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APPROPRIATE ASSESSMENT SCREENING REPORT

**CREAGH,
GOREY,
Co. WEXFORD**

2018

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TABLE OF CONTENTS

| | | |
|------------|--|-----------|
| 1.0 | INTRODUCTION | 1 |
| 2.0 | LEGISLATIVE CONTEXT | 1 |
| 3.0 | SCREENING FOR APPROPRIATE ASSESSMENT | 2 |
| 4.0 | DESCRIPTION OF PROPOSED DEVELOPMENT AND EXISTING SITE | 3 |
| 4.1 | PROPOSED DEVELOPMENT | 3 |
| 4.2 | EXISTING ENVIRONMENT | 4 |
| 4.2.1 | Additional Information on Water Quality | 6 |
| 5.0 | NATURA 2000 SITES | 8 |
| 5.1 | SLANEY RIVER VALLEY SAC (CODE: 00781) | 8 |
| 5.2 | KILPATRICK SANDHILLS SAC (CODE: 001742) | 11 |
| 6.0 | ASSESSMENT OF LIKELY IMPACTS | 13 |
| 6.1 | DISTURBANCE TO PROTECTED HABITATS AND SPECIES | 13 |
| 6.2 | INVASIVE SPECIES | 13 |
| 6.3 | POTENTIAL IMPACTS ON WATER QUALITY | 14 |
| 6.4 | IN COMBINATION EFFECTS | 15 |
| 7.0 | SCREENING STATEMENT AND CONCLUSIONS | 17 |
| 8.0 | REFERENCES | 17 |

LIST OF FIGURES

| | |
|---|----|
| Figure 4.1 – Location of Proposed Development at Creagh, Gorey, Co. Wexford | 3 |
| Figure 4.2 – EPA Ecological Monitoring on the River Banoge from 1995 – 2017 | 7 |
| Figure 5.1 – Slaney River Valley SAC | 11 |
| Figure 5.2 – Kilpatrick Sandhills SAC | 12 |

LIST OF TABLES

| | |
|---|----|
| Table 4.1 – Monitoring Stations of the River Banoge within the Vicinity of the Proposed Development | 7 |
| Table 6.1 – EPA Waste Licenced Facilities within 5km of the Proposed Development | 16 |

1.0 INTRODUCTION

This Appropriate Assessment Screening Report has been prepared by Panther Environmental Solutions Ltd to accompany a pre-application request to An Bord Pleanála, with respect to an application for the proposed construction of residential units and a childcare facility at Creagh, Gorey, Co. Wexford.

This Appropriate Assessment Screening Report has been prepared with regards to the European Communities (Natural Habitats) Regulations 1997 (S.I. No. 94 of 1997), and the later amendment regulations (S.I. No. 233 of 1998; S.I. No. 237 of 2005).

A study was undertaken by Ms. Lorraine Wyse, BSc of Panther Environmental Solutions Ltd. This comprised a review of the proposed development, site visits on the 21st of December 2017, 14th of August 2018 and 28th of September 2018 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 an 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 and flora, as amended 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.

Article 6(3) and 6(4) of the Habitats Directive lays down the procedure to be followed 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.”

Article 6(4) would come into force following a determination that a plan or project may adversely affect the integrity of a Natura 2000 site.

In Ireland, the implementation of these provisions of the EU Habitats Directive occurs in four stages:

Stage 1: Screening for Appropriate Assessment

This stage involves an initial screening assessment of the potential impacts of the project, either alone or in combination with other projects, upon a Natura 2000 site. If it can be concluded that there would be no significant impacts upon Natura 2000 sites, the assessment stops at this stage. If not, or if further assessment is required, the assessment proceeds to Stage 2.

Stage 2: Appropriate Assessment / Natura Impact Statement (NIS)

This stage assesses the impact of the project, alone or in combination with other projects or plans, on the integrity of the Natura 2000 site, with respect to the site’s conservation objectives, the site’s ecological structure and function and its overall integrity. The output of this stage is an NIS, which also includes any mitigation measures required to avoid, reduce or offset negative impacts of the project. If this stage determines that

adverse effects on the Natura 2000 site cannot be excluded, then the plan or project should proceed to Stage 3 or be abandoned.

Stage 3: Assessment of Alternative Solutions

A detailed investigation is undertaken in this stage to determine whether alternative ways of achieving the objectives of the project or plan exist. Where no alternatives exist, the project or plan must proceed to Stage 4 or must be abandoned.

Stage 4: Assessment where no Alternatives Exist and where Adverse Impacts Remain

This is the final stage of the process, and is an assessment of compensatory measures where, in the light of an assessment of Imperative Reasons of Overriding Public Interest (IROPI), it is deemed that the project or plan should proceed.

These safeguards are intended to ensure that future plans or projects are not authorised if they are likely to adversely affect the integrity of a Natura 2000 site. Significant impacts may include, but are not exclusive to, a loss of habitat area, fragmentation of the habitat, disturbance to species using the site and changes in water resources or quality.

3.0 SCREENING FOR APPROPRIATE ASSESSMENT

Screening is the first stage in the Appropriate Assessment process, and is carried out to determine the necessity for a more detailed Natura Impact Statement (Stage 2) where potential impacts are deemed to be of significance. 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 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 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 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.

Screening for Appropriate Assessment involves:

- Description of the project and area characteristics (existing environment);
 - Identification and description of Natura 2000 sites that could potentially be affected, and compilation of information on their qualifying interests and conservation objectives;
 - Assessment of likely effects – direct, indirect and cumulative, undertaken on the basis of availability of information as a desk study, or field survey, or primary research as necessary;
 - Screening statement with conclusions.
-

4.0 DESCRIPTION OF PROPOSED DEVELOPMENT AND EXISTING SITE

4.1 PROPOSED DEVELOPMENT

The proposed development would comprise of the construction of a residential estate, with a variety of housing and apartment types and designs, and a childcare facility at Creagh, Gorey, Co. Wexford. A location map is included as Figure 4.1 below. A total of 297 residential dwellings are proposed, 232 of which would comprise of two, three, four and five bedroom houses, with the remaining 65 dwellings comprising of two and three bedroom apartments. Dwellings would be either two or three storeys in height, depending on their location and number of bedrooms.

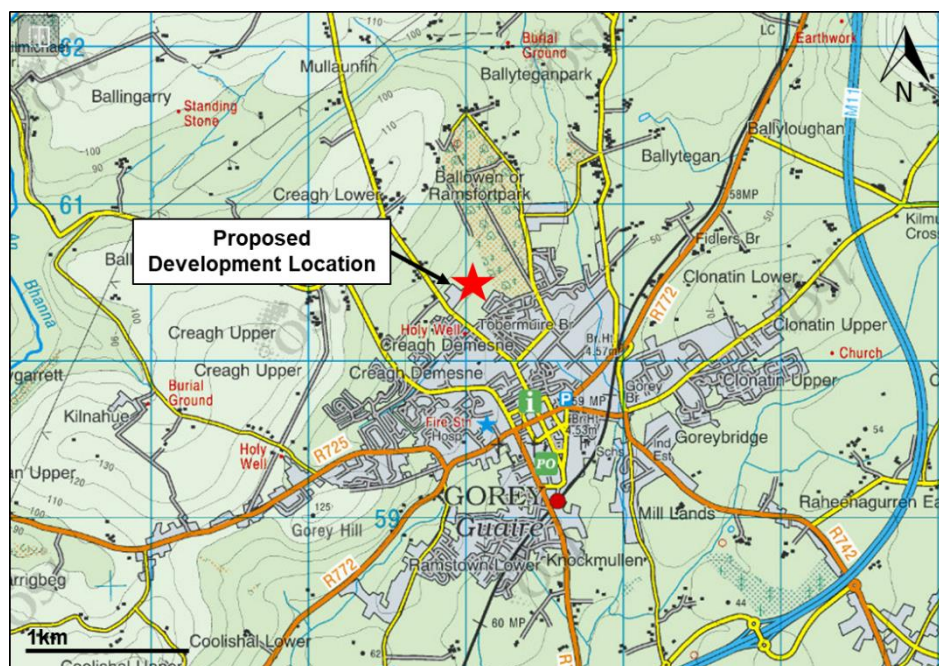


Figure 4.1 – Location of Proposed Development at Creagh, Gorey, Co. Wexford

The proposed development would also include the construction of storm water and foul sewer drainage systems and all ancillary development works including internal road surfacing, boundary construction, the provision of outdoor artificial lighting and site landscaping.

The expected construction timeframe would be approximately five years, with hours of operation from 8am to 6pm, Monday to Saturday. A temporary site compound would be established near the entrance of the proposed site, housing the site offices, storage facilities and staff welfare facilities such as a canteen and toilets.

During the construction phase, site clearance works would be undertaken, which would involve the removal of existing rubble and other infrastructure from the site, earth-moving activities and some vegetation removal, including scrub and sections of hedgerows / treelines. No hedgerow or treeline removal works would be conducted during the 1st of March to the 31st of August so as not to disturb nesting bird species. Following site clearance works, construction of the residential dwellings and childcare facility would commence.

A new stormwater drainage system would be constructed. Storm water, comprised of rainwater run-off from roofs and paved areas, would be collected via a system of gullies and stormwater drains and would pass through a Class I Bypass Separator and Attenuation System prior to connecting with the Ballyowen Stream.

It is proposed to modify the existing drainage channel along the north-eastern and south-eastern boundaries of the site to accommodate the development as proposed, while also maintaining the functionality of the drainage channel to convey surface water runoff from surrounding lands. It is proposed to pipe this drainage channel using a 525mm diameter perforated pipe, surrounded by Type B filter drain material. This pipe has been sized to ensure it has the adequate hydraulic capacity to convey the 1 in 100 year (1% AEP) and calculated additional climate change volumes. It is also proposed that the first 116m section of the channel be re-profiled and vegetated in order to form a swale-type channel.

A new domestic wastewater system would also be constructed. Domestic wastewater would be directed to Gorey town's public sewer, which would undergo treatment at Courtown-Gorey Waste Water Treatment Plant prior to discharge. This would involve the construction of an underground foul sewer pipeline, approximately 1.1km in length, from the proposed site to the public sewer line. The proposed pipeline route would follow the existing road network and would cross the Ballyowen Stream at the R772 roadway via directional drilling. Directional drilling would be 5-8m in length and is the only stream crossing of the proposed route. No instream works would be required as part of the proposed works.

A landscaping plan has been prepared by Murray and Associates for the proposed development, which includes planting of both native and garden-variety species. Native species include Silver Birch, Alder (*Alnus glutinosa*) and Oak. While some mature tree removal works are required along the north-western and south-western boundaries, the remainder of vegetation along these boundaries would be retained. Areas of felled trees would be replanted with native hedgerow species such as Hawthorn.

4.2 EXISTING ENVIRONMENT

The proposed development site is located on the outskirts of Gorey town, at an approximate elevation of 50-60m above sea level. The site is bordered to the south and east by housing estates, to the northeast by Ramsfort Park (a coniferous forest) and to the west by agricultural land comprising of pasture and tillage.

The proposed development site comprises of an area of agricultural grassland and an area of unused / disturbed ground (the previous site of the Walsh Mushrooms facility), bordered by hedgerows and mature trees. A small, man-made drainage ditch is located along the north-eastern site boundary, which joins with an existing drainage pipe and leaves the site at the eastern corner.

Site characterisation assessments were undertaken on the 21st December 2017, the 14th August 2018 and the 28th September 2018 to examine the ecological context of the proposed development, by systematically walking the site and boundaries, in addition to the proposed foul sewer pipeline route, 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 mammalian 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.

During the site walkover at the proposed development site, eight main habitats were identified. The area of grassland, encompassing the north and western section of the proposed site, was identified as improved agricultural grassland (GA1) habitat. This habitat, approximately 13 acres in size, is dominated by ryegrasses (*Lolium* spp.), with some Buttercup (*Ranunculus* spp.), Clover (*Trifolium* spp.), Daisy (*Bellis perennis*),

Dandelion (*Taraxacum* spp.), Shepherd's-purse (*Capsella bursa-pastoris*) and Sticky Mouse-ear (*Cerastium glomeratum*) also present.

The area of unused / disturbed land contains rubble, scrap metal and other debris from the demolition of the Walsh Mushrooms facility. A number of earth and rubble banks exist at the site, which have been for the most part vegetated. The majority of the waste ground was identified as recolonising bare ground (ED3) habitat, with frequent ryegrasses, Meadow-grasses (*Poa* spp.), Bramble (*Rubus fruticosus*), Buttercup, Daisy, Groundsel (*Senecio vulgaris*), Nettle (*Urtica dioica*), Shepherd's-purse, Speedwell (*Veronica* spp.) and Thistle (*Cirsium* spp.) recorded. Other flora recorded include Cleavers (*Galium aparine*), Colt's Foot (*Tussilago farfara*), Dock (*Rumex* spp.), Great Willowherb (*Epilobium hirsutum*), Marsh Woundwort (*Stachys palustris*), Nipplewort (*Lapsana communis*), Perennial Sowthistle (*Sonchus arvensis*), Ragwort (*Senecio jacobaea*), Ribwort plantain (*Plantago lanceolata*), Rosebay Willowherb (*Chamerion angustifolium*), Scarlet Pimpernel (*Anagallis arvensis*), Scentless Mayweed (*Tripleurospermum inodorum*) and Short-fruited Willowherb (*Epilobium obscurum*).

Some sections of the unused / disturbed land have succumbed to scrub (WS1) habitat, mainly comprised of Willow (*Salix* spp.) with Birch (*Betula* sp.), Gorse (*Ulex europaeus*) and Hawthorn (*Crataegus monogyna*) also present.

Small sections of the waste ground were identified as buildings and artificial surfaces (BL3) habitat, consisting of concrete from the former Walsh Mushrooms buildings.

The development site is bordered to the north-west by hedgerows (WL1) habitat, dominated by Bramble, Ash (*Fraxinus excelsior*), Hawthorn, Ivy (*Hedera helix*) and Nettle. Other flora recorded at this habitat include Cherry (*Prunus* sp.), Elder (*Sambucus nigra*), Gorse, Herb-Robert (*Geranium robertianum*) and Holly (*Ilex aquifolium*). A small number of mature Lime trees (*Tilia* sp.) are quite evenly dispersed along the hedgerow, in addition to a couple of mature ash trees. A small section of Bracken (*Pteridium aquilinum*) is also present along this habitat.

Treelines (WL2) habitat was identified along the south-western boundary bordering the road and along the south-eastern boundary bordering the housing estate. Treelines (WL2) habitat is also present adjacent the north-eastern boundary, however this is outside the development site boundary. The south-western boundary is comprised of abundant Bramble, with frequently recorded Ash, Cleavers, Gorse, Hawthorn, Ivy, Oak (*Quercus* sp.) and Nettle. The south-eastern boundary is dominated by Leyland Cypress (*Cupressus leylandii*), with frequent Bramble and occasionally recorded Hawthorn and Ivy. The north-eastern boundary is mainly comprised of Oak, with some Bramble, Ferns, Hazel (*Corylus avellana*), Holly, Ivy and Willow also present.

The small drain at the north-eastern section of the site, was identified as drainage ditches (FW4) habitat. During the December site assessment only a portion of this drain contained water, while during the August site assessment, the entire drain was dry. Flora recorded include Bramble, Ferns, Ivy, Nettle and Thistle.

A small area of flower bed and borders (BC4) habitat was identified between GA1 and ED3 habitats. Flora comprised mainly of cultivated species, including Leyland Cypress, Privet (*Ligustrum* sp.), Pyracantha (*Pyracantha* sp.), Cabbage Palm (*Cordyline australis*), and Daisy Bush (*Senecio greyi*). Wild flora recorded includes Dandelion, Herb-Robert and Ragwort.

During the walkover of the proposed foul sewer pipeline route, two habitats were identified. The majority of the proposed route was identified as buildings and artificial surfaces (BL3) habitat, consisting of roadways, paths and concrete. An area of recolonising bare ground (ED3) habitat is present along the first 60m (approximately) of the pipeline from the development site. Flora frequently recorded includes various grasses, Bramble, Hedge Bindweed (*Calystegia sepium*), Nettle and young Willow. Other flora encountered includes Buttercup, Cleavers, Dock, Great Willowherb, Ivy, Ragwort, Ribwort Plantain, Rosebay Willowherb, Short-fruited Willowherb and Thistle.

Generally, the habitats identified at the proposed development site and along the proposed foul sewer pipeline route are modified and of low ecological value. No rare species were noted within the proposed site or along the proposed pipeline route.

It should be noted that while no invasive plant species were recorded for the proposed development site or proposed pipeline route, Japanese Knotweed (*Fallopia japonica*) has been recorded in the lands immediately adjacent the south-east corner of the development site, under the ownership of Wexford County Council. The proposed foul sewer and stormwater pipelines would be in close proximity to the current range of the Japanese Knotweed.

While no fauna were observed at the development site during the December and August assessments, burrows were noted along some areas of treeline and hedgerow habitats, identified as likely rabbit and rat burrows. No fauna or evidence of fauna was recorded during the walkover of the proposed pipeline route. There was no evidence of Badger, including setts or latrines, at the development site or along the proposed pipeline route. The hedgerow and treeline habitats at the development site may provide suitable foraging habitat for bat species.

The only freshwater habitat at the development site is the small drainage ditch, which, given its limited size and water volume, would be unlikely to support any frogs (*Rana temporaria*), smooth newts (*Lissotriton vulgaris*) or fish. Similarly, it is unlikely that Otter (*Lutra lutra*) would be present at the site given the absence of water habitats, and given the lack of evidence of Otter, including holts, slides, tracks or spraints.

Given the agricultural and urban land uses of the surrounding area, it would be expected that common grassland, hedgerow and garden bird species would be present in the area. Bird species noted during the site walkovers on the 21st of December 2017, 14th of August 2018 and 28th of September 2018 included Robin (*Erithacus rubecula*), Blackbird (*Turdus merula*), Blue Tit (*Parus caeruleus*), Coal Tit (*Parus ater*), Great Tit (*Parus major*), Long-tailed Tit (*Aegithalus caudatus*), Chaffinch (*Fringilla coelebs*), Goldfinch (*Carduelis carduelis*), Siskin (*Carduelis spinus*), Wren (*Troglodytes troglodytes*), Woodpigeon (*Columba palumbus*), Hooded Crow (*Corvus cornix*), Magpie (*Pica pica*), Rook (*Corvus frugilegus*), Buzzard (*Buteo buteo*) and Sparrowhawk (*Accipiter nisus*). None of the bird species are listed under Annex I of the E.U. Birds Directive.

In addition to the site walkover, flora and fauna records for the previous ten years were reviewed on the National Biodiversity Data Centre website for the footprint of the development site and the immediate area. No protected flora species or invasive species listed under Part 1 of the Third Schedule of the European Communities (Birds and Natural Habitats) Regulations 2011 were recorded for the ten years previous.

A number of bird records returned were birds favouring wetland habitat. Given the absence of wetland habitat at the site, and given that the habitats onsite are generally considered modified and of low ecological value, it is unlikely that waterbirds would use the development site. The bird species of note which may be present include Peregrine Falcon (*Falco peregrinus*), Kestrel (*Falco tinnunculus*), Barn Owl (*Tyto alba*), Merlin (*Falco columbarius*), Swift (*Apus apus*), House Martin (*Delichon urbicum*), Sand Martin (*Riparia riparia*), Swallow (*Hirundo rustica*), Skylark (*Alauda arvensis*), Spotted Flycatcher (*Muscicapa striata*), Common Starling (*Sturnus vulgaris*), Yellowhammer (*Emberiza citrinella*), Common Linnet (*Carduelis cannabina*), House Sparrow (*Passer domesticus*), Tree Sparrow (*Passer montanus*) and pigeons (*Columba livia*, *C. oenas*, *C. palumbus*).

Only one mammal of note was recorded in the area for the ten years previous, the invasive Sika Deer (*Cervus nippon*).

4.2.1 Additional Information on Water Quality

The proposed site is located in the Owenavorrhagh Sub-Catchment of the Owenavorrhagh Catchment area. There is one small area of drainage ditch at the site, in the north-eastern section of the site measuring approximately 280m. This joins with an existing 525mm diameter pipe, which connects with the Ballyowen Stream

approximately 145m from the development site. The Ballyowen Stream flows to the River Banoge approximately 0.9km downstream. The River Banoge flows south for approximately 4.3km before converging with the Owenavorrhagh River, which enters the Irish Sea 5.5km downstream.

Neither the River Banoge or the Owenavorrhagh River are designated as salmonid waters under the European Commission (Quality of Salmonid Waters) Regulations, 1988 (S.I. 239 of 1988).

The rivers Banoge and Owenavorrhagh have been assigned an “at risk” Water Framework Directive (WFD) Risk Score. The Environmental Protection Agency (EPA) undertake surface water monitoring along the River Banoge. The results for the nearest monitoring stations (as per Table 4.1) for the period 1995 – 2017 are summarised in Figure 4.2 below for indicative purposes. As can be seen in Figure 4.2, the River Banoge is mainly achieving a water quality status of between Q2-3 (poor) and Q3-4 (moderate) at the monitoring locations discussed in Table 4.1.

Table 4.1 – Monitoring Stations of the River Banoge within the Vicinity of the Proposed Development

| Station No. | Station Location | Easting | Northing | Approx. Location Relative to Ballyowen Confluence |
|-------------|------------------------------|---------|----------|---|
| RS11B020050 | Banoge - Br near Killynann | 315374 | 162241 | 2.5km Upstream |
| RS11B020200 | 2 km S of Gorey (Knockduff) | 315772 | 157931 | 2.2km Downstream |
| RS11B020300 | Br u/s Owenavorrhagh R confl | 315951 | 156315 | 4.1km Downstream |

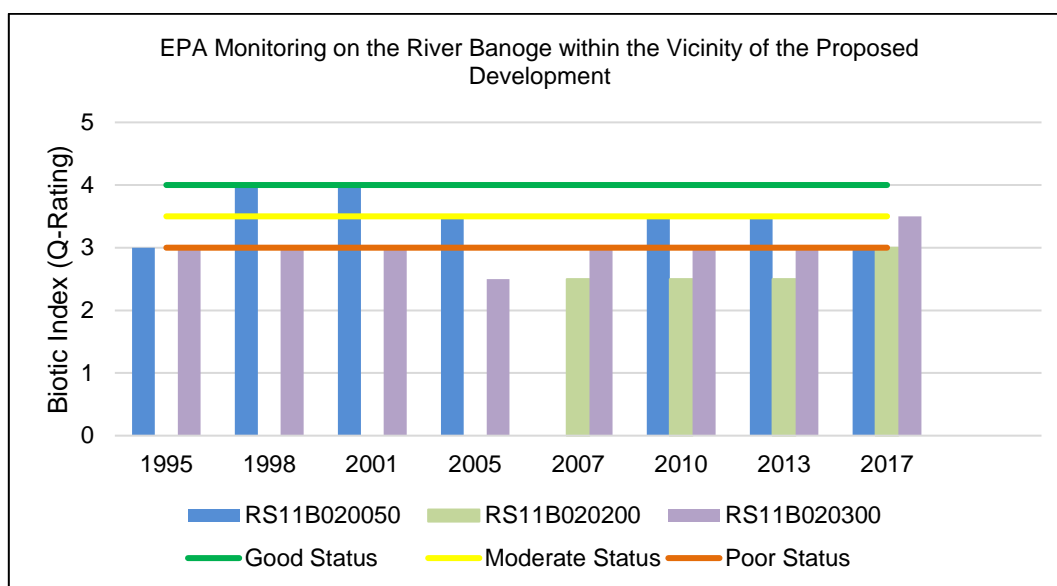


Figure 4.2 – EPA Ecological Monitoring on the River Banoge from 1995 – 2017

Domestic wastewater from the development would be directed to Gorey town’s public sewer, for treatment at Courtown-Gorey Waste Water Treatment Plant (WWTP). The Courtown-Gorey WWTP, operated by Irish Water under licence D0046-01 from the EPA, was reported to be operating within its design capacity. The design capacity of Courtown-Gorey WWTP is 23,625 (M3/day) peak, 7,875 (M3/day) DWF, and 36,000 P.E. organic capacity. In the 2017 AER reporting period, the site reported a 18,058 (M3/day) hydraulic capacity and 17,538 P.E. organic capacity remaining. In 2017, Courtown-Gorey WWTP reported no non-compliances with regards the Emission Limit Values set in its wastewater discharge licence.

5.0 NATURA 2000 SITES

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 Natura 2000 sites
- Pathways between the development and the Natura 2000 network

There is no standard radius that can be used to select which European sites are to be analysed. This can only be determined by looking at the zone of influence of the project at hand. A rule of thumb often used is to include all European sites within a distance of 15km.

No Special Protection Areas (SPAs) occur within 15km of the proposed development. Two Special Areas of Conservation (SACs) occur within 15km of the proposed development and are shown in the following table:

| Site Name | Designation | Site Code | Distance |
|----------------------|-------------|-----------|-------------|
| Slaney River Valley | SAC | 000781 | 2.42 km W |
| Kilpatrick Sandhills | SAC | 001742 | 10.86 km NE |

Maps detailing Natura 2000 sites within 2km and 15km of the proposed site are included as Appendix A below.

The proposed development is not hydrologically connected to the Slaney River Valley SAC, however, given the proximity of the proposed development to this SAC site, the Slaney River Valley SAC has been included within the potential zone of influence of the proposed development. The existing drainage and proposed drainage (both stormwater and domestic wastewater following treatment) are / would discharge to the Irish Sea. However, the hydrological connectivity between the proposed development site and the Kilpatrick Sandhills SAC can be considered negligible, given the considerable hydrological distance to the SAC site (approximately 20km) and the considerable dilution of the site's drainage within the Owenavorrhagh River and Irish Sea. Nevertheless, this site has been included within the potential zone of influence of the proposed development with regards to water quality. It is considered that an assessment of risk to the Kilpatrick Sandhills SAC would be indicative of risks posed to other protected sites along the coast, such as the Cahore Polders and Dunes SAC (Site Code: 000700) and the Blackwater Bank SAC (Site Code: 002953).

5.1 SLANEY RIVER VALLEY SAC (CODE: 00781)

This site comprises the freshwater stretches of the River Slaney; a number of tributaries including the Bann, Boro, Glasha, Clody, Derry, Derreen, Douglas and Carrigower Rivers; the estuary at Ferrycarrig; and Wexford Harbour. The site flows through the Counties of Wicklow, Wexford and Carlow. The river is up to 100 m wide in places and is tidal at the southern end from Edermine Bridge below Enniscorthy. South of Kildavin the Slaney flows through an area of Ordovician slates and grits.

The site is a Special Area of Conservation (SAC) selected for the following habitats and/or species listed on Annex I / II of the E.U. Habitats Directive:

| Annex I Habitats | |
|------------------|--|
| Code | Description |
| 1130 | Estuaries |
| 1140 | Tidal Mudflats and Sandflats |
| 1330 | Atlantic salt meadows (<i>Glauco-Puccinellietalia maritimae</i>) |

| Annex I Habitats | |
|------------------|---|
| Code | Description |
| 1410 | Mediterranean salt meadows (<i>Juncetalia maritimi</i>) |
| 3260 | Floating River Vegetation |
| 91A0 | Old Oak Woodlands |
| 91E0 | Alluvial Forests* |

* denotes a priority habitat

| Annex II Species | | |
|------------------|-------------------------|------------------------------------|
| Code | Common Name | Scientific Name |
| 1029 | Freshwater Pearl Mussel | <i>Margaritifera margaritifera</i> |
| 1095 | Sea Lamprey | <i>Petromyzon marinus</i> |
| 1096 | Brook Lamprey | <i>Lampetra planeri</i> |
| 1099 | River Lamprey | <i>Lampetra fluviatilis</i> |
| 1103 | Twaite Shad | <i>Alosa fallax</i> |
| 1106 | Atlantic Salmon | <i>Salmo salar</i> |
| 1355 | Otter | <i>Lutra lutra</i> |
| 1365 | Common (Harbour) Seal | <i>Phoca vitulina</i> |

The conservation objectives for the SAC site are to maintain or restore the favourable conservation condition of the qualifying interests. An excerpt from the site synopsis for the Slaney River Valley SAC is included below.

Floating river vegetation is found along much of the site's freshwater stretches. Flora includes Pond Water-crowfoot (*Ranunculus peltatus*), Broad-leaved Pondweed (*Potamogeton natans*), water-milfoils (*Myriophyllum* spp.), Common Clubrush (*Scirpus lacustris*), water-starworts (*Callitriche* spp.), Hemlock Water-dropwort (*Oenanthe crocata*), Yellow Water-lily (*Nuphar lutea*) and Unbranched Bur-reed (*Sparganium emersum*). Two rare, legally protected species have been recorded: Short-leaved Water-starwort (*Callitriche truncata*) and Opposite-leaved Pondweed (*Groenlandia densa*).

Good examples of wet woodland are found associated with Macmine marshes, along the banks of the Slaney and its tributaries and within reedswamps. Rusty Willow (*Salix cinerea* subsp. *oleifolia*) scrub and wet woodland with Alder, Ash (*Fraxinus excelsior*) and Downy Birch (*Betula pubescens*) are established in places.

Mixed woodlands occur at Bunclody. Oak trees, making up the greater part of the canopy, were originally planted and are not regenerating actively. In time, the woodland will probably become dominated by Beech (*Fagus sylvatica*). A number of Yew (*Taxus baccata*) Holly (*Ilex aquifolium*) give the appearance of a south-western oak wood. Old oak woodlands are best represented at Tomnafinnoge. This wood is dominated by Sessile Oak (*Quercus petraea*), with Beech, Birch, Rowan (*Sorbus aucuparia*) and Scots Pine (*Pinus sylvestris*). The shrub layer includes Hazel (*Corylus avellana*) and Holly. The ground layer includes Great Wood-rush (*Luzula sylvatica*), Bilberry (*Vaccinium myrtillus*), Bracken (*Pteridium aquilinum*), Primrose (*Primula vulgaris*), Wood-sorrel (*Oxalis acetosella*), Common Cow-wheat (*Melampyrum pratense*) and Bluebell (*Hyacinthoides non-scripta*).

Below Enniscorthy are several woodland areas with a mixed canopy of oak, Beech, Sycamore (*Acer pseudoplatanus*), Ash and diverse ground flora. Near Ferrycarrig is a steep slope covered with oak woodland, with Holly and Hazel in the shrub layer and a species-rich ground flora. North of Bunclody, the river valley has a number of dry woodlands though these have mostly been managed by estates, with the introduction of Beech and occasional conifers. The steeper sides are covered in a thick scrub from which taller trees protrude.

The Red Data Book species Yellow Archangel (*Lamiastrum galeobdolon*), Blue Fleabane (*Erigeron acer*), Basil Thyme (*Acinos arvensis*), and Small Cudweed (*Logfia minima*) occur at the site. Basil Thyme and Small Cudweed are protected under the Flora (Protection) Order, 2015. A nationally rare species, Summer Snowflake (*Leucojum aestivum*), is also present.

The site contains a good example of the upper reaches of an estuary. Tidal reedbeds with wet woodland are present in places. Fringing reed communities support Sea Club-rush (*Scirpus maritimus*), Grey Club-rush (*S. tabernaemontani*), Common Reed (*Phragmites australis*), Bulrush (*Typha latifolia*), Reed Canary-grass (*Phalaris arundinacea*) and Branched Bur-reed (*Sparganium erectum*). The reedswamp is extensive around Macmine and further south are expanses of intertidal mudflats and sandflats and shingle shore often fringed with saltmarsh and brackish vegetation. Narrow shingle beaches occur in places along the river banks and are exposed at low tide. Upslope the shingle is sometimes colonised by Saltmarsh Rush (*Juncus gerardii*), Townsend's Cord-grass (*Spartina townsendii*), Common Saltmarsh-grass (*Puccinellia maritima*), Sea Aster (*Aster tripolium*) and Hemlock Water-dropwort.

The salt marsh at Castlebridge is dominated by Mediterranean salt meadows. The main community is characterized by the presence of Sea Rush (*Juncus maritimus*). Other species present include Red Fescue (*Festuca rubra*), Creeping Bent-grass (*Agrostis stolonifera*), Sea Milkwort (*Glaux maritima*), Long-bracted Sedge (*Carex extensa*), Parsley Water-dropwort (*Oenanthe lachenalii*), Curled Dock (*Rumex crispus*), Sea Arrowgrass (*Triglochin maritima*), Sea Plantain (*Plantago maritima*), Spear-leaved Orache (*Atriplex prostrata*) and Sea Aster. The site is notable for the presence of Borrer's Saltmarsh-grass (*Puccinellia fasciculata*), found along the cattle tracks of the marsh. Another notable feature is the transition from saltmarsh to brackish marsh communities, which is quite extensive and diverse.

A significant area of Atlantic salt meadows occurs at Castlebridge, characterised by the presence of grassy upper saltmarsh vegetation communities dominated by Red Fescue and/or Creeping Bent-grass. Other species include Saltmarsh Rush, Sea Milkwort (*Glaux maritima*), Sea Aster, Sea Plantain, Common Scurvygrass (*Cochlearia officinalis*) and Sea Rush.

Wexford Harbour is an extensive, shallow estuary which exposes large expanses of mudflats and sandflats at low tide. Within these habitats, four biological community complexes have been recorded: estuarine muds dominated by polychaetes and crustaceans community complex; sand dominated by polychaetes community complex; mixed sediment community complex; and fine sand with *Spiophanes bombyx* community complex.

The site supports populations of several species listed on Annex II of the E.U. Habitats Directive, including Lamprey, Otter, Salmon, Freshwater Pearl Mussel and Twaite Shad. The Slaney is primarily a spring salmon fishery and is one of Ireland's top rivers for early spring fishing. The upper Slaney and tributary headwaters are very important for spawning.

The site is of high ornithological importance with internationally important populations of Mute Swan, Light-bellied Brent Goose, Bar-tailed Godwit and Black-tailed Godwit. Wintering waterfowl occurring in nationally important numbers include Great-crested Grebe, Shelduck, Teal, Scaup, Goldeneye, Oystercatcher, Golden Plover, Grey Plover, Lapwing, Knot, Sanderling, Dunlin, Curlew, Redshank and Lesser Black-backed Gull.

The site supports many mammal species occurring in Ireland. Those which are listed in the Irish Red Data Book include Pine Marten, Badger, Irish Hare and Daubenton's Bat. Common Frog, another Red Data Book species, also occurs within the site. The site supports regionally significant numbers of Common Seal which occur year-round in Wexford Harbour.

Fishing is a main tourist attraction, with fishing stands and styles erected in places. Boating, bait-digging and fishing occur in parts of Wexford Harbour. Wastewater outflows, runoff from intensive agricultural enterprises, a meat factory at Clohamon, a landfill and industrial development could all have potential adverse impacts on

water quality unless they are carefully managed. The spread of exotic species is reducing the quality of the woodlands.

Overall, the site is of considerable conservation significance for the occurrence of several species listed on Annex II of the E.U. Habitats Directive and habitats listed on Annex I of this Directive, in addition to supporting important numbers of wintering wildfowl, including some species listed on Annex I of the E.U. Birds Directive.

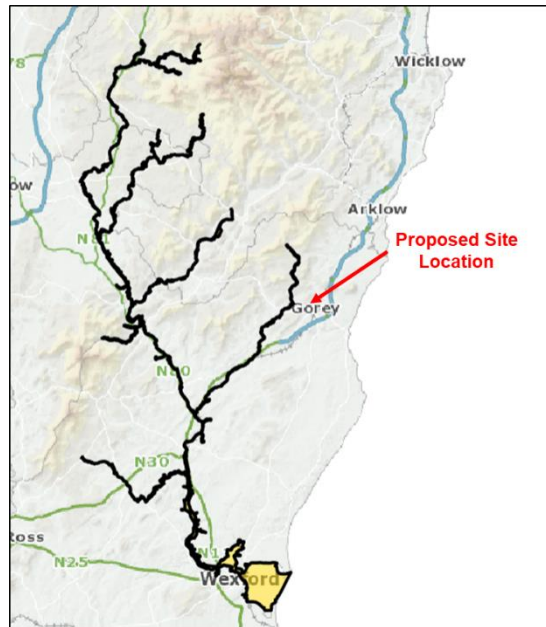


Figure 5.1 – Slaney River Valley SAC

5.2 KILPATRICK SANDHILLS SAC (CODE: 001742)

Kilpatrick Sandhills are located about 8 km south of Arklow town, and just south of the Wicklow/Wexford county boundary. The site is comprised of a mosaic of coastal habitats but primarily a mature sand dune system which extends along 2 km of coastline. The site is a Special Area of Conservation (SAC) selected for the following habitats listed on Annex I of the E.U. Habitats Directive:

| Annex I Habitats | |
|------------------|----------------------------------|
| Code | Description |
| 1210 | Annual Vegetation of Drift Lines |
| 2110 | Embryonic Shifting Dunes |
| 2120 | Marram Dunes (White Dunes) |
| 2130 | Fixed Dunes (Grey Dunes)* |
| 2150 | Decalcified Dune Heath* |

* denotes a priority habitat

The conservation objectives for the SAC site are to maintain or restore the favourable conservation condition of the qualifying interests. An excerpt from the site synopsis for the Kilpatrick Sandhills SAC is included below.

Various stages of sand dune formation can be seen at this site, from small fore dunes which are stabilized by Marram (*Ammophila arenaria*), to mature fixed dunes colonised by a species-rich sward of grasses and herbaceous plants. Embryonic shifting fore dunes occur along the middle and southern sections. Species include Marram, Sand Couch (*Elymus farctus*) and Sea Sandwort (*Honkenya peploides*). The Marram dunes

are dominated by Marram, with species such as Sea Spurge (*Euphorbia paralias*), Sea Bindweed (*Calystegia soldanella*) and Sea-holly (*Eryngium maritimum*) also found.

In the fixed dunes Red Fescue (*Festuca rubra*) is the dominant grass. Other species present include Lady's Bedstraw (*Galium verum*), Kidney Vetch (*Anthyllis vulneraria*), Wild Thyme (*Thymus praecox*) and Sheep's-bit (*Jasione montana*). On older dunes, there is an abundance of legumes, including Common Bird's-foot-trefoil (*Lotus corniculatus*), White Clover (*Trifolium repens*), Hop Trefoil (*Trifolium campestre*) and Lesser Trefoil (*Trifolium dubium*). Further inland, Burnet Rose (*Rosa pimpinellifolia*) is common. The scarce species Lesser Meadow-rue (*Thalictrum minus*) occurs among the vegetation of the more mobile dunes.

Dune heath occurs behind the fixed dunes in the mid and southern sections of the site. This is a very rare vegetation type in Ireland. The heathy scrub is dominated by Gorse (*Ulex europaeus*), with Blackthorn (*Prunus spinosa*), Bracken (*Pteridium aquilinum*), Cleavers (*Galium aparine*), Common Sorrel (*Rumex acetosa*), Common Ragwort (*Senecio jacobaea*), Burnet Rose, Tormentil (*Potentilla erecta*) and Bramble also present.

On the landward side of the dunes, in the middle of the site, there is a low-lying marsh, dominated by Bulrush (*Typha latifolia*), with Branched Bur-reed (*Sparganium erectum*), Yellow Iris (*Iris pseudacorus*), Tubular Water-dropwort (*Oenanthe fistulosa*), Wild Angelica (*Angelica sylvestris*) and sedges (*Carex* spp.). To the west is an area of wet scrub woodland with Alder (*Alnus glutinosa*), willows (*Salix* spp.), Bramble (*Rubus fruticosus* agg.), Honeysuckle (*Lonicera periclymenum*), Great Horsetail (*Equisetum telmateia*), Wood Dock (*Rumex sanguineus*) and Narrow Buckler-fern (*Dryopteris carthusiana*).

At the northern end of the site is a rocky headland, Kilmichael Point. Rock outcrops occur where overlying clay drift has eroded, exposing cliffs which rise in steps to about 10m. The headland supports a species-rich coastal grassland and cliff vegetation, including the scarce Rock Sea-lavender (*Limonium binervosum*). The Red Data Book Sea Stock (*Matthiola sinuata*), was observed here in the past, but has not been recorded recently.

At the southern end of the site, the sand dunes and beach are used by visitors for amenity purposes. Parts of the site are also used for grazing cattle. Grazing is a critical factor in coastal systems: the correct grazing pressure maintains species-rich open swards and curtails scrub encroachment. Over-exposure to grazing and amenity usage can cause damage to dune vegetation and exacerbate dune erosion.

The site is ecologically important as a good example of a mature and intact sand dune system which shows the developmental stages of dunes from fore dunes to mature grey dunes. A good diversity of habitats and species are present. Fixed dunes and dune heath are priority habitats under Annex I of the E.U. Habitats Directive.



Figure 5.2 – Kilpatrick Sandhills SAC

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 impact upon a protected site through destruction of habitat, fragmentation of habitat, disturbance of habitat or direct reduction in species density.

The closest protected sites to the proposed development are the Slaney River Valley SAC and Kilpatrick Sandhills SAC, which at their closest, are located approximately 2.4km west and 10.9km north-east from the development site respectively.

It is not considered that the proposed development site or proposed foul sewer pipeline route would contain the habitats or species for which these two sites have been designated. The development site and pipeline route are not coastal in nature, and are located a considerable distance (greater than 5km) from the coast. Furthermore, any watercourses or aquatic features within the area are freshwater in origin. Therefore, the proposed development would not be considered to support any qualifying interests associated with coastal, saltwater or tidal conditions. No aquatic habitats of note are present at the development site itself. Therefore, there would be no direct impacts upon designated aquatic species, due to works being outside of any potential habitat for these species. No areas of woodland exist on the development site or along the proposed pipeline route, therefore the site and route do not contain any habitat which would have potential links to Old Oak Woodlands [91A0] or Alluvial Forests [91E0].

The potential disturbance on protected species due to noise would not be considered significant, given the distance to the nearest designated site, the Slaney River Valley SAC, located approximately 2.4 km from the development site. The main noise sources during the operational phase would be considered to be human-induced noise and car movements. Given the site's proximity to Gorey town and adjacent housing estates, it is likely that any fauna in the area would be accustomed to an urban noise environment. 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 construction works and the distance to the Slaney River Valley SAC.

The potential disturbance on protected habitats and species due to dust during the construction phase would be considered unlikely, given the transient nature of construction works and given the distance from the nearest designated site, the Slaney River Valley SAC (2.4km from proposed development).

It is therefore considered that the proposed development would not result in any significant risk to the protected habitats and species of the Slaney River Valley SAC or Kilpatrick Sandhills SAC due to habitat fragmentation or loss, disturbance or reduction in species density. The proposal would not adversely effect the integrity of either the Slaney River Valley SAC or Kilpatrick Sandhills SAC.

6.2 INVASIVE SPECIES

Under Regulation 49(2) of the European Communities (Birds and Natural Habitats) Regulations 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.

No invasive flora species listed under Part 1 of the Third Schedule of the European Communities (Birds and Natural Habitats) Regulations 2011, have been recorded by the National Biodiversity Data Centre for the proposed development site or immediate area for the ten years previous. However, as discussed in Section 4, during the development site and proposed pipeline route walkover, Japanese Knotweed was identified in the lands immediately adjacent the south-east corner of the development site, under the ownership of Wexford County Council.

However, the presence of Japanese Knotweed adjacent the site would not have an adverse impact upon either the Slaney River Valley SAC or Kilpatrick Sandhills SAC, given the distances to the designated sites (2.4km and 10.9km respectively) and given that Japanese Knotweed would be addressed by Wexford County Council prior to any proposed development works taking place within the immediate vicinity.

Activities as part of the proposed development would not have the potential to impact upon designated sites due to invasive species. There would be no significant import of materials with the potential to contain invasive flora species. Soils excavated during construction works would be stockpiled and re-used for site levelling and site landscaping where possible. Should topsoil be required to be imported to the site for landscaping purposes, this would be considered a low risk material, as vector materials containing invasive species are a “controlled waste” and would not be brought onto the site.

Therefore, it is considered that there would be no significant risk to protected habitats and species as a result of invasive species from the site.

6.3 POTENTIAL IMPACTS ON WATER QUALITY

The proposed development is located within the Owenavorrhagh River Catchment, and thus is not hydrologically connected to the Slaney River Valley SAC. The proposed development would therefore not be considered to impact upon the listed habitats and species of the Slaney River Valley SAC site due to deleterious effects on water quality.

The proposed development may be considered to have a negligible, indirect hydrological connection with the Kilpatrick Sandhills SAC, given that existing drainage, proposed stormwater drainage and proposed treated domestic wastewater from Courtown-Gorey WWTP would discharge to the Irish Sea. However the Sandhills SAC is located approximately 9-10km from this SAC site. Therefore, the proposed development would not have an adverse affect the integrity of the site or upon the listed habitats of the Kilpatrick Sandhills SAC during either the construction or operational phase due to deleterious effects on water quality, owing to the nature of the development, the considerable hydrological distance to the SAC site (approximately 20km), the indirect nature of hydrological link (if any) and the considerable dilution of the site’s drainage within the Owenavorrhagh River and Irish Sea.

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). A potential deterioration in water quality could arise as part of the proposed development due to works on and within close proximity to an existing drainage ditch at the proposed development site.

It is not considered that the proposed foul sewer pipeline route would have the potential to impact upon water quality, given the that the majority of the route is not located within the vicinity of watercourses, and given that the one crossing of the Ballyowen Stream would be achieved by directional drilling.

The risk of the proposed development impacting upon water quality would be minimal, given that construction works would be confined to the proposed development footprint, there is only one water feature at the site, a drainage ditch of limited size and volume, and given that the proposed development would be located a considerable distance, approximately 20km, upstream of the Kilpatrick Sandhills SAC site. Even in the unlikely event suspended solids become entrained in surface water run-off, there is considered to be no significant risk of impact on water quality as suspended solids would be retained on site as run-off percolates to the ground. With regards the proposed works on the drainage ditch, the potential impact due to suspended solids would be minimal, given the limited size and water volume of the drainage ditch.

As stated above, the proposed development would not have an adverse effect upon the Kilpatrick Sandhills SAC during the operational phase, given the considerable hydrological distance to the SAC site, the indirect nature of a hydrological link and the considerable dilution of the site's drainage within the Owenavonagh River and Irish Sea. Storm water from the proposed site would comprise of clean rainwater run-off from roofs and paved areas, and would be directed through a Class I Bypass Separator and Attenuation System prior to connecting with the town's existing storm water drainage network, approximately 20km upstream from Kilpatrick Sandhills SAC.

It is proposed to discharge domestic wastewater to the town's foul sewer line, which would be treated at Courtown-Gorey WWTP prior to discharge to the Irish Sea, approximately 10km from the Kilpatrick Sandhills SAC site. The proposed development would not have a significant impact upon the loading of the WWTP, as the WWTP has sufficient remaining capacity to accommodate domestic wastewater discharges from the proposed development. Furthermore, Courtown-Gorey WWTP is currently complying with the standards set under the Urban Wastewater Treatment Directive and within its EPA licence. The discharge of treated effluent from Courtown-Gorey WWTP would undergo considerable dilution within the Irish Sea. It should also be noted that the Kilpatrick Sandhills SAC is coastal, and as coastal habitats by nature can accommodate greater levels of sediments, and the nutrients bound within them, the site would have a higher tolerance for treated wastewater discharges compared to freshwater habitats.

It is therefore considered that, due to nature and location of the proposed development, the scale and extent of construction works, the proposed drainage and the nature of the designated habitats of the SAC site, the proposed development would not pose a significant risk upon the Kilpatrick Sandhills SAC site due to a deleterious effect on water quality during either the construction or operational phases, and will not adversely affect the integrity of the site.

6.4 IN COMBINATION EFFECTS

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

- Wexford County Development Plan 2013-2019;
- Gorey Local Area Plan 2017-2023;
- County Wexford Biodiversity Action Plan 2013-2018;
- Proposed and permitted developments in the area available on Wexford County Council planning system, including the adjacent housing developments.

The proposed development site is located on the outskirts of Gorey town, with residential, commercial and retail premises within close proximity. A number of housing estates are located within the vicinity, including Ashwood Grove, Willow Park, Cois Doire, Sean Drive, Ramsfort Avenue, Park Avenue and Allenwood Drive to the south-east, Creagh Demesne and Hunter's Green (under construction) to the south-west, Woodlands Manor and Woodlands Drive to the north-east and Ramsfort Park to the north. In addition to the residential estates, a

number of detached dwellings are linearly dispersed along the Fort Road network. It should also be noted that the lands immediately to the north of the proposed development site are also zoned residential and could potentially be development.

A portion of the applicant's lands comprise CE community zoned lands. It is envisaged that the adjoining CE Community zoned land will provide a nursing home, sheltered accommodation and a medical centre.

Two EPA licenced waste facilities are located within 5km of the proposed site, as detailed in Table 6.1 below.

Table 6.1 – EPA Waste Licenced Facilities within 5km of the Proposed Development

| Licence No. | Licensee Name | Approximate Distance from Site |
|--------------------|------------------------------|---------------------------------------|
| W0220-01 | Starrus Eco Holdings Limited | 1.7km South |
| W0123-01 | Custom Compost | 4.3km South |

Continued implementation of the Water Framework Directive would result in achieving, or maintaining, improvements to water quality in the Owenavorrhagh Catchment. Developments such as this proposed development could act in combination with existing environmental pressures on the Owenavorrhagh Catchment, including: agriculture, anthropogenic, domestic and urban waste water, urban run-off, industry and forestry.

As discussed in Sections 6.1 – 6.3 above, it is considered that there would be no adverse affect on the integrity of any European site owing to the proposed development. As there are no anticipated significant risks from the proposed works, and given the nature of activities and distances of other facilities in the area, it is considered that there would be no cumulative water, noise or air impacts which would pose a significant risk to or result in an adverse affect to designated sites or species.

7.0 SCREENING STATEMENT AND CONCLUSIONS

It is the conclusion of this screening study that given that there is no direct hydrological link between the proposed development and any European site, there would be no significant effects on the Natura 2000 network as a result of the proposed development, by itself or in combination with other developments, and an Appropriate Assessment is not warranted. Screening establishes that the proposal would not adversely affect the integrity of a European site, and the project is recommended to proceed as proposed.

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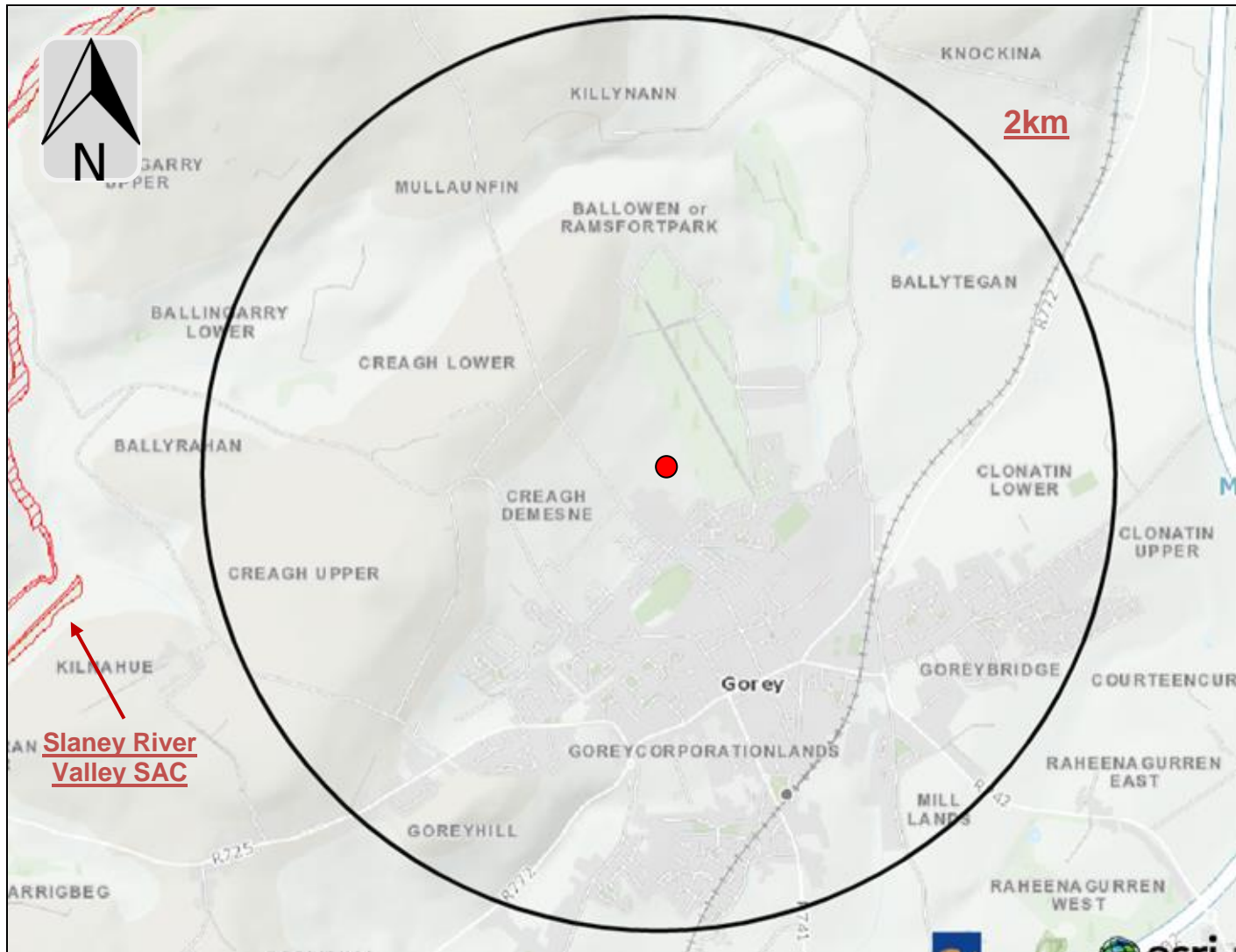
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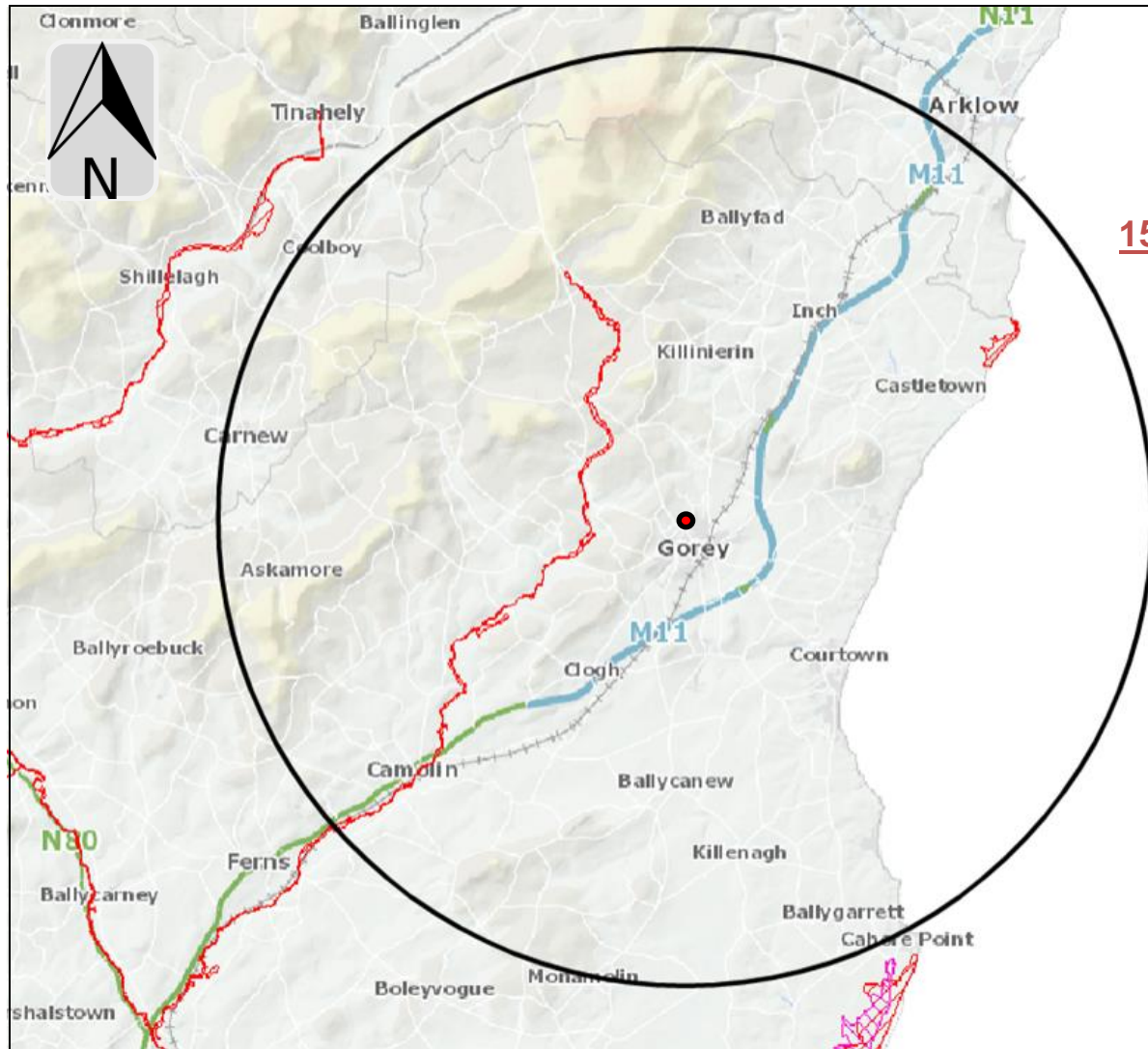
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APPENDIX A

**- PROTECTED SITES AND -
- PROPOSED DEVELOPMENT LOCATION-**



| | | | |
|--|-----------|---|----|
| Notes | | | |
| ● - Proposed Site | | | |
| ▨ - SPA | | | |
| ▨ - SAC | | | |
| Project Title: | | | |
| Protected Sites 2Km | | | |
| Client Name: | | | |
| CREAGH, GOREY, CO. WEXFORD | | | |
|  PANTHER ENVIRONMENTAL SOLUTIONS 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: | NPWS | |
| Drawing Number: | Drawn: | NR | |
| | Checked: | MF | |
| Revision: | Approved: | - | |
| R1 | Date: | 13/08/2018 | |
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15km

Notes


- - Proposed Site
- SPA
- SAC

Project Title:

Protected Sites 15km

Client Name:

**CREAGH, GOREY,
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| | | | |
|-----------------|-----------|------------|----|
| Drawing Status: | Scale: | NTS | A4 |
| Report: | Datum: | NPWS | |
| Drawing Number: | Drawn: | NR | |
| | Checked: | MF | |
| Revision: | Approved: | - | |
| R1 | Date: | 13/08/2018 | |

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