

### 8.2 WATER QUALITY

Measures that would be employed to ensure that there would be no significant impacts to the listed habitats or species, as listed above, of the River Barrow and River Nore SAC, due to a potential deterioration in water quality:

- The construction works contractor would adhere to standard construction best practice, taking cognisance of the Construction Industry Research and Information Association (CIRIA) guidelines "*Control of Water Pollution from Construction Sites; guidance for consultants and contractors*" 2001 and "*Control of Water Pollution from Construction Sites – Guide to Good Practice*", 2002;
- Cognisance should be taken of the 2016 guidelines published Inland Fisheries Ireland, "*Guidelines on Protection of Fisheries During Construction Works in and adjacent to Waters*";

- Only clear vegetation when works are required to prevent leaving exposed ground for long periods of time;
- Re-seeding of exposed areas should be undertaken as soon as possible to stabilise the soil and prevent runoff;
- Daily visual inspections would be undertaken of the site access road to ensure no silt-laden surface water runoff leaves the site, with the potential to either join with any adjacent surface water drainage systems within the vicinity or travel to along the road network to the road network;
- Silt fencing would be placed along the western boundary of the site with the Killinagh Upper watercourse and any drainage ditches (See Appendix D for Silt Fencing Specifications). Silt fencing would remain in place and maintained as appropriate until the completion of construction works;
- Where spoil is generated, this would only be stored temporarily. A designated spoil area would be established by the construction works contractor within site footprint. This would be located away from any watercourse such as the Killinagh Upper or drainage ditches;
- Where possible, spoil would be covered or alternatively, graded to avoid ponding or water saturation;
- Any works in close proximity to the Killinagh_Upper can use floating silt curtains as an extra precaution if required;
- Sandbags can be used before the steep ground;
- Excavations and earth-moving activities would be planned outside periods of heavy rainfall, to limit the potential for suspended solids to become entrained within surface water run-off;
- Manhole covers and stormwater gullies will be protected by silt blankets and additional measures such as sandbags to be incorporated on steeper gradients if required
- Should water be encountered during excavation works, water would be pumped to a constructed silt control feature, such as a temporary lagoon or infiltration area. A filter would be provided at the pump inlet and, where required, dewatering bags or silt traps would be used at the outlet to retain any potential silt entrained in the water. Pumping operations would be supervised at all times;
- Water would not be discharged directly to any watercourse, drainage ditch or the drainage network;
- The settlement will be located away from any steep sloping ground;
- Monitoring of watercourse for suspended solids would be undertaken regularly while works are in the vicinity of all watercourses;
- All staff working within the proposed site would be familiar with invasive species in particular Third Schedule invasive species and adhere to guidelines. See Invasive Alien Species Ireland for ID. https://invasives.ie/
- Pumping operations would be supervised at all times;
- All construction plant machinery and equipment would be maintained in good working order and regularly inspected;

- A designated area for the storage of hydrocarbons would be established by the construction works contractor and inspected on a regular basis;
- Spill kits, adequately stocked with spill clean-up materials such as booms and absorbent pads, would be readily available onsite;
- The construction works contractor would ensure the relevant site personnel are trained in spillage control;
- To maintain a buffer zone of no less than 10m between construction works and the Killinagh Upper watercourse except for the installation of a headwall;
- It is not envisaged that vehicle wheel wash facilities would be required. However, in particularly dry weather, additional dust control measures may be required, including the provision of a wheel wash facility. Should a wheel wash facility be required, it would be located away from the drainage network within the site and the associated run-off would be collected via a settling pond or if there is not sufficient space on site an appropriately sized tank/ tanker. This would not discharge directly to the Killinagh_Upper;
- If weed control is required then herbicide application should only be carried out by suitably qualified contractors or operators with strict reference to the product label, local land use, health and safety considerations and any pertinent regulations. All herbicide treatment must comply with the pesticide regulations S.I. No. 155/2012 - European Communities (Sustainable Use of Pesticides) Regulations 2012 or any amended or current regulations at the time of use.
- In the unlikely event of a suspected deterioration in water quality within the Killinagh_Upper due to construction works at the development site, works would immediately cease, an investigation into the cause undertaken and the relevant NPWS and Inland Fisheries Ireland personnel informed.
- Should a protected fauna species such as Otter (*Lutra lutra*) or Badger (*Meles meles*) be found during the construction phase of the project, an officer of the NPWS would be notified prior to the resumption of construction works;
- During the operational phase, the applicant would comply with mitigation measures included within the noise and dust impact assessment reports including but not limited to the implementation of a daily inspection programme, a dust monitoring programme, the use of fixed and mobile water sprays to control dust emissions especially during periods of dry weather and use of electric bikes within the proposed operational hours;

In addition to the above measures, the construction works contractor would take cognisance of the following guidelines:

- CIRIA, 2001: *Control of Water Pollution from Construction Sites; guidance for consultants and contractors*;
- CIRIA, 2002: *Control of Water Pollution from Construction Sites – Guide to Good Practice*;
- IFI, 2016: *Guidelines on Protection of Fisheries During Construction Works in and adjacent to Waters*.

## 8.3 MITIGATION MEASURES FOR IN-STREAM WORKS

The proposed development will require in-stream works within the Killinagh Upper watercourse and the dry open cut method is recommended (Refer to accompanying CEMP – Document Ref: PE_CEMP_10071). The dry cut open method would involve damming the water flow using sandbags to create the seal / dam across the watercourse. Pumps would be set up to take the flow from upstream to downstream of the construction point. This creates a dry working area. Works will then begin on the installation of the reinforced concrete headwall including excavation where necessary to fit the headwall. The water will be filtered to limit silt carry over and reduce disturbance to the bed before pumped water is released back into the drainage ditch. Once completed, all materials used within the construction will be removed from site and bank profile reinstated. It should be noted that this method may be altered to suit site-specification requirements. Mitigation measures have been included below.

- A filter would be provided at the pump inlet to prevent the entry of aquatic fauna into the pump, and to limit the potential disturbance to the watercourse bed due to sediments.
- Excavation of the Killinagh Upper bed would then proceed, with the excavated material stockpiled for later reinstatement. Following the completion of reinstatement works, including any required drainage bank reinstatement works, the sandbags would be removed.
- Excavations and earth-moving activities would be planned outside periods of heavy rainfall, to limit the potential for suspended solids to become entrained within surface water run-off;
- The bank where the proposed headwall is to be located will be armoured with 150mm crushed rock to prevent erosion of subsoil beneath;
- Only clear vegetation when works are required to prevent leaving exposed ground for long periods of time;
- Any vegetation cuttings should be removed from the site and not stored near banks of the Killinagh Upper;
- If any woody scrub vegetation is cut it, should be undertaken during the autumn period to avoid impacting on breeding birds. However, if required during nesting season the project ecologist will inspect for any nests and advise on the necessary course of action;
- In the unlikely event of a suspected deterioration in water quality within the Killinagh Upper due to construction works at the development site, works will immediately cease, an investigation into the cause undertaken and the relevant NPWS and Inland Fisheries Ireland personnel informed.
- Where spoil is generated, this will only be stored temporarily. A designated spoil area will be established by the construction works contractor within the site footprint. This will be located away from any watercourse such as the Killinagh Upper or drainage ditches;
- Cutting of woody vegetation along the Killinagh Upper should be undertaken during the autumn period to avoid impacting on spawning of salmonids, breeding birds, coarse-fish eggs, etc;
- Re-profiling of banks should not be undertaken as part of vegetation clearance;

- To minimise any potential impacts on salmonid fish, outfall works would be undertaken in the July to September period where possible, which would avoid the salmonid spawning season. Should outfall works be required outside the July – September timeframe, works would only commence upon prior agreement with IFI;
- Where re-fuelling of construction plant is required to take place onsite, re-fuelling would take place within a bunded area. Under no circumstances would re-fuelling take place within the immediate vicinity of watercourses, including drainage ditches;
- Where construction plant shows signs of hydrocarbon leakage, site personnel would cease the operation of the item in plant in question. Any defective plant would be kept out of service until the necessary repairs are undertaken;
- In the unlikely event of a suspected deterioration in water quality within any of the watercourses due to construction works at the development site, works would immediately cease, an investigation into the cause undertaken and the relevant NPWS and Inland Fisheries Ireland personnel informed;

**Residual Impacts**

Assuming all control measures are put in place, there would be no significant residual impacts to the aquatic ecology or deterioration in water quality from the proposed development. It is therefore considered that due to the proposed mitigation measures, there would be no adverse effect to protected habitats and species of the River Barrow and River Nore SAC during the construction phase of the proposed development.

## 9.0 IN COMBINATION EFFECTS

The following plans and projects were reviewed and considered for in-combination effects with the development site:

- Kildare County Development Plan 2023-2029
- Proposed and permitted developments in the area available on Kildare County Council planning system.

The proposed development is located in Allenwood South townland approximately 1.98km from Allenwood town, which is described as a Village, according to the Kildare County Council Development Plan 2023-2029. The development site is accessed via the L70042 Nursery Road along the south-eastern boundary. The Nursery Road joins with the R414 regional road approximately 750m to the north-east of the site entrance. It also connects to other local roads in the area. The following plans and projects were reviewed and considered for in-combination effects with the development site.

**Table 9.1:** Recent planning applications close to the proposed site

| Application No. | Development Type | Outcome | Approximate Distance |
|---|---|---|---|
| 2076 | For: (1) a Dormer dwelling as constructed; (2) Planning permission to complete the construction of the dwelling, revise the site boundary and all associated siteworks, previously granted permission under planning Ref. 08/615 | Granted | 85m W |

| Application No. | Development Type | Outcome | Approximate Distance |
|---|---|---|---|
| 23667 | Construction of a single storey bungalow, secondary effluent treatment system, recessed entrance, domestic garage and all associated site works | Granted | 95m W |
| 21841 | Of an existing domestic shed | Granted | 95m W |
| 23180 | Constructing a detached domestic garage, and all associated ancillary siteworks | Granted | 122m S |
| 20813 | Replacement of former dormer bungalow (granted planning permission under file ref. 00/2136, since demolished due to fire) on existing foundations, altered to comply with current Building Regulations, and all associated ancillary site-works. | Granted | 122m S |
| 19116 | Alterations to previously granted planning permission Ref. 16/55. The alteration consists of a proposed extension to be located to the rear of the house as opposed to the already granted extension to the side | Granted | 195m W |
| 22676 | For existing single storey detached domestic garage which has been converted as a home office and recreation room ancillary to the main house on site with attic storage, retention as constructed and all associated site works. | Granted | 510m NW |
| 21879 | Single storey side extension to existing detached house for use as a family unit and all associated site works | Granted | 550m NW |
| 23158 | Replacement of existing septic tank serving existing house with new wastewater treatment system & associated percolation areas, and also the erection of a new single storey ancillary garden room accommodation (51.5m2 nett internal area) unit to garden at side of existing house with new gravel pathway on existing site comprising (2030m2) 0.203 hectares approximately | Granted | 760m NE |
| 22964 | (A) the erection of a single storey house, (B) garage/fuel store for domestic use, (C) the installation of a proprietary wastewater treatment system with percolation area and (D) upgrade of existing vehicular entrance and access drive way and all associated site works. Revised by Significant Further Information which consists of amendment of red line boundary to include works to reposition existing percolation area. | Granted | 760m N |
| 203 | To construct a bungalow, domestic garage, tertiary waste water treatment system and percolation area and all associated works. | Granted | 1.4km NW |

Potential in-combination effects are discussed under the following headings.

## 9.1 HABITAT LOSS / FRAGMENTATION

As discussed in Section 6.1, the proposed development does not directly impinge on any part of a European site, and as such would not be expected to have any *in-situ* effects upon a protected site through loss or destruction of habitat or fragmentation of habitat. With regards *ex-situ* effects, it is not considered that the proposed development site would contain the habitats or species for which the River Barrow and River Nore SAC have been designated.

The land use of the area is a combination of agriculture and peat extraction with residential premises within the immediate vicinity of the development which can be considered as having been modified. The Killinagh Upper is of high biodiversity value and runs along the western boundary. No woodlands or treelines existing within the red line boundary. No treelines or hedgerows outside the boundary will be removed. No protected habitats associated with the River Barrow and River Nore SAC were found within the red line boundary. Existing Cherry Laurel hedging will be removed to facilitate the new development. This species is considered a high impact unscheduled invasive species.

The majority of the flora found in the grassland habitats are grasses with some common wildflowers associated with dry calcareous and neutral grassland. As such the area would be considered as having been modified and of low to medium ecological value. Therefore, the loss of this habitat is not considered to be significant. The landscape plan proposes to plant native and non-native non-invasive species with a range of habitats from grasslands to woodlands. The proposed planting scheme will increase the overall biodiversity of the site with opportunities for nesting birds, pollinators, amphibians etc.

Developments were identified on the Kildare County Council planning site within the vicinity of the applicants proposed site with the majority being residential. Should future planning applications be submitted for the area, it is likely that they would also be located on agricultural land. Therefore, it is unlikely that future proposed developments would result in the loss or fragmentation of designated habitats of the River Barrow and River Nore SAC. Therefore, no in-combination effects on habitat loss / fragmentation are anticipated.

## 9.2 DISTURBANCE TO SPECIES

Disturbance to species may arise through noise emissions and human activity. The main in-combination noise and human activity effects would be from any commercial and agricultural activities within the area. However, as noted above, there are few commercial enterprises located within the vicinity of the development site, with the general area around the development site mainly used for agricultural purposes and for some dispersed one-off housing.

During site works, any waste material would be removed and would be either stored for re-use in the construction phase or be removed to a licenced waste facility. Any hedgerows or trees would be removed outside the bird nesting season (1st march to 31st August). No construction works other than the installation of the new headwall within the Killinagh Upper would be undertaken within 10m of the watercourse, maintaining a protective buffer zone.

In-stream works will be required within the Killinagh upper watercourse. Given the mitigation measures listed within this report, it is not anticipated that the proposed development would have a significant impact on aquatic species within the area.

In terms of disturbance due to noise during the construction phase, fauna would be accustomed to noise generated by peat extraction, agricultural activities and human activities within the surrounding environment. It should also be noted that an active quarry is currently in operation within the area with noise audible at the proposed development as was discovered during the site assessment. Construction works will be undertaken during daylight hours, therefore there would be considered no significant impact to protected nocturnal species.

During the operational phase of the proposed development, the operating hours will be 9am to 6pm from Tuesday to Saturday. A Noise Impact Assessment Report was completed as part of this development. It proposed mitigation measures such as an acoustic barrier at selected locations around the proposed development with a minimum height of 1m. This would be expected to reduce noise levels by between 8-10dB(A). The report concluded that during a worst-case scenario whereby the maximum number of electric vehicles and small bikes were using the track simultaneously, would result in a noise level below the permissible level of 55dB(A) (Refer to accompanying CEMP).

Therefore, owing to the surrounding land use and the measures in place during the operational phase, it is considered that the proposed development will not significantly increase cumulative noise impacts, or other disturbance effects due to human activity, which would pose a significant risk to designated sites or species and habitats within.

### 9.3 AIR QUALITY

From mapping websites, there are commercial activities within the townland of Allenwood South and nearby Allenwood Town, however there are no heavy industrial enterprises located within the vicinity of the proposed development site. The nearest EPA licenced sites are located approximately 4.5km southeast from the proposed development site. These facilities are obliged to operate their site in compliance with their Waste / IE / IPC licences, and therefore would be obliged to ensure air emissions are in compliance with any emission limit values outlined within their EPA licences.

The potential disturbance on protected habitats and other fauna due to dust during the construction phase would not be considered significant, given the transient nature of construction works and the scale of the development. Dust particles would be deposited within 100m and, according to the survey carried out by TMS Environmental Ltd. as part of the Dust Management Plan, dust deposition levels were "*significantly lower than the permissible level, consistent with expectations for a rural area and do not show any evidence of adverse air quality impacts due to any existing activity at the site"*. Additionally, dust generated from the zero emission electric vehicles are "*expected to be deposited on the site in close proximity to where it is generated and would not be expected to travel off site"*. The report also concluded that "*measured air quality lies well within the permissible levels and indicates that the existing activity is not exerting an adverse impact on air quality"*. (See accompanying PE_EcIA_10071). The Dust Management Plan includes construction mitigation measures.

The landscape plan includes a variety of tree planting and woodland habitats which would act as a barrier to particulate matter within the air. During dry conditions, there is potential for dust to be generated however, dust will be minimised by using wet suppression techniques 1-2 times a day to adequately control emissions. Dust emissions may arise from activities during the operational phase, however, with the implementation of measures and recommendations, the risk of suspended solids being release into nearby drainage ditches and watercourses is greatly reduced.

It is considered that there would be no cumulative air quality impacts which would pose a significant risk to the River Barrow and River Nore SAC.

### 9.4 DETERIORATION IN WATER QUALITY

In-combination impacts would be controlled by national energy policies, grant schemes and motor fuel emission targets. Continued implementation of the Water Framework Directive would result in achieving, or maintaining, improvements to water quality in the Barrow Catchment. Developments such as this proposed development could act in combination with existing environmental pressures on the Barrow Catchment, including agriculture, anthropogenic, domestic and urban wastewater, urban run-off, industry (including extractive) and forestry.

However, as noted in Section 8.3, it is not considered that the development would pose a significant risk upon any Natura 2000 site due to a deleterious effect in water quality, during the operational phase. Stormwater will be discharged to a series of bio-retention (rain gardens) and swale drainage with attenuation tanks, hydrobrake and interceptor before being released into the Killinagh Upper. Waste water will be directed to the new proposed Oakstown BAF 20 PE Waste Water Treatment System and percolation area within the red line boundary. The proposed WWTS must be installed by a qualified engineer that will supervise the process and ensure the correct procedures are put in place. Once the WWTS is in compliance with all regulations and maintained by certified contractors there will be no adverse effect on water quality in the area. Therefore, there will be no cumulative impacts on water quality from the proposed development.

Construction phase mitigation measures will be put in place to protect manhole covers and soakaways during construction works, these measures will include silt control features such as silt mats and silt fences that will prevent a significant impact on the drainage network. This will limit any adverse effect on the water quality of the River Barrow and River Nore SAC.

## 10.0 CONCLUSION

It is not anticipated that the proposed development, subject to recommended mitigation measures, by itself or in combination with other developments, would impact negatively upon the Natura 2000 network during the site preparation or operational phases of the project.

The proposed development site is located approximately 18.1km from the River Barrow and River Nore SAC (Site Code: 002162) with a direct hydrological connection to this site. It is considered that the proposed development would not result in any significant risk to the

protected habitats and species of the aforementioned site due to habitat fragmentation or loss, disturbance or reduction in species density or introduction of invasive species.

It is the conclusion of this Natura Impact Statement that, subject to recommended mitigation measures, there would be no potential for significant impacts on European sites as a result of the proposed development and mitigation measures to be employed. This conclusion refers to the development by itself or in combination with other developments.

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# APPENDIX A

# PROPOSED SITE LAYOUT MAPS



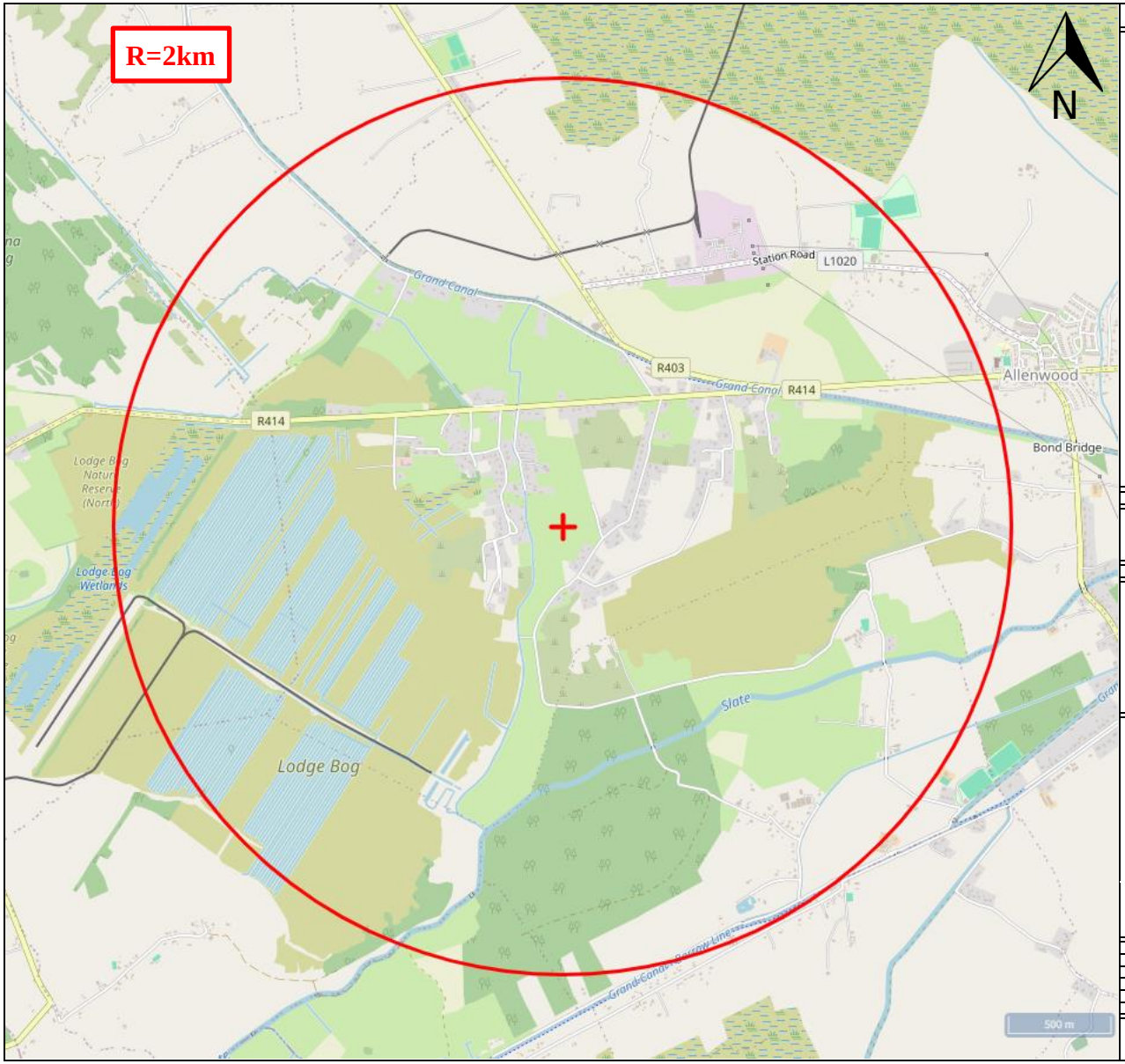

GENERAL NOTES
SURFACE WATER LEGEND
ISSUED FOR PLANNING
DONNACHADH O'BRIEN
CABLE TECHNICAL SERVICES LTD
ALLENWOOD SOUTH - ELECTRIC BIKE PARK
PROPOSED SURFACE WATER LAYOUT


GENERAL NOTES
ZONE LEGEND
ISSUED FOR PLANNING
DONNACHADH O'BRIEN
& ASSOCIATES CONSULTING ENGINEERS
CABLE TECHNICAL SERVICES LTD
ALLENWOOD SOUTH - ELECTRIC BIKE PARK
PROPOSED SITE LAYOUT


A0
SITE TOPOGRAPHY - GRADIENT
SHOWING THE TERRAIN AND LEVEL CHANGE, FROM THE HIGHEST POINT +76.50 TO THE LOWEST POINT +72.00
72.00-72.50
72.50-73.00
73.00-73.50
73.50-74.00
74.00-74.50
74.50-75.00
75.00-75.50
75.50-76.00
76.00-76.50
Green Infrastructure Strategy
This site currently comprises of two definable fields, framed by the hedgerows and existing watercourses to the perimeter of the site. A number of formed mounds, depressions and trackways comprise the existing features within the largest field. The smaller field is fenced from the remainder of the site.
The green infrastructure concept involves the protection of existing vegetation and the creating of new woodland habitats that create ecological corridors and habitat connections within the site and beyond.
In order to enhance the ecology of the area a variation of planting will be used, ranging from species rich woodland planting to screen woodland planting to bio retention planting and the introduction of species rich grassland on the poorer soils. Consideration has been given to species and maintenance requirements of proposed habitats though the inclusion of native and pollinator friendly non-native planting.
The proposals seek to create a positive receiving environment in the following ways:
Retention of existing vegetation
Retention of existing recently planted trees
Removal of recently planted Laurel
Development of greater biodiversity within the site and habitat connections with the introduction of the following woodland types:
Woodland – Birch/Oak/Pine/Hazel with high % of evergreens
Woodland – Birch/Oak/Pine/Hazel
Woodland – Birch/Pine/Willow
Wet Woodland
Bioretention swales
New Species Rich areas of grassland
Introduction of grass walking routes
The overall landscape will benefit aesthetically from the Green Infrastructure strategy and in doing so increases the net biodiversity of the site.
NORTH
Existing Site Layout
Landmark
Design & Environment Ltd
and Consultants
01

# APPENDIX B

# PROTECTED SITE MAPS




Notes

– Location of Development

- SAC

- SPA

Project Title:

Protected Sites Map

Client Name:

ELECTRIC BIKE PARK, ALLENWOOD, CO. KILDARE

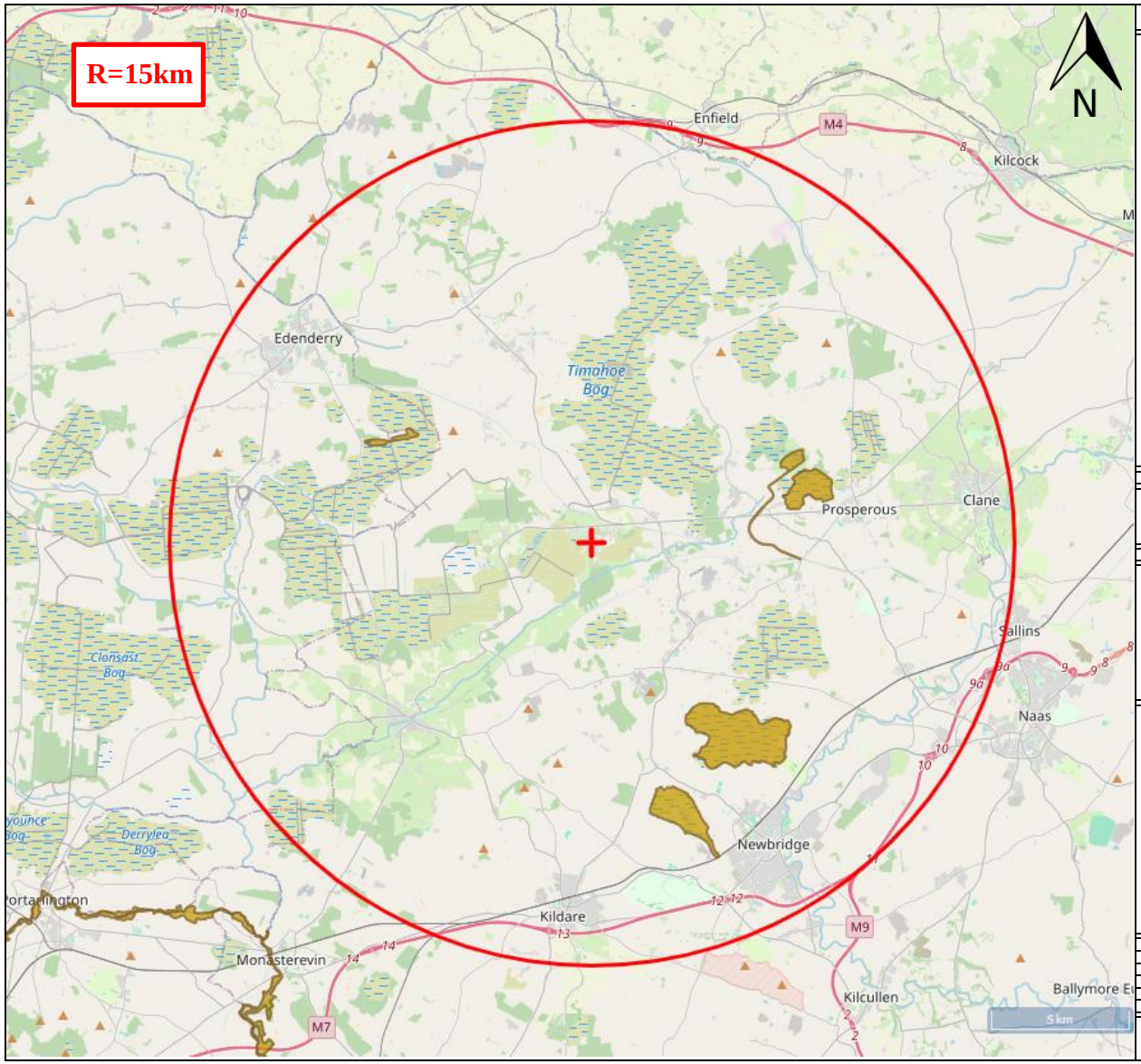
PANTHER ECOLOGY LTD

UNITS 3 & 4
INNOVATION CENTRE
GREEN ROAD
CARLOW
R93 W248

TELE: 059 91 34222
MOBILE: 087 851 9284
EMAIL:info@pantherwms.com
WEB: www.pantherwms.com

| Drawing Status: | Scale: | NTS | A4 |
|---|---|---|---|
| Report | Datum: | EPA Maps | |
| Drawing Number: | Drawn: | PES | |
| NIS_10155 | Checked: | MF | |
| Revision: | Approved: | - | |
| | Date: | 01/02/2024 | |

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Notes

– Location of Development

- SAC

- SPA

Project Title:

Protected Sites Map

Client Name:

ELECTRIC BIKE PARK, ALLENWOOD, CO. KILDARE

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| Report | Datum: | | EPA Maps |
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| Revision: | Approved: | | - |
| | Date: | | 01/02/2024 |

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# APPENDIX C

# PHOTO LOG



Plate 1: Site entrance along Nursery Road



Plate 2: Dry calcareous and neutral grassland (GS1)



Plate 3: Buildings and artificial surfaces (BL3)



Plate 4: Other artificial ponds and lakes (FL8)

Notes:

ELECTRIC BIKE PARK, ALLENWOOD, CO. KILDARE

**APPENDIX C**
**PHOTO LOG**

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GREEN ROAD
CARLOW

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| file location: | | scale: N/A | A4 |
| drawing status: REPORT | | datum: N/A | |
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| drawing no. | rev | checked: MF | |
| | | approved: - | |
| NIS_10155 | A | date: May – June 23 | |

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Plate 5: Drainage ditch (FW4)



Plate 6: Killinagh Upper (FW2)



Plate 7: Spoil and bare ground (ED2)



Plate 8: Dry meadows and grassy verges (GS2)

Notes:

ALLENWOOD
CO. KILDARE

**APPENDIX C**
**PHOTO LOG**

PANTHER ECOLOGY LTD

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EMAIL: info@pantherwms.com
WEB: www.pantherwms.com

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| drawing no. | rev | checked: | MF |
| | | approved: | - |
| NIS_10155 | A | date: | May – June 2023 |

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# APPENDIX D

## SILT FENCING SPECIFICATIONS

## SILT FENCING SPECIFICATIONS

Silt fencing consists of porous filter fabric which detains sediment and the support posts. The fabric must be trenched-in and backfilled, and the soil compacted around it. The posts are sunk into the ground and can be either steel or wood. How much is required will be determined by the location, size and topography of the site with some sites requiring more than others. Silt fencing works by blocking runoff water and creating a pond behind it. This dissipates the energy in running water and allows for sediments to sink while the water can either pass through, percolate to ground or evaporate.

Silt fencing installation should have posts anywhere from 1m to 2m apart as the silt fencing has to withstand the force of water building up behind it. The fabric must be secured to the posts using plastic cable ties, wire twists or construction grade staples. It is important that there is no gap between the silt fencing and the ground. Trenching-in the fabric will ensure a solid anchor in the ground and ensures runoff water does not get past. Silt fencing fabric must be able to withstand all weather conditions and made of special material that's high quality, permeable, technical filter fabric and can prevent runoff from a storm event. The material used in silt fencing will determine how durable and efficient it is as stopping sediment from reaching a protected area. Material can be geotextile fabric, produced from high-tenacity polypropylene silt-film.
The building contractor will determine the most appropriate type of silt fencing to use and ensure its correct installation and maintenance throughout the construction phase. Silt fencing must remain in place until there is no risk of sediments from entering a protected habitat or watercourse. Silt fences must be inspected daily and after a heavy rainfall event with repairs carried out if required. When sediment accumulation reaches one third the height of the exposed fence either remove the sediments or install a second silt fence as directed by the construction site manager/engineer.

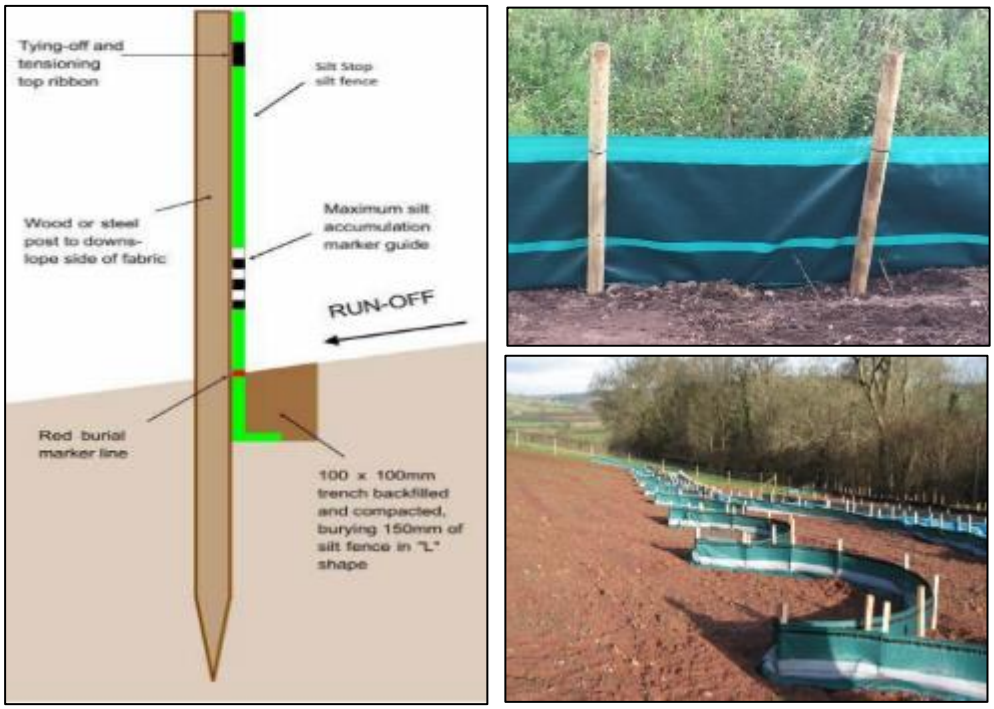
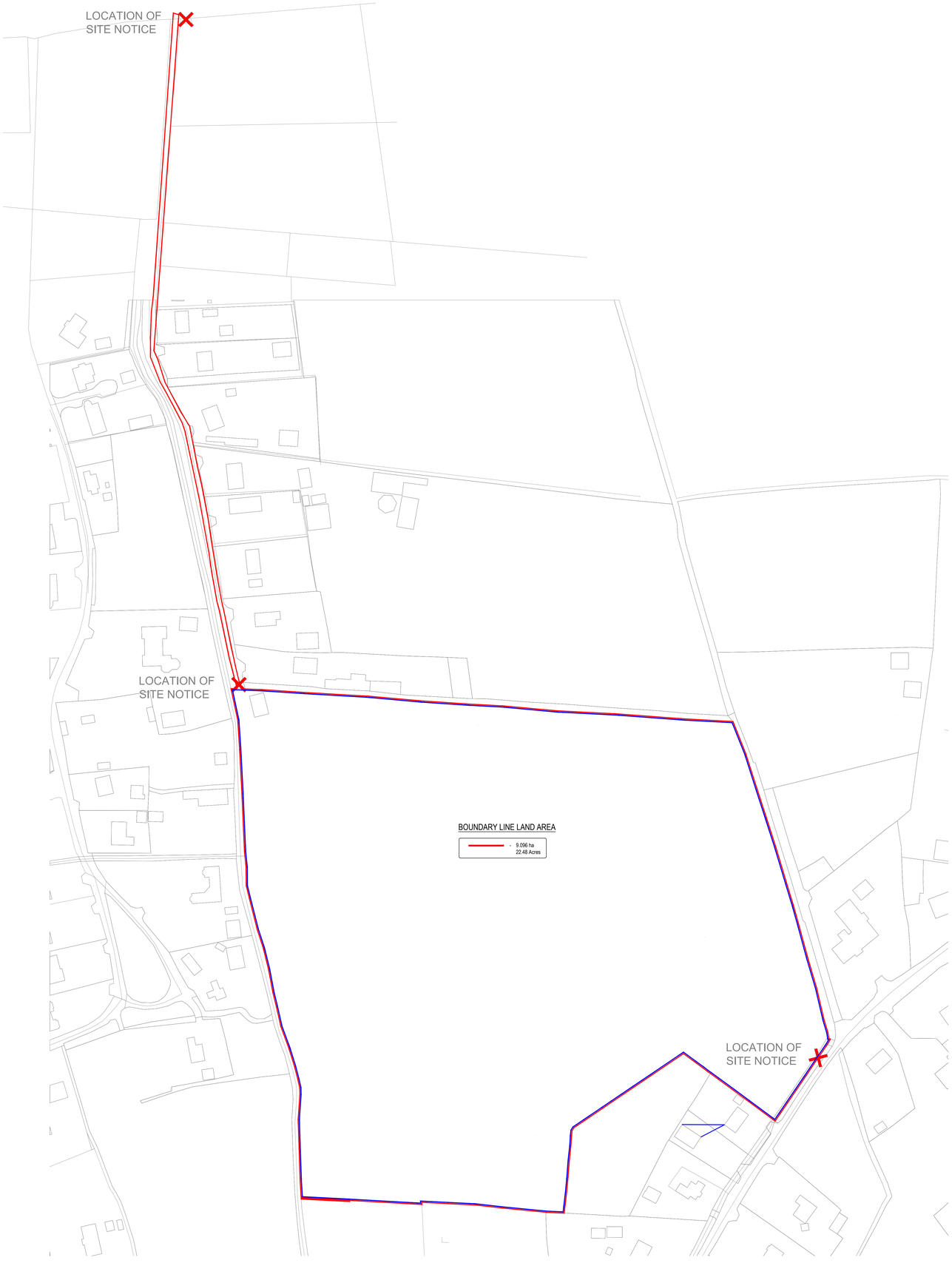
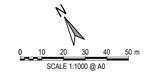



**Figure Appendix D1:** Example of Silt Fencing and Installation

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PROPOSED SITE LOCATION MAP
SCALE 1:1000




LEGEND!

- RED BOUNDARY LINE - 9.096 ha 22.48 Acres
- BLUE BOUNDARY LINE

## NOTES:

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Description:
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Digital Cartographic Model (DCM)

Publisher / Source:
==========
Ordnance Survey Ireland (OSi)

Data Source / Reference:
==========
PRIME2

File Format:
==========
Autodesk AutoCAD (DWG_R2013)

File Name:
==========
v_50161877_1.dwg

Clip Extent / Area of Interest (AOI):
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LRX,LRY= 673947.675,725358.8227
ULX,ULY= 673332.675,726188.8227
URX,URY= 673947.675,726188.8227

Projection / Spatial Reference:
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Projection= IRENET95_Irish_Transverse_Mercator

Centre Point Coordinates:
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X,Y= 673640.175,725773.8227

Reference Index:
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Map Series | Map Sheets
1:2,500 | 3381-D
1:2,500 | 3381-C
1:2,500 | 3444-B
1:2,500 | 3444-A

Data Extraction Date:
==========
Date= 15-Dec-2020

Source Data Release:
==========
DCLMS Release V1.135.111

Product Version:
==========
Version= 1.3

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Ní hionann bóthar, bealach nó cosán a bheith ar an léarscáil seo agus fianaise ar chead slí.

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| Rev. | Note | Date | Drawn | Check |
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| S2.P01 | ISSUED FOR PLANNING | 25.08.2023 | KN | GB |

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| | |
|---|---|
| Client: | CABLE TECHNICAL SERVICES LTD. |
| Project: | ALLENWOOD SOUTH - ELECTRIC BIKE PARK |
| Drawing Title: | SITE LOCATION MAP |

| Drawn By: | Checked By: | Approved By: | Date: | Scale: | Sheet Size: |
|---|---|---|---|---|---|
| NQ | GB | DOB | SEPT 2022 | 1:1000 | A0 |

| Project Number: | Drawing Number: | Status Code: | Rev Number: |
|---|---|---|---|
| DOBA2209 | 2209-DOB-XX-SI- DR-C-0010 | S2 | P01 |

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N

0 5 10 15 20 25 m

SCALE 1:500 @ A1; 1:1000 @ A3

## GENERAL NOTES:

1. REFER TO ARCHITECTS DRAWINGS FOR ALL SITE & APPLICATION BOUNDARIES
2. THIS DRAWING IS TO BE READ IN CONJUNCTION WITH ALL OTHER RELEVANT ARCHITECT'S & ENGINEER'S DRAWINGS AND SPECIFICATIONS.
3. USE FIGURED DIMENSIONS ONLY. DO NOT SCALE IDARIES VANT
4. FOR ALL FLOOR LEVELS, ROAD LEVELS & ALL EXTERNAL YARD / GARDEN LEVELS REFER TO ARCHITECTS DRAWINGS
5. ALL DPC's, DPM's, RADON BARRIERS, INSULATION AND ALL WEATHERING DETAILS TO ARCHITECT'S DRAWINGS & SPECIFICATIONS )F
6. THE CONTRACTOR SHALL VERIFY ALL DIMENSIONS AND LEVELS WITH ARCHITECTURAL DRAWINGS PRIOR TO START OF CONSTRUCTION. ANY DISCREPANCIES TO BE NOTIFIED TO THE ENGINEER & ARCHITECT FOR RESOLUTION ' KS ARE
7. CONTRACTOR TO ALLOW FOR MAKING GOOD SURFACE FINISHES AND MAKING ALL NECESSARY LEVEL ADJUSTMENTS TO ALL EXISTING MANHOLES AND UTILITY TAILS CHAMBERS THAT ARE TO REMAIN IN PUBLIC OPEN SPACES
9. TESTING OF ALL GRAVITY SEWERS AND MANHOLES TO BE IN ACCORDANCE WITH IRISH WATER CODE OF PRACTICE FOR WASTEWATER INFRASTRUCTURE SECTION 4.10 TESTING OF GRAVITY SEWERS & MANHOLES

FOR INFORMATION ONLY

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|---|---|---|---|---|
| C.01 | ISSUED FOR INFORMATION | 17.06.2025 | KN | GB |

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| Drawing Title: | S.5 APPLICATION DRAWING |

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| KN | GB | DOB | FEB 2025 | 1:500 | A0 |

| Project Number: | Drawing Number: | Status Code: | Rev Number: |
|---|---|---|---|
| DOBA2209 | 2209-DOB-XX-SI- DR-C-0001 | C | 01 |

**NURSERY ROAD, ALLENWOOD, CO. KILDARE**

25.6.25

## Site Location and Description

The subject site is located to the west of Nursery Road (L70042) in Allenwood South near Allenwood in County Kildare – see fig. no.1.

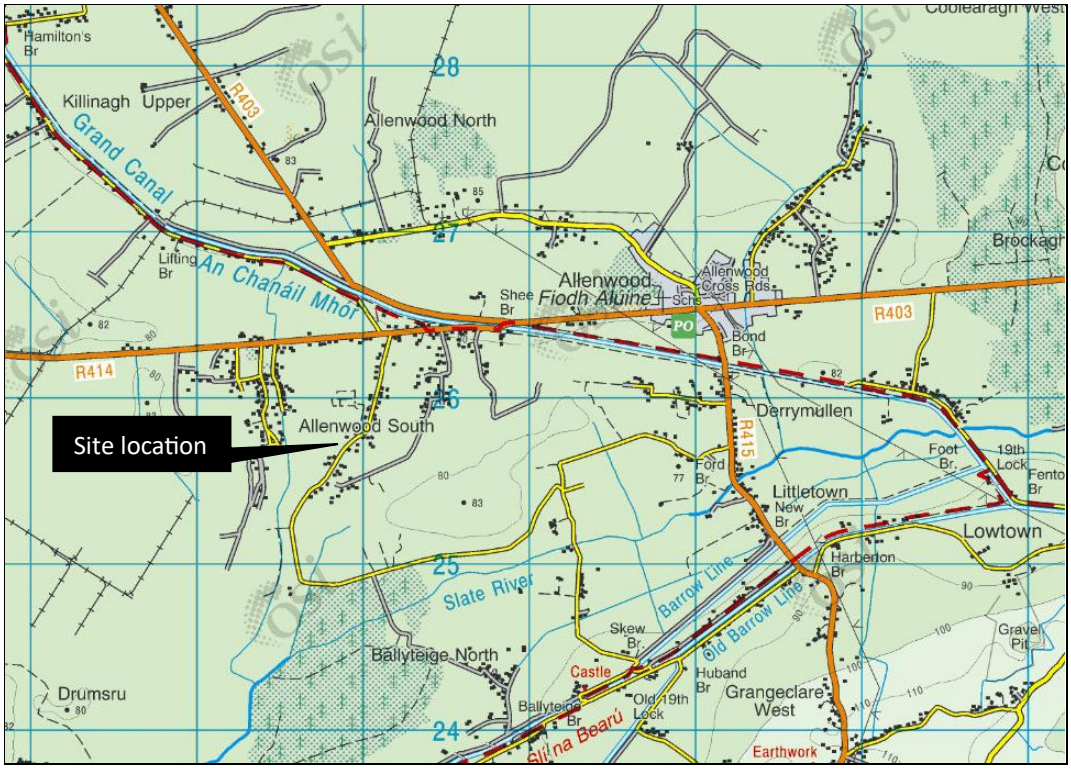



**Fig No.1** Site Location Map (source: Myplan.ie - OSI Licence No.EN 0080915).

## Site Description

The subject site (9.096 hectares) consists of a series of raised mounds of earth arranged in an irregular linear type format within the central portion. There are also existing access tracks consisting of hardcore material. The remainder of the site is in a greenfield state (including shallow lakes) apart from a small agricultural shed in the north-west corner.

There are overhead telephone wires located on the site.

Vehicular access is a via an agricultural gate onto Nursery Road and another agricultural entrance to the north-west which provides access to the shed.

A tributary of the Slate River runs along the western boundary of the site flowing in a southerly direction.

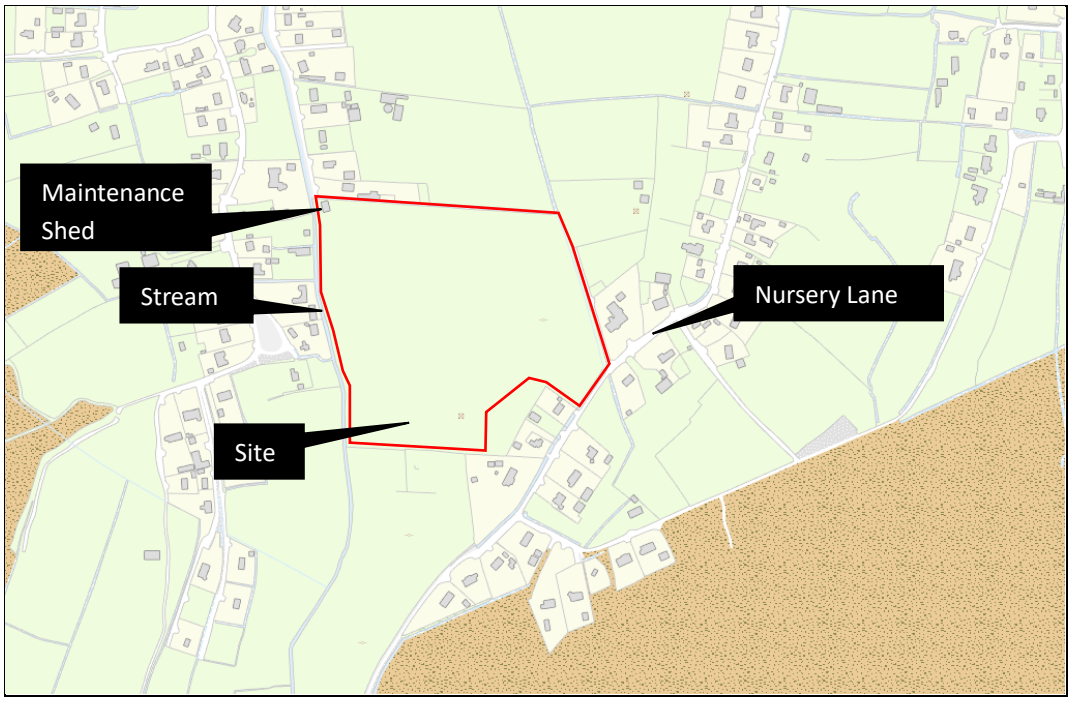



**Fig No. 2** Site Map (source: Myplan.ie - OSI Licence No.EN 0080915).




**Fig No.3** Satellite image of the site (Google Earth Pro March 2017).




**Fig No.3a** Satellite image of the site (Google Earth Pro March 2022).




**Fig No.4** Satellite image of the site (Google Earth Pro Sept 2022).




**Fig No.5** Satellite image of the site (Google Earth Pro Sept 2024).










**Fig No.7** Photographs of the site in July 2023 with the shallow ponds created to form the track now regenerating and adding to the biodiversity of the area.



**Fig No.8** Photograph of the stream to the west.

# ED1250

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| BOIHSR | DAVID MULCAHY | 80.00 | | BANK | 1864609 | 1 | 0 | 30/06/2025 |

30/06/2025 — DAVID MULCAHY — + €80.00

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| Payee IBAN: | IE69 BOFI 9012 3911 0668 06 |
| Originator Name: | DAVID MULCAHY PLANNING CONSULTANTS |
| Amount: | + €80.00 |
| Value Date: | 30/06/2025 |
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| Payee Reference Party Name: | Not provided by sender |
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| Remittance Information: | SECTION 5 FEE DAVID MULCAHY PLANNING CONSULTANTS LTD RE CABLE TECHNICAL SERVICES LTD BARRY TRAVERS |