Inspector's Report

ABP-307432-20

Development	Proposed Lake Water Level Management Works at Lady's Island, Co. Wexford
Location	Lady's Island, Co. Wexford
Local Authority	Wexford County Council
Type of Application	Application for approval made under Section 177(AE) of the Planning and Development Act, 2000 (local authority development requiring appropriate assessment)
Prescribed Bodies	Department of Housing, Local Government and Heritage. Transport Infrastructure Ireland
Observer(s)	None
Date of Site Inspection	1 October 2020
Inspector	Una Crosse

1.0 Introduction

1.1. Section 177AE of the Planning and Development Act 2000 (as amended) requires that where an appropriate assessment is required in respect of a proposed development by a local authority, the authority shall prepare an NIS and the development shall not be carried out unless the Board has approved the development with or without modifications. Furthermore, Section 177V of the Planning and Development Act 2000 (as amended) requires that the appropriate assessment shall include a determination by the Board as to whether or not the proposed development would adversely affect the integrity of a European site and the appropriate assessment shall be carried out by the Board before consent is given for the proposed development.

1.2. Wexford County Council is seeking approval from An Bord Pleanála to undertake Lake Water Level Management Works within the Lady's Island Lake Special Area of Conservation (SAC), the Lady's Island Lake Special Protection Area (SPA) with elements of the proposal falling within the boundary of Carnsore Point SAC which are all designated European sites, part of the Natura 2000 Network of protected sites. A Natura Impact Statement (NIS) and application under Section 177AE was lodged with the Board by the Local Authority on 22nd June 2020 on the basis of the proposed development's likely significant effect on a European site.

1.3. A consultation period for submissions on the proposed development closed on 4th August 2020.

1.4. Further information was requested on 5 October 2020 and following a request from the applicant to extend the time period for response, the further information request was reissued on 15 January 2021. A response to same was received on 7 April 2021.

1.5. This report has been informed by a report addressing the likely significant effects of the proposed development on any European sites undertaken by Dr Maeve Flynn, Senior Ecologist at Appendix 1.

1.6. It is stated that an application for a Foreshore licence will be made for the proposed development to the Department in April 2021 on behalf of Wexford County Council.

2.0 **Proposed Development**

2.1. **Context**

2.1.1. Lady's Island Lake is described as a lagoon lake which is fed by runoff from the surrounding catchment and held in place by a barrier beach c.200m long located between it and the sea. The lagoon is 3.7km long (north-south) with a maximum width of 1.8km (east-west) and covers a maximum area in winter of about 450ha. Currently in order to control flooding and rebalance salinity levels, the lake is drained by cutting a channel through the barrier beach and letting water flow uncontrolled through the channel. The NIS states that the 'cut'/breach was carried out by local landowners until 1953, Wexford County Council until 1988, not breached in 1989, breached by locals in 1990 and since then by National Parks and Wildlife Service (NPWS) under the permission of the local Our Lady's Island Drainage Committee. The management of lake levels within the lagoon is also to facilitate successful nesting of Breeding Terns on the Islands within the lagoon in addition to flood management. The breach is usually carried out in March/April with the cut allowed to seal naturally with beach sediment. The documentation provided states that while the channel is initially shallow and narrow, the water exiting the lake gradually makes the channel wider and deeper than the initial cut and can be greater than 100m wide and deepen lower than initial cut level. It is stated that this uncontrolled method of drainage can lower the level of the lake below that which is desirable for ecological interests and can cause the lake to become tidal for an intermediate period which influences the salinity of the lake. Water levels within the lagoon are due to a combination of factors including rainfall, inflowing streams seepage through the beach and evapotranspiration as well as inflows from waves overtopping the barrier beach.

2.1.2. The stated purpose of the project is to meet the requirements of the management of the lake levels to control lake levels, avoid flooding of surrounding lands and ensure sufficient lake levels for the ecology of the lake. I would note that Appendix 3 of the NIS provides drainage solutions previously considered for the Lake. The NIS references the problems with the current management of the water level from an ecological and human welfare perspective. It states that Our Lady's Island drainage committee seek the control of flooding of surrounding lands while the NPWS seek to

ensure that conservation interests are maintained. It is also stated that the project is necessary for the management of the SPA as the Terns require certain water levels during nesting season. If water levels get too high, there is a risk of inundation of Tern nests with resultant breeding failures, and if levels are too low, there is increased access by land predators which can result in significant mortality of Terns. The water and salinity levels as advised by the NPWS (s.3.2.1 of NIS) are as follows.

Water Levels

Mid-March to Mid-August – normal level of 4.0mODP (range of 3.8m-4.2mODP)

For at least one month in winter a minimum level of 5.1m ODP and from ecological perspective no maximum level required for winter.

Salinity (expressed in psu – practical salinity units)
Winter – Lady's Island Lake North – 8.65 psu and Lady's Island Lake South – 20.45 psu.

Summer - Lady's Island Lake North – 23.25 psu and Lady's Island Lake South – 23.15 psu.

2.2. Proposed Works

While further information was required to clarify elements of the proposed development, the following description outlines the proposal as originally submitted which effectively comprises four elements:

2.2.1. Original Proposed Development

Pipeline and Associated Elements

- The proposal comprises the installation of a drainage pipeline with a total of 270 metres in length over a width of 3.4m from the Lake to the intertidal zone.
- It is proposed to place a flow control structure at the southern end of the lake at the landward side of the barrier beach partially submerged in the lake. This structure is required, it is stated, to manage water levels in the lake and allow saline water enter the lake in a controlled manner and allow the controlled drainage of the lake to the sea. The flow control structure itself has an area of c.97m^2 (12.46m in length and 7.8m wide with a depth of 7.8m – taken from plans

submitted). A control kiosk is proposed on top of the structure (1.8m x 1.8m x 2.4m).

- To ensure the functionality of this flow control structure an associated dredged channel of c.2,700m2 in area (40m at widest over a length of approx. 150m) with excavated material to be disposed at a licensed landfill. It is stated that maintenance dredging of this area will be required in the future to be undertaken when the lake level is low.
- From the flow control structure two concrete pipes with an outer diameter of 1.4m are proposed to extend southwards for 200m to a junction box located within the beach fronting the Lake. The junction box is approx. 20m^2 in area (3.65m wide by 5.5m long with a depth of 5m).
- From the junction box, two ductile iron pipes (outer diameter of 1.25m) will extend for approximately 32m into the intertidal zone to their outlet. It is proposed to support the pipes with four 15m long steel piles and associated concrete pile caps spaced at regular intervals. It is proposed to place two 500mm x 300mm struts between each pile cap with a distance of 8m in length between each pile cap. It is stated that the natural profile of the beach will conceal the majority of this structure.
- An access pathway is proposed across the dunes from the public road to the flow control structure.

Rock Armour Channel

- A rock armour lined channel/platform is proposed to be buried in the barrier beach to act as an emergency method/structure to allow intermittent sea water entry to the lake if the saline intrusion through the pipeline is insufficient. The channel is located c. 60m east of the pipeline and under the proposed pathway, 40m x 40m with an overall area of 1,600m2 and comprising 1-2T of rock most likely limestone.

Beach Re-Profiling

- Re-profiling of a 300m long section of the barrier beach (6,200m^2 plan area) to the east and west of the pipeline with the state purpose of reducing the risk of wave overtopping into the lake. It is proposed to be 30m wide at its base with the

existing cut profile tapering off to convince with the natural contours of the sand dunes. It is proposed the re-profiles section will be in the region of 6.5m – 7.5m ODP with a crest width of approximately 5m with seaward face incline of 1:5 and lakeward face incline of 1:2 and all proposed to be planted with marram grass.

Power Supply

- Reference is made to a 3-Phase power supply and associated cable which it is proposed would be overhead to the beach and then buried in the beach.

Construction Timelines

- It is estimated that works may take 9 months, maybe longer with a possible timeframe of March - November and start at seaward side.

Annual Programme of Works for Management of Lake Levels

- **September** – following departure of the terns, lake level will be drawn down to +2.2m – +2.6m ODP and for next 2-4 weeks seawater will be allowed into the lake with little outflow to allow salinity levels within the lake to be raised. Outflows are limited to minimise saline water in vicinity of the pipe being discharged back to sea before mixing fully with fresh water in the lake.
- **October** – inflow stopped and outlet closed until lake levels rise to approximately +4.4m – 4.6m ODP. During winter period lake levels are to allowed rise to 5.1m ODP and maintained at or above this level for at least one month flowing which lake levels are maintained between +4.6m and +5m ODP until March when levels are drawn down to +3.8m – +4.2m ODP to facilitate the terns.
- **March – August** – lake levels maintained within +3.8m – +4.2m ODP range which require initial levels maintained close to +4.2m ODP to ensure lake levels do not go below +3.8m ODP due to evapotranspiration effects.

2.3. Accompanying documents:

The original application was accompanied by one document as follows.

Natura Impact Statement (NIS)

This document includes the NIS but a range of appendices attached to this include a number of other documents as follows:

- Screening for Appropriate Assessment (Appendix 1)
- Stages of Appropriate Assessment (Appendix 2)
- Drainage Solutions previously considered for Lady's Island Lake (Appendix 3)
- Proposed Development Drawings (Appendix 4)
- Environmental Commitments (Appendix 5)
- Marram Grass Planting (Appendix 6)

Other Documents

- Cover Letter
- Copy of Public Notice
- List of Prescribed Bodies Notified
- Copies of the letters issued to the Prescribed Bodies

Drawings

- Proposed Works Location – Drwg No. 17821-5001
- Proposed Works Plan - Drwg No. 17821-5002
- Proposed Works Aerial Location - Drwg No. 17821-5003
- Proposed Works Aerial Plan - Drwg No. 17821-5004
- Proposed Works Pipe Elevation - Drwg No. 17821-5005
- Proposed Works Flow Control Structure - Drwg No. 17821-5006
- Proposed Works Junction Box - Drwg No. 17821-5007
- Proposed Works Pile Cap - Drwg No. 17821-5008

2.4. Amendments following Further Information

2.4.1. Following the request for further information the development was amended such that the proposal comprises the pipeline and associated elements as described above. The proposal to raise the crest level in the area of the existing cut to that of the adjoining sand dune areas and the installation of a rock armour channel buried within the line of the existing cut – the "emergency cut" have been omitted.

2.4.2. **Development Now Proposed**

Lady's Island lake is designated a Special Area of Conservation (SAC) and Special Protection Area (SPA) and Carnsore Point SAC is immediately adjacent, including the subtidal area along the beach profile. In summary the proposal now comprises:

- A drainage pipeline and associated works to manage water levels in the lake and to allow saline water to enter the lake in a controlled manner.
- A flow control structure (of approximately 100m2 plan area) will be located in the lake at the landward side of the barrier beach which is partially submerged in the lake.
- An associated dredged drainage channel of approximately 3,000m2 plan area will be required to ensure the functionality of the flow control structure.
- 3-Phase power supply and associated cable which will travel overhead to the beach before it is then buried in the beach.

3.0 Site and Location

3.1. Lady's Island Lake, which is 3.7 km in length and 1.3 km at its widest, covers an area of 466 hectares and is Ireland's largest and best example of a sedimentary lagoon. It is described as a natural, brackish, sedimentary percolating lagoon, located on the south Wexford coast c.3km west of Carnsore Point. The lake is separated from the sea by a natural sand and gravel barrier and is subject to wide fluctuations in water level due to historic and regular breaching/cutting of the barrier to alleviate flooding of surrounding lands which it drains. Depending on water levels the lagoon is up to 5m deep though mostly shallower. Carnsore Point marks the south-eastern boundary of the site. Lady's Island village is located to the north of the Lake. Lady's Island lake is designated a Special Area of Conservation (SAC) and Special Protection Area (SPA) and Carnsore Point SAC is immediately adjacent, including the subtidal area along the beach profile.

4.0 Planning History

4.1. None of Note

5.0 Legislative and Policy Context

5.1. **The EU Habitats Directive (92/43/EEC):** This Directive deals with the Conservation of Natural Habitats and of Wild Fauna and Flora throughout the European Union. Articles 6(3) and 6(4) require an appropriate assessment of the likely significant effects of a proposed development on its own and in combination with other plans and projects which may have an effect on a European Site (SAC or SPA).

5.2. **European Communities (Birds and Natural Habitats) Regulations 2011:** These Regulations consolidate the European Communities (Natural Habitats) Regulations 1997 to 2005 and the European Communities (Birds and Natural Habitats) (Control of Recreational Activities) Regulations 2010, as well as addressing transposition failures identified in CJEU judgements. The Regulations in particular require in Reg 42(21) that where an appropriate assessment has already been carried out by a 'first' public authority for the same project (under a separate code of legislation) then a 'second' public authority considering that project for appropriate assessment under its own code of legislation is required to take account of the appropriate assessment of the first authority.

5.3. **National Nature Conservation Designations**

5.3.1. The Department of Culture, Heritage and the Gaeltacht and the National Parks and Wildlife Service are responsible for the designation of conservation sites throughout the country. The three main types of designation are Natural Heritage Areas (NHA), Special Areas of Conservation (SACs) and Special Protection Areas (SPAs) and the latter two form part of the European Natura 2000 Network.

5.4. **European sites**

5.4.1. **European Sites within which the proposed development is located**

- Lady's Island SAC (Site Code 000704)
- Lady's Island SPA (Site Code 004009)
- Carnsore Point SAC (Site Code 002269)

5.4.2. **European Sites within Wider Area**

- Tacumshin Lake SAC site code 000709 – within 2.2km (West)
- Tacumshin Lake SPA site code 000709 – within 2.2km (West)

5.5. **Planning and Development Acts 2000 (as amended)**

5.5.1. Part XAB of the Planning and Development Acts 2000-2017 sets out the requirements for the appropriate assessment of developments which could have an effect on a European site or its conservation objectives.

- 177(AE) sets out the requirements for the appropriate assessment of developments carried out by or on behalf of local authorities.
- Section 177(AE) (1) requires a local authority to prepare, or cause to be prepared, a Natura Impact Statement in respect of the proposed development.
- Section 177(AE) (2) states that a proposed development in respect of which an appropriate assessment is required shall not be carried out unless the Board has approved it with or without modifications.
- Section 177(AE) (3) states that where a Natura Impact Statement has been prepared pursuant to subsection (1), the local authority shall apply to the Board for approval and the provisions of Part XAB shall apply to the carrying out of the appropriate assessment.
- Section 177(V) (3) states that a competent authority shall give consent for a proposed development only after having determined that the proposed development shall not adversely affect the integrity of a European site.
- Section 177AE (6) (a) states that before making a decision in respect of a proposed development the Board shall consider the NIS, any submissions or observations received and any other information relating to:
  - *The likely effects on the environment.*
  - *The likely consequences for the proper planning and sustainable development of the area.*
  - *The likely significant effects on a European site*.

5.6. **Appropriate Assessment of Plans and Projects in Ireland – Guidance for Planning Authorities:** Guidance is provided for the competent authority to assess

any plan or project. The impact of any plan or project alone or in combination with other projects on the integrity of the Natura 2000 site is considered with respect to the conservation objectives of the site and the structure and function.

5.7. Wexford County Development Plan 2013 – 2019

Section 14.2 of the Plan addresses Natural Heritage with Refuges for Fauna considered at Section 14.2.5 which notes that there is one Refuge for Fauna located in County Wexford: (Lady's Island) Designation Order, 1988 – designated for Artic tern, common tern, roseate tern, sandwich tern and little tern under the Wildlife Acts 1976 and 2000.

Reference is made at Section 14.2.9 to the (then) Draft County Wexford Biodiversity Action Plan (see next section). The Plan includes a series of Objectives with Objective NH09 seeks '*to work with local communities, groups, landowners, NPWS and other relevant parties to identify, protect, manage and, where appropriate, enhance and promote site of local biodiversity value'*.

Section 14.4 addresses Landscape with identifies Landscapes of Greater Sensitivity (Map 13) with Lady's Island specifically included. Objective L03 seeks '*to ensure that developments are not unduly visually obtrusive in the landscape, in particular in the Upland, River Valley and Coastal landscape units and on or in the vicinity of Landscapes of Greater Sensitivity'*. Objectives L05 seeks "*to prohibit developments which are likely to have significant adverse visual impacts, either individually or cumulatively, on the character of the Uplands, River Valley or Coastal landscape or a Landscape of Greater Sensitivity and where there is no overriding need for the development to be in that particular location*".

5.8. County Wexford Biodiversity Action Plan 2013-2018

This Plan recognises Lady's Island as a Refuge for Fauna (Arctic tern, common tern, roseate tern sandwich tern and little tern) under the Wildlife Acts. The Plan lists breaching of the gravel barrier for flood relief as a threat to Lady's Island SPA which could be detrimental to the flora and fauna including the bird species. The Plan also states that the lagoon is prone to eutrophication from agricultural and domestic effluent.

6.0 The Natura Impact Statement

6.1. Wexford County Council's application for the proposed development was accompanied by a Natural Impact Statement (NIS). A revised NIS accompanied the further information request which considered the revised development and which is the subject of the assessment in this report.

7.0 Consultations

7.1. Consultation Process

7.1.1. The application was circulated to the following bodies:

- Department of Culture, Heritage & the Gaeltacht now the Department of Housing, Local Government and Heritage – Development Applications Unit
- Department of Agriculture, Food and the Marine
- Inland Fisheries Ireland
- The Heritage Council
- An Chomhairle Ealaíon
- Fáilte Ireland
- An Taisce

7.1.2. A response was received from the Development Applications Unit of the Department of Housing, Local Government and Heritage (formally the Department of Culture, Heritage and the Gaeltacht).

7.2. Department of Housing, Local Government and Heritage:

7.2.1. The department made a submission (dated 4th August 2020) in respect of Nature Conservation which I will address as follows:

Nature Conservation

7.2.2. It is stated that opportunity to comment on this important project welcomed with proposal aiming to address a number of the conservation issues with the SAC and SPA. The submission is set out under a number of headings which I use below:

Coastal Lagoon and Perennial Vegetation Habitats and Qualifying Interests

- Proposed engineering solution taken all of Department's concerns regarding water levels and salinity of coastal lagoons habitat into account and appears to have addressed them;
- Proposed effort to prevent overtopping unnecessary for following reasons:
    - **Lagoons & overtopping** - Overtopping a natural process in lagoonal system and shock events corresponding to a sudden increase in salinity within the lagoon are a natural feature of their ecology; with sustained longer-term changes in salinities – very low or very high - having a negative impact on ecology of a lagoon and Department of view that piped solution adequate to maintain salinity within desired range as long as overtopping can occur;
    - Two proposed methods to prevent overtopping – use of boulders and rocks in re-profiling the sand dunes and use of rock armour associated with the 'emergency cut' structure - will have negative impacts on another QI – 1220 perennial vegetation of stony banks. Use of armouring in both the beach reprofiling and the 'emergency cut' would constitute physical obstructions to the natural circulation of sediment in contravention of the site specific conservation objectives for the QI.
    - Department opinion is that use of rock armour is reprofiling the beach and the inclusion of the 'emergency cut' are damaging to future prospects of two QI's and are not necessary for water level and salinity levels to meet the Conservations objectives of the Natura 2000 sites here.
    - **Emergency Cut** – NIS states that emergency cuts may need to be made to allow sea entry to the lake and raising of salinity levels if the saline intrusion through the pipeline is insufficient with provision for this made through proposed rock armour constraint channel and future cuts described as a remedial measure in the NIS. Department consider other

less damaging options to raise salinity available such as allowing overtopping to occur which should be considered as an alternative to emergency cutting. Further information required.

- **Cottonweed (achillea maritima) and overtopping** – Protected vascular plant species cottonweed (Flora (Protection) Order, 2015, SI No. 356 of 2015) occurs on the shingle barrier between Lady's Island Lake and the sea and forms part of the vegetation community of QI – 1220 perennial vegetation of stony banks. Species has become extinct at all of recorded Irish sites except on the Lady's Island Lake shingle barrier which now holds the sole Irish population of the species and most northerly remaining in Europe and globally.
- 2016 Vascular plant red list for Ireland assessed cottonweed as critically endangered on basis of significant decline in number of individuals and as of July 2020 only a single patch comprising a total of 12 individuals of the species remains approx. 100m south-east of the barrier cut which are last remaining naturally occurring individuals in Ireland and most northerly in the world.
- Due to significance of Lady's Island Lake barrier for the protected species and its habitat, NPWS began a project in 2013 with dual objectives of restoration of the population of the species at the site and improvement of conservation status of the Annex I habitat 1220 perennial vegetation of stony banks at the site. Since commencement number of individual species growing at the site has risen from 34 in 2013 to 62 in 2020 (comprising 12 naturally occurring plants and within 30-50m of same, 50 ex situ plants from cuttings and seeds collected from remaining naturally occurring plants). With careful management anticipated that number of individuals of species growing at the site will continue to rise.
- Feature of Lady's Island site and a particularly important one for this protected species is that the shingle barrier becomes periodically overtopped by seawater during storms – as these events lead to deposition of the gravels that provide suitable habitat for the protected species and for the other species comprising the perennial vegetation of

stony banks habitat and therefore important for these that such overtoppings are not prevented in the future.

Other Issues

- **Planting of Marram Grass** – pioneer community associated with QI – 1220 perennial vegetation of stony banks is threatened by digging and moving of shingle proposed as part of project with marram planting proposed as a measure to stabilise the shingle barrier. However marram planting not recommended as it would promote succession to a dune-type community rather than a pioneer 1220 perennial vegetation of stony banks community. Marram also promotes conditions that are not favourable to the establishment or persistence of cottonweed and additional marram not desirable with Department recommending no marram planting is undertaken.
- **Climate Change** – While landward movement of barrier is mentioned in NIS consequences of such movement for engineering solution not considered and in combination impacts of engineering solution with those of climate change not fully elucidated despite acknowledgement that climate change likely to have significant effect on the Natura 2000 sites.
- Climate change associated with accelerated sea level rise on the south-east coast with expected increase in rate of landward migration of transgressing shingle barriers with such movement of the barrier resulting in exposure of the rock armour and interference in the re-establishment of equilibrium in sedimentary processes. Points where rock armour meets mobile natural shingle barrier would be at high risk of erosion and under extreme scenario of sea level rise and storm activity, increased risk of erosion due to rock armour could threaten integrity of the barrier-lagoon system as a whole with conservation status of the site dependent on maintenance of integrity of the shingle barrier as recognised in site specific conservation objective for QI 1150 coastal lagoons.
- Mobility of coastal sediments raises other questions that are not addressed in the NIS, notably the consequences of natural landward movement of the shingle barrier which is not considered in relation to long term functioning of

the engineering solution. Positioning of the pipes, associated control kiosk and flow control structure within the lagoon appear to be particularly at risk.

- Sediment movement on the beach also a potential risk to iron piping and associated concrete structures and in absence of any modelling of sedimentary processes affecting the site, difficult to predict what impacts of such interactions might be either on longevity of the engineering solution or on natural sediment processes is required including effect of climate change to determine if there will be an adverse effect on conservation interests at Lady's Island Lake.
- **Overhead Cable and Gadwall (Anas Strepera)** – power supply proposed via overhead cable to the beach. The duck species Gadwall is listed as an SCI for Lady's Island Lake SPA. It is a species for which the risk of colliding with overhead powerlines is high. NIS states that overhead section of powerline (along local road network/away from beach) not expected to incur any significant impacts on the bird populations of the SAC (sic) but also states that warning devices will be put in place should an overhead powerline component be required. Department considers collision risk impacts of proposed overhead powerline on Gadwall should be assessed in greater detail and clearly outlined in the NIS. If mitigation measures are required, they should be proven to be effective in similar circumstances with further information required.
- **Security of Infrastructure** – given remote location of proposal, Department considers that the security of infrastructure must be assessed to ensure no interference with operation of the management of water levels and measures put in place to manage security if appropriate with further information required.

<u>Errata/Inconsistencies in NIS</u>

- NIS states footprint of proposed pipeline will lie with the Carnsore Point SAC with permanent loss of the intertidal habitat QI. However, boundary of Carnsore Point SAC in vicinity of the lake is subtidal rather than intertidal and any overlap may be an artefact of mapping with no loss of habitat areas within the Carnsore Point SAC;

- Area of Lady's Island Lake estimated in 2013 by NPWS as 299.6ha with area of Lagoon estimated in NIS as 466ha with clarity required on how the area was estimated;
- Error on page 63 where 'minimum the lake area will be 1.65ha' but should read 165ha.

7.3. Public Submissions

7.3.1. No submissions from members of the public were received.

8.0 Further Information

8.1. A Further Information Request was sent to Wexford County Council and was reissued to same on request. A response was received dated 7 April 2021. By way of introduction it is stated in the response that the original proposal submitted has been amended such that the proposed raising of the crest level in the area of the existing cut to that of the adjoining sand dune areas and the installation of a rock armour channel buried within the line of the existing cut – the "emergency cut" are no longer included. The proposal now comprises: the pipeline from the lake to the sea through the barrier beach fronting Lady's Island Lake with the associated flow control structure. The request was issued under the following headings with the response underneath each one and summarised as follows:

1. Information to Address Section 177AE(6)(a) & (b)

Request

Section 177AE of the Planning and Development Act 2000, as amended requires at subsection (6) that the Board in their consideration of the application for approval, take the following into account:

(a) The likely effects on the environment,

(b) The likely consequences for the proper planning and sustainable development of the area, and

(c) The likely significant effects of the proposed development on any European sites.

(i) While part (c) is addressed separately in the next section, the application documentation submitted to the Board fails to address parts (a) and (b) above and you are requested to provide information to facilitate the Board in its consideration of this requirement of the approval application.

(ii) Reference is made in the documentation to the flow control structure being partially submerged in the lake and that the natural profile of the beach will conceal the majority of the support structure for the pipes from the junction box to the outlet in the intertidal zone. Furthermore, reference is made to an overhead powerline. You are requested in particular to address the potential impact of these elements of the proposed development on the use of the Lake, Beach and Intertidal Zone and the potential visual impact of the proposed development on this area.

Response

In response to Item (a) an EIAR Screening report has been attached.

In response to Item (b) a planning report has been attached.

In relation to Item (i) reference is made to the EIAR Screening report and Planning Report submitted.

In terms of Item (ii) the visual impact of the proposal has been assessed by means of the drawings and a discussion of the scale of the development in a visual aspects report. It is stated that to assist in this a number of aerial views have been included of a similar drainage structure to that proposed fronting Tacumshin Lake on an adjacent length of shoreline. The Tacumshin Lake drainage structure was constructed in the late 1990s.

2. Natura Impact Statement

2.1 Screening Report

Request

The conclusion on screening provided at Section 4.7 states that '*it has been objectively concluded during the screening process that 13 sites within 15km of the project are unlikely to be significantly impacted*'. However, no evidence has been provided to support this statement by way of screening out these sites. You are

requested to review the screening process and provide evidence to support the screening out of the 13 sites mentioned.

Response

An amended screening report has been submitted which addresses the revised development proposal and the concerns expressed at Section 2.1 in respect of screening out sites.

2.2 Potential Adverse Effects on Qualifying Interests in the Lady's Island Lake SAC (000704).

Request

The submission received from the Development Applications Unit of the Department of Culture, Heritage and the Gaeltacht acknowledges that the proposed engineering solution has taken all of Department's concerns regarding water levels and salinity of coastal lagoons habitat into account and appears to have addressed them. However, concern has been expressed at the potential impact of the proposal on the Coastal Lagoon and Perennial Vegetation Habitats qualifying interests in the SAC particularly from the rock armour constraint channel and re-profiling of the beach barrier. The concerns are outlined as follows:

Lagoons and Overtopping

It is stated that the proposed effort to prevent overtopping is unnecessary and the reasons for this are outlined in the submission with the Department of the view that the piped solution is adequate to maintain salinity within the desired range as long as overtopping can occur.

It is considered that the two proposed methods to prevent overtopping – use of boulders and rocks in re-profiling the sand dunes and the use of rock armour associated with the 'emergency cut' structure - have the potential to adversely affect the qualifying interest 1220 perennial vegetation of stony banks. Use of armouring in both the beach reprofiling and the 'emergency cut' would constitute physical obstructions to the natural circulation of sediment in contravention of the site specific conservation objectives for the qualifying interest.

Emergency Cut

As noted above, the Department have concerns in relation to the emergency cut and considers that there are other less damaging options available to raise salinity such as allowing overtopping to occur which should be considered as an alternative to emergency cutting.

Cottonweed (achillea maritima) and overtopping

The Department submission outlines that the protected vascular plant species cottonweed (Flora (Protection) Order, 2015, SI No. 356 of 2015) occurs on the shingle barrier between Lady's Island Lake and the sea and forms part of the vegetation community of QI – 1220 perennial vegetation of stony banks. The species has become extinct at all of recorded Irish sites except on the Lady's Island Lake shingle barrier which now holds the sole Irish population of the species and most northerly remaining in Europe and globally. The submission outlines that the 2016 Vascular plant red list for Ireland assessed cottonweed as critically endangered on basis of significant decline in number of individuals and as of July 2020 only a single patch comprising a total of 12 individuals of the species remains approximately 100m south-east of the barrier cut which are last remaining naturally occurring individuals in Ireland and most northerly in the world. The submission details the NPWS project begun in 2013 and the growth of the species and notes that a particularly important feature for this protected species is that the shingle barrier becomes periodically overtopped by seawater during storms – as these events lead to deposition of the gravels that provide suitable habitat for the protected species and for the other species comprising the perennial vegetation of stony banks habitat and therefore important for these that such overtoppings are not prevented in the future.

Proposed Planting of Marram Grass

The Department submission states that the pioneer community associated with QI – 1220 perennial vegetation of stony banks is threatened by digging and moving of shingle proposed as part of project with marram planting proposed as a measure to stabilise the shingle barrier. However marram planting is not recommended as it would promote succession to a dune-type community rather than a pioneer 1220 perennial vegetation of stony banks community. It is also outlined that marram also

promotes conditions that are not favourable to the establishment or persistence of cottonweed and additional marram is not desirable.

Further Information Request

You are therefore requested to review and amend the proposed design solution and in particular the use of rock armour in re-profiling the beach and the inclusion of the 'emergency cut' which are considered to be damaging to the future prospects of the two qualifying interests - Coastal Lagoons and Perennial Vegetation Habitats - and are not necessary for water level and salinity levels to meet the Conservation Objectives of the Natura 2000 sites here.

In this regard, you are requested to consider the proposal put forward by the Department that the piped solution is adequate to maintain salinity within the desired range as long as overtopping can occur. Please submit revised drawings outlining the changes to address the concerns expressed and amend the NIS accordingly.

Response

It is stated that this matter is dealt with in part by the removal of the proposal to raise crest levels in the area of the existing cut and by the removal of the proposal to install a buried rock armour channel within this area. The NIS has been amended to address the issues.

2.3 Climate Change

Request

You are requested to address the concerns raised by the Department in relation to the consideration of climate change in the NIS. In particular you are requested to provide further information on the interactions between the engineering solution (as per the amended scheme) and natural sedimentary processes including the effects of climate change to determine if there will be an adverse effect on conservation interests at Lady's Island Lake.

Response

A coastal process aspects report has been prepared which discusses the coastal process aspects of the area and assesses the potential impact that the proposed development may have on coastal and sedimentary processes and the impacts of

climate change on the proposed development and the conservation interests of the Lake. This is also addressed in the amended NIS.

2.4 Overhead Cable and Gadwall (Anas Strepera)

Request

While as noted in Item 4 below, no detail has been provided in the drawings or in the NIS of the proposed power supply of the location of the proposed supply. It is stated that power supply is proposed via overhead cable to the beach. Gadwall is listed as an SCI for Lady's Island Lake SPA with high risk of species colliding with powerlines. The NIS states the that overhead section of powerline (along local road network/away from beach) is not expected to incur any significant impacts on the bird populations of the SAC (sic) but also states that warning devices will be put in place should an overhead powerline component be required. The Department considers that collision risk impacts of the proposed overhead powerline on gadwall should be assessed in greater detail and clearly outlined in the NIS and should mitigation measures be required they should be effective in similar circumstances. Please address the concerns expressed and amend the proposed scheme accordingly.

Response

It is stated that this is dealt with by indicating on the drawings the locations of the overhead and underground cables carrying power to the flow control structure. It is proposed that the power line will be installed as an underground cable– from the location on the existing power source.

2.5 Security of Infrastructure

Request

Please address the concerns expressed regarding the security of this infrastructure given the remote location of the proposal. It is imperative that potential interference with the operation of the management of water levels is avoided and measures should be put in place to manage security.

Response

It is proposed that flows through the flow control structure can only be regulated electrically through the control kiosk on the structure. In addition, it is proposed that

there will be a security fence attached to the perimeter of the concrete structure and that only authorized personnel will have access to the keys to the perimeter fencing and the control kiosk. The structure will be robust in terms of security, will remain operational in the face of climate change and barrier beach retreat and will be robust in terms of structural integrity in the face of wave and sand overtopping of the existing beach crest and will remain operational in the face of anticipated changes to sea levels and river flows due to climate change.

2.6 Impact on Annex I Non-qualifying Interests (Dune Habitats)

Request

While not a qualifying interest of Lady's Island SAC, the potential for direct and indirect impacts on Annex I Habitats comprising various dune features within the vicinity of the subject site (Map 6 of Conservation Objectives) have not been addressed in the NIS. You are requested to address this concern. You are also requested to reconsider the proposed site compound location and access route to same (Fig 7 NIS).

Response

It is stated that the matter is addressed in the amended NIS. It is also stated that the site compound is within an area subject to continuing disturbance by pedestrians and vehicles. Moving the compound north and away from areas mapped as dune habitat would infringe upon lagoon habitat while moving south would require crossing dune habitat. Due to variation of lake levels and associated flood risk, moving north is not an option.

2.7 Errata/Inconsistencies in NIS

Request

You are requested to review and amend the following errors in the NIS:

- NIS states footprint of proposed pipeline will lie within the Carnsore Point SAC with permanent loss of the intertidal habitat QI. However, the boundary of Carnsore Point SAC in vicinity of the lake is subtidal rather than intertidal and any overlap may be an artefact of mapping with no loss of habitat areas within the Carnsore Point SAC. This should be clarified and the NIS amended to reflect same.

- Area of Lady's Island Lake estimated in 2013 by NPWS as 299.6ha with area of Lagoon estimated in NIS as 466ha with clarity required on how the area was estimated;
- Error on page 63 where 'minimum the lake area will be 1.65ha' but should read 165ha.

You are requested to provide an amended NIS to reflect the amendments requested in section 2.1-2.7 above.

Response

In response reference is made to the amended NIS. It is also stated that it is confirmed that the southern end of the flow control structure and ancillary supporting structures are within Carnsore Point SAC as shown in Figure 5 and Figure 6 of the NIS. It is stated that it is considered that the southern end of the flow control structure is within the intertidal zone and not in the subtidal zone. The southern-most extent of lady's Island SAC comprises an intertidal section of the beach classified as Intertidal sediment community.

4. Inadequate Description of Development

Request

The drawings and detail of the proposed development provided are considered inadequate to facilitate a satisfactory assessment of the proposed development. Please provide appropriately scaled and detailed drawings which indicate the location of all of the elements of the development proposed. The drawings can be provided in a series of interconnected drawings suitable annotated. The drawings should reference the scheme as amended by the request in the preceding items.

(a) You are requested to submit detailed drawings including elevations and a floor plan of the flow control structure including the control kiosk and the junction box and indicate the proposed materials.

(b) Please indicate the nature of the pathway proposed - width, materials etc. - across the dunes from the public road to access the flow control structure.

(c) It is noted that the distance between the flow control structure and junction box is 220m on drawing 5004 but the same distance is shown as 200m in the pipe elevation drawing 5005. Please clarify the following:

- Length of pipeline from the flow control structure to the junction box
- Length of pipeline from the junction box to the outlet
- Distance between pile caps along the pipeline (indicated as 8m on drawing 5005)

(d) Reference is made in the characteristics of the project to a 3-Phase power supply and associated cable which it is proposed would be overhead to the beach and then buried in the beach. However no details are provided of same. You are requested to outline the proposals to power the proposed development and provide detailed drawings. You are advised to note the concerns regarding the potential impact on the Gadwell SCI as outlined from the Department as outlined above.

(c)You are also requested to submit aerial photographs that are legible.

(d) It is noted that the drawings submitted on 22 June 2020 reference the NPWS as the client. Please clarify.

Response

Amended drawings are provided as follows:

- 3 (a) See amended drawings showing more detail on flow control structure, control kiosk and junction box.
- 3 (b) See amended drawings showing access pathway location – existing pathways will be used.
- 3 (c) See amended drawings with consistent dimensions.
- 3 (d) See amended drawings with details of power supply.
- 3 (e) See amended drawings prepared based on the latest aerial photography
- 3 (f) Drawings have been amended to indicate applicant as Wexford County Council

4. Submissions and Observations

Request

While the further information requested above addresses the concerns expressed by the Department in their submission, you are invited to respond to any matters raised therein that you consider have not been included in the further information request above.

Response

In response it is stated, See amended text in NIS, and attached documentation.

8.2. **Submission from Department**

The further information received was circulated for comments and a response was received from the Development Applications Units of the Department which is summarised as follows:

- Noted that the two items proposed in the initial proposal which were of concern to the Department as outlined in submission of 4 August 2020, namely (i) installation of drainage pipeline and flow control structure within the beach fronting the lake to manage water levels and salinity in the Lake and (ii) Re-profiling of the beach in the area of the existing cut to raise beach crest levels have now been removed from the proposed development which now consists of the installation of drainage pipeline and flow control structure within the beach fronting the lake to manage water levels and salinity in the Lake.
- Department has reviewed the documentation submitted as part of the further information response and has no further comments.

Given the apparent contradiction in the submission in relation to the drainage pipeline, the Board requested clarification from the Department on the submission by email (2 June 2021) regarding their reference to the drainage pipeline being of concern as this had not been previously mentioned.

In an email response received (2 June 2021) it was stated that there was a typo in the submission and that the two items of concern to the Department which had been removed were 1. The raising of the crest level in the area of the existing cut to that of the adjoining sand dune areas; and 2. The installation of a rock armour channel buried within the line of the existing cut – the ‘emergency cut’

9.0 **Assessment**

9.1. **Introduction**

9.1.1. At the outset I would like to make it clear that this assessment relates to the amended development now proposed in response to the further information request. This development comprises, in summary the drainage pipeline, flow control structure and access to same, dredged channel and power supply.

9.1.2. Under the provisions of Section 177AE(6) there are specific requirements for the Board to consider in assessing applications of this nature namely,

(a) The likely effects on the environment,

(b) The likely consequences for the proper planning and sustainable development of the area, and

(c) The likely significant effects of the proposed development on any European sites.

9.1.3. I propose to assess the current application before the Board, as amended by the response to the further information request under these three broad headings. In addition to the initial submitted information, cognisance is given to the additional information submitted in response to the Further Information Request by An Bord Pleanála.

9.2. **The likely effects on the environment**

9.2.1. The further information response includes an EIAR Screening Report. This outlines the details of the proposed development, as reflected by the further information response. As noted in the Screening Report, the proposal to install a flow control system and associated works would not fall within any of the project types as outlined in Annex I or II and Parts 1 and 2 of the 5th Schedule of the Planning and Development Regulations 2001 (as amended) and therefore, there is no requirement for the proposed development to be screened nor for the submission of an Environmental Impact Assessment Report (EIAR). However, given that Section 177AE(6)(a) requires an assessment of the likely effects of the proposal on the environment, the applicant has undertaken an EIA screening in order to address this requirement. I note that it is stated in respect of the type and characteristics of

potential impact (d) – the intensity and complexity of the impact, that the overall impact of the proposed development is expected to be positive in terms of the management of flood levels and the conservation objectives of the Natura 2000 sites. Some short terms effects which may occur during construction are identified but are considered to be imperceptible and temporary. These include:

9.2.2. **Noise**

Noise will be generated during the construction process, mainly from piling and construction machinery but are not expected to be significant during the construction phase. Noise mitigation procedures proposed in the NIS are to be implemented. It is stated that where reasonably practicable, noisy plant or processes will be replaced by less noisy alternatives and plant will be properly and regularly maintained and fitted with exhaust silencers. Compressors, if needed, will be 'sound related' models fitted with properly lined and sealed acoustic covers which will be kept closed whenever machines are in use. A vibrating hammer will be used for pile driving in order to reduce noise generation and propagation. Pile driving will only be done at low tide and hammers will be 'ramped up' before each use.

9.2.3. **Air**

Emissions to air will be generated during the construction process from construction machinery, such as the excavator, trucks and crane but it is noted that the construction phase will be short term and is not expected to give rise to significant air quality impacts in the local area. No change in the nature and level of emissions to air in the longer term above the existing scenario as a result of the proposal are expected.

9.2.4. **Water**

It is stated that the proposal will have a positive impact on the salinity of the lake, with consequent improvements in biodiversity. The proposal will also limit potential flooding in the surrounding area resulting in a long-term positive impact. The proposal will not impact on the seawater adjacent to the development as the outflows from the pipeline, while almost continuous, will be dwarfed by water movements from tidal and wave action on the seawards side.

9.2.5. **Screening Conclusion**

The EIA Screening Report concludes that given the characteristics of the proposal in consideration of the size, nature, location and characteristic of the potential impacts, it is considered that the proposal would not introduce any new or additional effects of a significant or adverse nature such as to have a significant effect on the environment or warrant an EIA. It is considered that upon completion, the project will have environmental and social benefits in terms of water quality, biodiversity and flood mitigation. With the implementation of the mitigation measures, I am satisfied the impact will not be significant. In relation to other potential likely effects on the environment specifically biodiversity, visual impact and climate change, while not directly addressed in the EIAR Screening report, they are addressed by way of other reports and I will address same in turn.

9.2.6. **Biodiversity**

As all proposed elements of the development are within the boundaries of European sites namely Lady's Island SAC, SPA and Carnsore Point SAC, all nature conservation issues and impacts are considered in the context of the NIS provided and the Appropriate Assessment (Appendix I). In this case, there is no requirement for a separate biodiversity assessment for features that may fall outside the definitions of those sites. As I note elsewhere, the consideration of possible adverse effects on the integrity a European site, as per Section 177AE(6)(c) have been addressed by way of expert input addressing the likely significant effects of the proposed development on any European sites by Dr Maeve Flynn, Senior Ecologist with An Bord Pleanala attached as Appendix 1 of this report.

9.2.7. **Visual Impact**

In response to the further information request, the applicant has submitted a 'Visual Aspects Report' which details the elements of the proposed development noting that save for the flow control structure and where the pipeline outfalls onto the beach, all other elements of the development will be permanently buried from view, or, as in the case of the access path will use an existing pathway without change to its existing appearance. It also includes a number of aerial photos of a similar drainage

arrangement that exists at Tacumshin Lake further east along the coast. The report then addresses each of the above ground elements and I will address each in turn.

In relation to the flow control structure it is stated that it is proposed to partly bury the structure in the back of the beach and submerged in the Lake. It is stated that for most of the time the top of the concrete structure will be at most 2.3m above the lake level. The security fencing which will sit atop the concrete structure will be at most 4.3m above the lake level.

Levels of the adjacent beach and dunes are:

• The crest level of the existing cut is in the range 3 to 4mODM ie. 5.6mODP to 6.6mODP.

• The crest level of the dunes to the west of the existing cut is above 8mODM, ie above 10.59mODP.

• The crest level of the dunes to the east of the existing cut is above 6.0mODM, i.e. above 8.59mODP.

The report also notes that when viewed from the village of Lady's Island the top of the concrete structure will be level with the beach crest in front. The security fence will extend approximately 2m above the beach crest in front. The top level of the security fence will however be below that of the sand dunes either side of the cut. When looking from the beach crest towards the structure the security fence can interfere with the view north when standing at the lowest point of the existing cut. However, if standing in the dunes either side there will be little interference. There is considerable beach and dune area between the inlet and outfall for users of the beach to pass the proposed structure. The control kiosk is a relatively minor structure and will sit below the security fencing. The other element of the proposal is the outfall of the pipe at the beach. It is stated that it is likely that up to 18m of the top of the pipeline will be visible on the beach but much will be partly covered by beach sand and in time more of the seawards end of the pipeline may be exposed due to retreat of the barrier beach with time. It is estimated that based on an average retreat rate of 0.2m/year and additional 12m might be exposed in the next 50 years. The structure is unlikely to interfere with the views from the beach except perhaps when somebody is standing at the water edge during a Mean Low Water Spring Tide which occurs on several tides each fortnight for a short period of time. During Mean

Low Water Neap tides (-0.9mODM, 1.7mODP), approximately half of the exposed section will be under water. Any potential interference with views will be minimal. In all tides there will be plenty of beach area fronting the existing dunes for people walking the beach to pass over the pipeline. And, as the beach retreats the area available for passing remains as the dunes will also retreat.

I note specific objectives in the Wexford County Development Plan particularly Objective L03 which seeks '*to ensure that developments are not unduly visually obtrusive in the landscape, in particular in the Upland, River Valley and Coastal landscape units and on or in the vicinity of Landscapes of Greater Sensitivity'*. In addition, Objective L05 seeks "*to prohibit developments which are likely to have significant adverse visual impacts, either individually or cumulatively, on the character of the Uplands, River Valley or Coastal landscape or a Landscape of Greater Sensitivity and where there is no overriding need for the development to be in that particular location*". I consider that while the structure will be visible in an otherwise unspoilt coastal/lagoon landscape the overriding need for the development is apparent and the positive benefits accruing in relation to the flooding and the ecology provide that an appropriate balance is acceptable. With the implementation of the mitigation measures, I am satisfied the impact will not be significant.

9.2.8. **Climate Change**

In their submission to the Board the DAU outlined concerns in relation to climate change which I note were particularly related to the scheme as originally submitted to the Board which including reprofiling and rock armour. It was noted that landward movement of the barrier was mentioned in the NIS but that consequences of such movement for the engineering solution proposed was not considered and in combination impacts of engineering solution with those of climate change were not fully elucidated despite acknowledgement that climate change likely to have significant effect on the Natura 2000 sites. As outlined elsewhere in this report, the development now proposed has been significantly amended such that the reprofiling and rock armour are no longer proposed provided a less engineered solution to the situation. Furthermore, a 'Coastal Process Aspects Report' has been prepared which discusses the coastal process aspects of the area and assesses the potential impact that the proposed development may have on coastal and sedimentary processes

and the impacts of climate change on the proposed development and the conservation interests of the Lake. The report details coastal processes including tide levels, wave conditions and sediment transport. In relation to the retreat of barrier beach, it is stated that the proposal not to increase the beach crest level creates a risk that during storms volumes of sand can overtop this area and block the flow control structure. However, it is acknowledged that the forces generated by such blockage will not damage the structure with potential for a temporary blockage at the mouth of the structure restricting flows into the pipe. It is also acknowledged that such blockages are likely to be rare. It is stated that such a blockage has occurred in the past at the Tacumshin drainage pipeline and was relatively easily cleared. The assessment also addresses overtopping of the barrier beach which it is stated depends on the crest level and was the reasoning behind the original proposal to raise the crest level with the same conclusions reached as was in respect of the retreat of the barrier beach.

In respect of climate change in particular it is stated that the structure will continue to operate in the face of increased sea levels and river flows due to climate change albeit with a reduced discharge capacity, c.70 % (89% from sea level rise by 80% from increased river flows) of the current capacity. It is concluded that the structure chosen is designed to have an outfall invert level of 0.89mODP (-1.7mODM) just below MLWS so as to maximise hydraulic efficiency both from a lake drainage and saline intrusion point of view. It is considered that an outlet at this level on the beach should not block and the structure is designed to be suspended on piles over the seawards 32m in order to withstand beach profile changes and so as not to interfere with sediment processes on the beach. I would agree with the conclusion that the proposed structure is designed to be robust in terms of structural integrity and so as to remain operational in the face of anticipated changes in sea level and river flows due to climate change. Given the design of the structure now proposed and the omission of the more engineered elements of the proposal I am satisfied that the impact will not be significant.

9.2.9. **Conclusion**

Having regard to the scale of the proposed works and subject to the implementation of all mitigation measures in full, the proposed development is unlikely to give rise to significant environmental effects.

9.3. The likely consequences for the proper planning and sustainable development of the area

9.3.1. Matters Arising

I consider the matters arising in this regard relate firstly to the principle of development and secondly the use of the beach. Visual impact has been considered above in relation to effects on the environment above.

9.3.2. Principle of Proposal

As referenced in Section 2.1 above, the stated purpose of the project is to manage the lake water and salinity levels, avoid flooding of surrounding lands and ensure sufficient lake levels for the ecology of the lake. The NIS and revised NIS reference the problems with the current management of the water level from an ecological and human welfare perspective. It states that Our Lady's Island drainage committee seek the control of flooding of surrounding lands while the NPWS seek to ensure that conservation interests are maintained. It is also stated that the project is necessary for the management of the SPA as the terns require certain water levels during nesting season. It is outlined that low water levels threaten the ecology of the lake while high water levels threaten terns and pose the risk of flooding of adjoining lands.

It is stated that the lake area can become tidal for a period following a 'cut' and while the cut usually closes within weeks it can remain open for months and while narrow can be lowered and widened with a width of cut of 263m occurring in the past. It is also stated that the barrier beach is vulnerable to overtopping by wave action with the area of the cut particularly vulnerable to overtopping. Problems can occur if barrier seals too quickly which does not facilitate the required lowering of water levels or late closure of the breach can lead to saline intrusion. It is also outlined that annual breaching has resulted in the barrier levels being relatively low which facilitates overtopping during high tides and storms.

The purpose of the proposed pipeline is to manage the water levels in the lake allowing saline water to enter the lake in a controlled manner and allow the controlled drainage of the lake to the sea. It is proposed to manage the water levels and salinity as per advice provided by the NPWS which is set out in Section 3.2.1 of the NIS and which are outlined above at Section 2.1.

I consider that the applicants have demonstrated the need for the proposed development and therefore the principle of the proposed development is acceptable.

9.3.3. **Use of the Beach**

As noted above in relation to visual impact, it is stated that in all tides there will be plenty of beach area fronting the existing dunes for people walking the beach to pass over the pipeline. It is also stated that as the beach retreats the area available for passing remains as the dunes will also retreat. While the planning report does not address this matter I would note that the revised scheme would provide that the pipe will be submerged for most of its length and that part which will be visible will not impact the use of the beach for walkers or leisure purposes.

9.4. The likely significant effects on a European site

9.4.1. An Appropriate Assessment of the proposal has been undertaken by Dr. Maeve Flynn, Senior Ecologist, An Bord Pleanala and is attached as Appendix 1 of this report as a recommendation for the Board on the implications for site integrity on Lady's Island Lake SAC, SPA and Carnsore Point SAC. I agree with the conclusions reached in respect of the screening undertaken which had regard to the information presented in the AA Screening Report, the NIS, the submissions, the nature, size and location of the proposed development and its likely direct, indirect and cumulative effects, the source pathway receptor principle and sensitivities of the ecological receptors, I would agree that as set out in the applicants screening determination, only those three sites are directly impacted by the proposal require AA, i.e. Lady's Island SAC and SPA and Carnsore Point SAC.

9.4.2. I concur with the conclusion that following appropriate assessment, it has been ascertained beyond reasonable scientific doubt that the proposed management of water levels at Lady's Island Lake taken individually or in combination with other plans or projects would not adversely affect the integrity of Lady's Island Lake SAC, SPA or Carnsore Point SAC in view of the Conservation Objectives of those sites. The proposal will result in positive outcomes for the conservation objectives of Lady's Island SPA with respect to the four species of Terns that breed on Islands within the Lake. The conclusion is based on the following:

- The proposal to install a drainage pipeline that will act to manage water levels in Lady's Island Lake and the *exclusion* of proposals to install a reprofiled dune crest and rock armour within the beach system, thus preserving natural overtopping processes.
- A full and detailed assessment of all aspects of the proposed project including proposed mitigation and ecological monitoring in relation to the conservation objectives of Lady's Island SAC and lady's Island SPA and also Carnsore Point SAC
- No adverse effects on the qualifying interest habitats Coastal Lagoons (priority habitat) or Perennial vegetation of stony banks as natural processes of *overtopping* will not be prevented. The achievement of the conservation objectives of these habitat types will not be hindered by the proposed development.
- No adverse effects on the continued presence of the protected vascular plant species Cottonweed (*Achillea maritima*) on the shingle barrier between Lady's Island and the sea which forms part of the vegetation community of the priority habitat Perennial vegetation of stony banks.
- No adverse effects on the special conservation interest bird species of Lady's Island SPA
- Positive effects on the special conservation interest species; Sandwich Tern (*Sterna sandvicensis*), Roseate Tern (*Sterna dougallii*), Common Tern (*Sterna hirundo*), Arctic Tern (*Sterna paradisaea*) due to active management of water levels and positive contribution to the achievement of conservation objectives for these species at Lady's Island SPA.
- No adverse effects on any qualifying interest habitat type associated with Carnsore Point SAC.

10.0 **Recommendation**

10.1. On the basis of the above assessment, I recommend that the Board approve the proposed development subject to the reasons and considerations below and subject

to conditions including requiring compliance with the submitted details and with the mitigation measures as set out in the revised NIS.

10.2. **Reasons and Considerations**

10.2.1. In coming to its decision, the Board had regard to the following:

(a) the EU Habitats Directive (92/43/EEC),

(b) the European Union (Birds and Natural Habitats) Regulations 2011-2015,

(c) the likely consequences for the environment and the proper planning and sustainable development of the area in which it is proposed to carry out the proposed development and the likely significant effects of the proposed development on a European Site,

(d) the conservation objectives, qualifying interests and special conservation interests for the Lady's Island Lake SAC (000704), Lady's Island Lake SPA (004009) and Carnsore Point SAC (002269).

(e) the policies and objectives of the Wexford County Development Plan, 2013-2019,

(f) the nature and extent of the proposed works as set out in the application for approval,

(g) the information submitted in relation to the potential impacts on habitats, flora and fauna, including the Natura Impact Statement and the response to the further information request including the revised Natura Impact Statement,

(h) the submissions received in relation to the proposed development, and,

(i) the report and recommendation of the person appointed by the Board to make a report and recommendation on the matter

10.3. **Appropriate Assessment**

10.3.1. The Board agreed with the screening determination that the Lady's Island Lake SAC (000704), Lady's Island Lake SPA (004009) and Carnsore Point SAC (002269), are the only European Sites in respect of which the proposed development has the potential to have a significant effect in view of the conservation objectives of those sites.

10.3.2. The Board considered the Natura Impact Statement and associated documentation submitted with the application for approval, the mitigation measures contained therein, the submission on file, and the Senior Ecologist's assessment and the Inspector's recommendation. The Board completed an appropriate assessment of the implications of the proposed development for the affected European Sites, namely Lady's Island Lake SAC (000704), Lady's Island Lake SPA (004009) and Carnsore Point SAC (002269), in view of the conservation objectives of those sites. The Board considered that the information before it was adequate to allow the carrying out of an appropriate assessment, comprising the best scientific information available and inline with the requirements of S.177AE. In completing the appropriate assessment, the Board considered, in particular, the following:

i. the likely direct and indirect impacts arising from the proposed development both individually or in combination with other plans or projects,

ii. the mitigation measures which are included as part of the current proposal, and

iii. the conservation objectives for the European Sites.

In completing the appropriate assessment, the Board accepted and adopted the screening conclusion and the appropriate assessment carried out in the Senior Ecologists Report and concurred with by the Inspector in respect of the potential adverse effects of the proposed development on the aforementioned European Sites, having regard to the site's conservation objectives.

In overall conclusion, the Board was satisfied that the proposed development, by itself or in combination with other plans or projects, would not adversely affect the integrity of the European Sites, in view of the conservation objectives of those sites The Board was satisfied that proposal would result in positive effects on the attainment of the conservation objectives of Lady's Island SPA in particular with reference to four Tern species, special conservation interest species (breeding) of that site

10.4. **Proper Planning and Sustainable Development/Likely effects on the environment:**

10.4.1. It is considered that, subject to compliance with the conditions set out below, the proposed development would not have significant negative effects on the environment or the community in the vicinity, would not give rise to a risk of pollution, would not be detrimental to the visual or landscape amenities of the area, would not seriously injure the amenities of property in the vicinity, would not adversely impact on the coastal processes in the area and would not interfere with the existing land uses in the area. The proposed development would, therefore, be in accordance with the proper planning and sustainable development of the area.

11.0 **Conditions**

1. The proposed development shall be carried out and completed in accordance with the plans and particulars, including the mitigation measures specified in the revised Natura Impact Statement, submitted with the Further Information Response submitted to An Bord Pleanála on the 7th day of April, 2021, except as may otherwise be required in order to comply with the following conditions. Where such conditions require details to be prepared by the local authority, these details shall be placed on file prior to commencement of development and retained as part of the public record.

   Reason: In the interest of clarity and the proper planning and sustainable development of the area and to ensure the protection of the environment.

2. The County Council and any agent acting on its behalf shall comply with the mitigation measures contained in the revised Natura Impact Statement which was submitted with the application.

   Reason: In the interest of clarity and the proper planning and sustainable development of the area and to ensure the protection of the European sites

3. Prior to the commencement of development, the local authority shall agree with the relevant statutory agencies a Construction Environmental Management Plan, incorporating all mitigation measures indicated in the revised Natura Impact Statement.

   Reason: To ensure the protection of European sites.

4. A suitably qualified ecologist shall be appointed by Wexford County Council as a Project Ecologist/ Ecological Clerk of works to oversee the site set up and construction of the proposed development and implementation of mitigation and all monitoring measures relating to ecology set out in the NIS and outline schedule of environmental commitments. The ecologist shall be present during site construction works. Ecological monitoring reports detailing all monitoring of the site works shall be prepared by the appointed ecologist to be kept on file as part of the public record.

   Reason: In the interest of nature conservation; to prevent adverse impacts on European sites and to ensure the protection of Annex I habitats, including priority habitat, protected plant species and qualifying interest for which the sites are designated.

5. Duties and responsibilities of key personnel will be defined in advance of works in particular the Project Manager and Environmental Manager as may be required.

   Reason: In the interest of nature conservation; to prevent adverse impacts on European sites and to ensure the protection of Annex I habitats, including priority habitat, protected plant species and qualifying interest for which the sites are designated.

6. The County Council and any agent acting on its behalf shall ensure that all plant and machinery used during the works should be thoroughly cleaned and washed before delivery to the site to prevent the spread of hazardous invasive species and pathogens.

   Reason: In the interest of the proper planning and sustainable development of the area and to ensure the protection of the European sites.

Una Crosse

Senior Planning Inspector

June 2021

APPENDIX 1

Consideration of the Likely Significant Effects on a European Site

as per Section 177AE(6)(c)

Dr Maeve Flynn

Senior Ecologist

An Bord Pleanala

1.0 **Introduction**

1.1. **Background**

Wexford County Council is seeking approval under Section 177(AE) of the Planning and Development Act (2000) for water level management works at Lady's Island Lake. Lady's Island Lake located in south-east Wexford, is comprised of a shallow, brackish coastal lagoon separated from the sea by a sand and shingle barrier. The site is a Special Area of Conservation (SAC), Special Protection Area (SPA) and includes the intertidal reef of Carnsore Point SAC.

Water level management works are required to address a number of nature conservation issues within Lady's Island Lake SAC and SPA as well as the management of flooding of adjacent lands.

The application was accompanied by an A Natura Impact Statement (NIS) to inform Appropriate Assessment (June 2020). The Department of Culture, Heritage and the Gaeltacht (now Department of Housing, Local Government and Heritage) made a detailed submission on nature conservation aspects of the application identifying concerns relating to elements of the proposal that involved reprofiling of the beach barrier and the use of hard engineering methods (rock armour) among others. An Bord Pleanála requested Wexford County Council to provide further information on a number of issues, including those raised by the Department.

The applicant submitted a detailed response to the request for further information (April 2021). The response included a revision to the proposed development and a revised NIS and a suite of supplemental documents which were readvertised and circulated to prescribed bodies.

1.2. **Scope of 'Report to Inspector'**

As part of my role as Inspectorate Ecologist, I was asked to examine and evaluate the Applicants response to the further information request and determine the adequacy of the information for the purposes of Appropriate Assessment.

This report to the Senior Planning Inspector and available to the Board is a written record of my review of the submitted information as it relates to the Appropriate Assessment (AA). The report comprises a detailed examination and analysis of the information provided by the applicant for the purpose of Appropriate Assessment.

I made a site visit to Lady's Island on the 15th of May 2021 to inform the assessment.

2.0 Proposed Development

2.1. Current management of Lady's Island Lake water levels

Lady's Island Lake is a coastal lagoon isolated from the sea by a beach barrier but subject to wide fluctuations in water levels and salinity as a result of regular breaching of the beach barrier. The natural sand and gravel barrier which impounds lake is periodically breached or 'cut' to alleviate flooding. Since the 1990s this has been undertaken by the National Parks and Wildlife Service under permission from the local Our Lady's Island Lake Drainage Committee as a necessary measure for the management of the Tern colonies on Sgarbheen and Inish Islands within the lake and also for flooding of adjacent lands.

Information provided by the applicant shows that breaching of the barrier is usually carried out in March-April. Plate 5 of the NIS shows the cut being made in March 2021 (pg 18). Following completion of the 'cut', the water flows out of the lagoon for several days until water levels falls below high-tide mark. The lagoon then becomes tidal and the 'cut' is allowed to seal naturally as a result of onshore and long-shore transport of beach sediment. Depending on the prevailing conditions the lagoon may become re-isolated within two weeks, or it may remain open to the sea for up to 6 months. A detailed description of water levels is provided in the NIS, Section 4.2.

High salinity levels in the lake can result from extend periods of tidal exposure when the cut is in place. This can result in high mortalities of lagoon flora and fauna after extended periods of tidal flow.

In addition, the breaching of the gravel barrier, while required to lower water levels is a threat to the tern colonies because when the outlet remain open for long periods as the water levels can fall below a critical level allowing terrestrial mammal predators easy access to the islands.

Annual breaching has also resulted in significant volumes of the sand and gravel barrier being washed out to sea and the lower crest height allows for increased overtopping of the beach barrier, thereby contributing to increased water levels and salinity levels.

Therefore, requirement for active management of Lady's Island Lake water levels has been established for some time with a drainage options study undertaken in 1998 (report included in annex 8 of Further Information).

This active management requires a balance between the need for positive intervention for certain conservation interest features and ensuring that significant effects on other features do not result in adverse effects on site integrity overall.

2.2. Summary of proposed development

A comprehensive description of the proposed development and management history is provided in Section 6 of the NIS and Section 2 of the Inspectors report and a brief summary is presented here.

The proposal is to install a drainage pipeline that will act to manage water levels in Lady's Island Lake. This will allow the outflow of water from the Lake to the sea at times when water levels are within a certain range and will also allow saline water to enter the lake in a controlled manner, thereby maintaining the required salinity levels for the lagoon flora and fauna. The pipeline will consist of 2 No. 1.2m internal diameter pipes with a reinforced concrete flow control structure at the Lake end and an outlet on the beach fronting Lady's Island Lake. The foot-print of the proposed pipeline and associated works will be located within the boundary of the Lady's Island Lake SPA and SAC.

It is noted that the application submitted featured a rock armour lined channel buried in the barrier beach to act as an emergency method of allowing water to /from the lake on an intermittent basis. Following on from a response to further information this component of the project has been excluded. Additionally, the proposal that the barrier beach (also referred to as a dune/gravel beach) would be re-profiled at the existing cut to reduce overtopping of seawater has also been removed as an element of the proposal.

In summary the proposed works consist of:

- A flow control structure (of approximately 100m2 plan area) will be located in the lake at the landward side of the barrier beach, submerged in the lake. An associated dredged drainage channel of approximately 3,000m^2 will be required to ensure the functionality of the flow control structure. The weir inlet to the flow control structure will be set at 2.09mODP (-0.5mODM).
- 2 no. 1.2m φ (internal diameter) concrete pipelines will extend approximately 200m southwards from the flow control structure to a junction box (20m^2 plan area) located within the beach fronting Lady's Island Lake. This proposed junction box will be located within the existing beach profile. This profile will be reinstated after construction, concealing the junction box and concrete pipes.
- 2 no. 1.2mφ ductile iron pipes will extend southwards 32m from the junction box to an outlet in the intertidal zone. These pipes will be supported by 15m long steel piles and associated concrete pile caps. There will be 2 no. 300mm x 500mm concrete struts between each pile cap. The natural profile of the beach will conceal the majority of this structure.
- A buried power line will extend from the nearest power point along the existing access path and within the beach to the pipeline flow control structure.
- All associated and ancillary works necessary to facilitate the proposed development at the subject site.

Annual Programme of Works for Management of Lake Levels

September – following departure of the terms, lake level will be drawn down to +2.2m – +2.6m ODP and for next 2-4 weeks seawater will be allowed into the lake with little outflow to allow salinity levels within the lake to be raised. Outflows are limited to minimise saline water in vicinity of the pipe being discharged back to sea before mixing fully with fresh water in the lake.

October – inflow stopped and outlet closed until lake levels rise to approximately +4.4m – 4.6m ODP. During winter period lake levels are to allowed rise to 5.1m ODP and maintained at or above this level for at least one month flowing which lake levels are maintained between +4.6m and +5m ODP until March when levels are drawn down to +3.8m – +4.2m ODP to facilitate the terns.

March – August – lake levels maintained within +3.8m – +4.2m ODP range which require initial levels maintained close to +4.2m ODP to ensure lake levels do not go below +3.8m ODP due to evapotranspiration effects.

Salinity Targets

Winter targets: Lady's Island Lake north and south is 8.65 psu and 20.45 psu respectively.

Summer targets: Lady's Island Lake north and south is 23.25 psu and 23.15 psu respectively.

3.0 European Sites

The European Sites (Natura 2000 sites) affected by the proposal are described in section 2.2 of the NIS and the conservation objectives are available on the NPWS website and are included in hard copy as part of the case file. A brief summary is presented below.

3.1. Lady's Island Lake SAC (000704)

A large (350ha) natural sedimentary percolating lagoon, separated from the sea by a sand and gravel barrier and dunes. The site is selected for the following habitats listed on Annex I of the EU Habitats Directive (*priority habitat):

- [1150] Coastal Lagoons*
- [1170] Reefs
- [1220] Perennial Vegetation of Stony Banks

Lady's Island Lake is an excellent example of a large, natural sedimentary lagoon and based on geomorphology alone is one of the largest and best examples of a coastal lagoon in Ireland despite the regular breaching of the barrier. The sequence of back-barrier washover and seepage structures are among the best examples in Europe. The aquatic faunal community during stable periods comprises a characteristic assemblage of brackishwater species, eleven of which are specialist lagoonal species, some of which are rare.

The site supports typical vegetation of stony banks, including the Red Data Book species Cottonweed (*Achilla maritima* formally classified as *Othanthus maritimum*). A total of six other Red Data Book plant species are present in the site. In addition to Cottonweed, two charophyte species and three other Red Data Book species occur within the site: Lesser Centaury (*Centaurium pulchellum*), Pennyroyal (*Mentha pulegium*) and Golden Dock (*Rumex maritimus*). Cottonweed, Lesser Centaury and Pennyroyal are all protected under the Flora (Protection) Order, 2015 (S.I. No. 356/2015).

3.2. Lady's Island Lake SPA (004009)

The SPA supports an excellent range of birds typical of lagoonal systems. Lady's Island Lake is of ornithological importance for both breeding and wintering birds and is also an important stop-over point for passage migrants. The site is of special conservation interest for the following bird species:

- A051 Gadwall *Anas strepera*
- A179 Black-headed Gull *Chroicocephalus ridibundus*
- A191 Sandwich Tern *Sterna sandvicensis*
- A192 Roseate Tern *Sterna dougallii*
- A193 Common Tern *Sterna hirundo*
- A194 Arctic Tern *Sterna paradisaea*

The site and its associated waterbirds are also of special conservation interest for Wetland & Waterbirds.

The site is notable for its tern colony with internationally important populations of Sandwich Tern and Roseate Tern and nationally important populations of Common Tern and Arctic Tern. The terns breed on islands in the lake and Crossfintan Point is an important roost site and crèche area for the breeding terns. In the past, Little Tern has also bred. Black-headed Gull also breed on the islands in nationally important numbers.

In winter, there is a good diversity of waterfowl species, although most occur in relatively low numbers. The population of Gadwall Anas strepera is of national importance though part of the population is resident.

NPWS Report on Terns at Lady's Island note that the loss of some nests, particularly those of Arctic Terns nesting on the southern, lower extremities of Inish island, was linked to the sudden rise in lake water levels. The reports note that the issue of water level management needs to be addressed urgently to prevent future losses.

3.3. Carnsore Point SAC (002269)

This site is situated in the south-east of Co. Wexford and comprises the area of sea and underlying bedrock and sediments off Carnsore Point.

The site is selected for the following habitats listed on Annex I of the EU Habitats Directive:

- [1140] Mudflats and sandflats not covered by seawater at low tide
- [1170] Reefs

Most of Carnsore Point SAC comprises rocky reefs that are strewn with boulders, cobbles and patches of sand, both on the shore and underwater. These intertidal and subtidal reef communities are typical of areas that are very exposed to moderately exposed to wave action. There are also areas of intertidal mud and sandflats in the site. The reef habitat at the site can be categorised into three community types: sheltered to moderately exposed intertidal reef community complex, exposed subtidal reef dominated by a faunal community complex, and Laminaria dominated community complex.

4.0 Submissions and Observations

4.1. Prescribed bodies

The Department of Culture, Heritage and the Gaeltacht (now Department of Housing, Local Government and Heritage) is the only prescribed body that made submissions on the application and readvertised proposal.

Application June 2020

The Department of Culture, Heritage and the Gaeltacht (now Department of Housing, Local Government and Heritage) made a detailed submission on nature conservation aspects of the application identifying concerns relating to elements of the proposal that involved reprofiling of the beach barrier and the use of hard

engineering methods (rock armour) among others (Aug 2020). The submission is detailed in full in Section 7.2 of the Inspectors Report and the key points are summarised here

The Department was satisfied with the water levels and salinity levels proposed in the water management detail.

Two elements of the application that included physical intervention along the beach barrier to prevent overtopping namely;

- the use of boulders and rocks in re-profiling the sand dunes and the use of rock armour associated with the 'emergency cut' structure have the potential to adversely affect the qualifying interest 1220 perennial vegetation of stony banks.

Use of armouring in both the beach reprofiling and the 'emergency cut' would constitute physical obstructions to the natural circulation of sediment in contravention of the site-specific conservation objectives for the qualifying interest. Those proposals also had the possibility of interfering with the conditions required for the maintenance of the QI vegetation community of Perennial vegetation of stony banks and specifically the occurrence of the rare and protected plant Cottonweed (*achillea maritima*).

- The possible effects of climate change on coast process was also raised by the Department.
- Possible impacts on the duck species Gadwall which can be at risk of collision with overhead electricity lines- clarification on the type of electricity infrastructure that will connect to the pump station was required.
- A number of errata and inconsistencies noted in the NIS were identified and requested to be amended.

Readvertised proposal and further information

In a letter dated 24th May following the readvertisement of the project (and email dated 2nd June), DAU on behalf of Department of Housing, Local Government and Heritage confirmed that they had no further comments on the amended scheme and NIS. The two elements of the proposal that the Department has concerns about have been removed i.e.

- The raising of the crest level in the area of the existing cut to that of the adjoining sand dune areas. In removing this element, the proposed planting of marram grass is also excluded.
- The installation of a rock armour channel buried within the line of the existing cut- the existing “cut”.

The Department had no further observations on nature conservation issues.

5.0 Request for further Information

As outlined above, the Board made a request for further information on various topics AA screening report and the NIS to the applicant. This is fully described in Section of the Inspectors report along with responses to each element and is not repeated here.

Wexford County Council and the consultants working on their behalf responded to each request and supplied additional information to assist in the assessment of significant effects.

5.1. Adequacy of response to further information request

I have examined the response documentation prepared by/on behalf of the applicant. In terms information prepared and submitted as part of the NIS and required for the Appropriate Assessment, I consider that the applicant has addressed all issues and the NIS has been amended accordingly with the best available scientific information (Annex 4 Revised NIS).

The NIS also contains a revised screening report (Appendix I) which expands on the rationale for excluding certain European Sites in the wider area (15km) from the need for AA. A report on coastal process including effects of climate change has been submitted which examines the revised proposal in terms how it will interact with the processes of sediment transport, retreat of the barrier beach, overtopping of the barrier beach and any effects of climate change on the pipeline drainage capacity.

The original study of drainage options for Lady’s Island Lake and Tachumshin Lake prepared by Malachy Walsh and partners (1998) for the Department of Arts,

Heritage, Gaeltacht and the Islands (as it was then) was also included in the suite of Annex documents.

6.0 Consideration of the Likely Significant Effects on a European Site

6.1. Article 6(3) of the Habitats Directive

The requirements of Article 6(3) as related to appropriate assessment of a project under part XAB, section 177AE of the Planning and Development Act 2000 (as amended) are considered fully in this section. The areas addressed in this section are as follows:

- Compliance with Article 6(3) of the EU Habitats Directive
- Screening for appropriate assessment
- The Natura Impact Statement
- Appropriate assessment of implications of the proposed development on the integrity each European site

For the avoidance of doubt, the assessment is of the **Revised NIS** submitted in the response to further information

6.2. Compliance with Articles 6(3) of the EU Habitats Directive:

The Habitats Directive deals with the Conservation of Natural Habitats and of Wild Fauna and Flora throughout the European Union. Article 6(3) of this Directive requires that 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. The competent authority must be satisfied that the proposal will not adversely affect the integrity of the European site before consent can be given.

While the rationale of the proposed project has some connection to the management of a European Site as it is stated to be necessary for the conservation of certain SCI of Lady's Island SPA (Tern species), the proposal is not being undertaken as part of formal management plan for those sites does and not fall under the remit of the

NPWS in this regard as Wexford County Council is the applicant. Additionally, there are other non-nature conservation reasons for the management of the lake water levels. Therefore, the proposed development is considered *not* directly connected to or necessary to the management of any European site in the strict sense and is subject to the provisions of Article 6(3).

6.3. Screening for Appropriate Assessment

The first test of Article 6(3) is to establish if the proposed development could result in likely significant effects to a European site. This is considered stage 1 of the appropriate assessment process i.e. screening. Section 177AE sets out the requirements for *appropriate assessment* of development carried out by or on behalf of a local authority. Section 177(AE) (3) states that where a Natura Impact Statement has been prepared pursuant to subsection (1), the local authority shall apply to the Board for approval and the provisions of Part XAB shall apply to the carrying out of the appropriate assessment. There is no requirement for the Board to undertake screening in these cases as it presupposed that the Local Authority has established the need for AA through its own screening process (unless issues arise as to the adequacy or otherwise of the screening determination by the applicant).

As part of the request for further information, the applicant was asked to review the screening process and provide evidence to support the exclusion of likely significant effects on a number of European Sites.

I note that a screening statement from Wexford County Council was not provided with the application. Screening for AA was undertaken by Malachy Walsh and Partners (on behalf of Wexford County Council) and presented as an appendix to the NIS (April 2021). The applicant concluded that with regard to the proposed water level management project at Lady's Island, significant effects could not be ruled out for the following sites and thus must proceed to Appropriate Assessment and a Natura Impact Statement prepared:

- Lady's Island Lake SAC (site code 000704)
- Lady's Island Lake SPA (site code 004009)
- Carnsore Point SAC (site code 002269)

In determining the extent of potential effects of the proposal, the applicant took a precautionary approach in using a 15km radius around the development footprint as a potential zone of influence and thereby included 15 European Sites and one Ramsar site in the screening exercise (Fig 2 and Tables 1 and 2 of Screening for AA, Appendix 1 NIS). The identification of potential impacts utilised the standard template from EC Methodological Guidance (2001). The likelihood of significant effects to Natura 2000 sites from the proposal was determined based on a number of factors including habitat loss/alteration, habitat fragmentation, disturbance impacts to water quality as summarised in Table 1.

Table 1: Summary of potential ecological impacts that may result in significant effects

Habitat loss/alteration	Proposed works located on the southern shoreline of the Lake with works directly impacting on the coastal lagoon habitat and beach barrier with footprint of pipelines and drainage channel within the lagoon stated to be 3,000m^2. Potential for further loss of habitat through pollution, eutrophication and salinity changes and potential for introduction/spread of non-native plant species
Habitat or species fragmentation	Proposal will bring about salinity changes which may result in potential changes to plant, macroinvertebrate, fish and avifaunal communities of Lady's Island Lake.
Disturbance and or displacement of species	Potential for adverse water quality impacts to affect bird feeding and breeding habitats. Works have potential to cause disturbance to birds displacing them from feeding areas. Pile driving required has potential to have harmful effects on aquatic and marine fauna
Water quality and resource	Potential to alter water chemistry/salinity of the lagoon with potential effect on functioning of the ecosystem and conservation of rare habitat and its species. Potential for impacts on marine habitats including reefs located in the nearshore.

6.4. Screening Determination (recommended)

Having regard to the information presented in the AA Screening Report, NIS, submissions, the nature, size and location of the proposed development and its likely direct, indirect and cumulative effects, the source pathway receptor principle and sensitivities of the ecological receptors, I concur with the applicants screening determination that only those three sites directly impacted by the proposal require AA, i.e. Lady's Island SAC and SPA and Carnsore Point SAC.

I am satisfied that disturbance/displacement effects on the next nearest SPA site of Tacumshin lake has been considered as part of the screening exercise by the applicant and that the ecological characteristics, requirements and particular requirements of individual waterbird SCI species will not be significantly affected.

No other SAC, SPA or Ramsar sites within the wider area could be affected by the management of water level proposed lake. I am satisfied that the applicant has demonstrated this objectively with reference to the geographical separation from those sites and the absence of/ weak ecological pathways between those sites. No reliance on avoidance measures or any form of mitigation is required in reaching this conclusion.

6.5. The Natura Impact Statement

The application is accompanied by an NIS which describes the proposed development, the project site and the surrounding area. As described, a revised NIS has been prepared in response to a further information request and this NIS is the subject of the Appropriate Assessment. The NIS has been prepared by staff ecologists from Malachy Walsh and Partners engineering and environmental consultants. It has been prepared in line with standard methodological guidance and in consultation with relevant stakeholders including the National Parks and Wildlife Service. Scientific information was collated from desk study, previous detailed reports on Lady's Island and information from the National Parks and Wildlife Service resources (www.npws.ie). Habitat surveys were carried out in October 2018. The NIS outlines the methodology used for assessing potential impacts on the habitats and species that are qualifying interests/ special conservation interests for three European Sites that have the potential to be affected by the proposed water management of Lady's Island Lake. It identifies and assesses the potential for adverse impacts on these sites and their conservation objectives, it includes

mitigation measures, assesses cumulative effects with current land uses and climate change and identifies any residual effects on the European sites and their conservation objectives.

The NIS concludes that, subject to the implementation of the recommended mitigation measures, the proposed works would not result in any adverse effects either individually or in combination with other plans or projects on the conservation objectives of the Lady's Island Lake SAC (000704), Lady's Island Lake SPA (004009) and Carnsore Point SAC (002269). The proposed water level management would result in positive outcomes for the conservation objectives of a number of QI/SCI features due to the removal of the necessity for the physical *cut*, improved stability of lake levels and salinity concentrations, and reliable water levels for the nesting and breeding requirements of Terns.

Having reviewed the NIS and the supporting documentation and the response received to the further information request, I am satisfied that together this provides adequate information in respect of the baseline conditions, clearly identifies the possible impacts and resultant potential adverse effects and uses the best scientific information and knowledge to determine those effects. Details of mitigation measures are provided in Section 10, in Tables 18, 19 and 20 of the NIS and a list of the primary construction mitigation is provided in Appendix 5-environmental commitments.

I am satisfied that the scientific information submitted allows for appropriate assessment of the proposed development (see further analysis below).

6.6. Appropriate Assessment

The following is an objective scientific assessment of the implications of the proposal on the relevant conservation objectives of the European sites using the best scientific knowledge (provided in the NIS- revised). All aspects of the project which could result in significant effects are assessed and mitigation measures designed to avoid or reduce any adverse effects are examined and assessed for effectiveness. I have relied on the following guidance:

- DoEHLG (2009). Appropriate Assessment of Plans and Projects in Ireland: Guidance for Planning Authorities. Department of the Environment, Heritage and Local Government, National Parks and Wildlife Service. Dublin
- EC (2002) Assessment of plans and projects significantly affecting Natura 2000 sites. Methodological guidance on the provisions of Article 6(3) and 6(4) of the Habitats Directive 92/43/EC
- EC (2011) Guidelines on the implementation of the Birds and Habitats Directives in Estuaries and coastal zones
- EC (2018) Managing Natura 2000 sites. The provisions of Article 6 of the Habitats Directive 92/43/EEC

6.6.1. **Relevant European sites:**

The potential for significant effects could not be excluded for the following sites following sites:

- Lady's Island Lake SAC (site code 000704)
- Lady's Island Lake SPA (site code 004009)
- Carnsore Point SAC (site code 002269)

A full description of these sites and their Conservation Objectives and Qualifying Interests/Special Conservation Interests, including any relevant attributes and targets for these sites, are set out in the NIS sections 8 and 9 and summarised in this report as part of my assessment. I have also examined the Natura 2000 forms and Conservation Objectives Supporting Documents for these sites available through the NPWS website (www.npws.ie). I would note for the Boards information that Section 8.1, 8.2 and 8.3 (Tables 10, 11 & 12) of the NIS looks at each of the qualifying interests/special conservation interests for each of the sites and establishes the qualifying interests/special conservation interests that at risk of adverse effects for the purposes of further detailed assessment.

Tables 2-4 below summarise the information considered for the Appropriate Assessment and site integrity test. The conservation objectives, targets and attributes as relevant to the identified potential significant effects have been

examined and assessed in relation to all aspects of the project (alone and in combination with other plans and projects). Mitigation measures proposed to avoid and reduce impacts to a non-significant level have been assessed, and clear, precise and definitive conclusions reached in terms of adverse effects on the integrity of European sites.

Lady's Island Lake SAC

The proposed lake water level management impacts directly on two qualifying interest features of the SAC, both of which are in unfavourable conservation status:

- Coastal Logoons
- Perennial vegetation of stony banks

The impacts and Implications for the conservation objectives of these QI features are considered in Table 2.

Other habitats not listed as qualifying interest features but conforming to Annex I habitats are also affected directly by the proposal include,

- Embryonic shifting dunes
- Fixed dunes with herbaceous vegetation
- White Dunes and Grey Dunes

The applicant identifies is a patch of 'Embryonic shifting dunes associated with the eastern side of the 'cut' beach ca. 10m south of the proposed access / electrical cable route. This habitat is associated with the western and southern fringe of the dune system to the east of the cut and will not be affected by the proposed development. The proposed site compound and access / electrical cable route occur within Fixed dunes with herbaceous vegetation. The proposed site compound and access / electrical cable route have been selected based on their degraded condition, areas subject to ongoing anthropogenic disturbance via vehicular and pedestrian access.

Based on NPWS mapping, the proposed flow control structure runs along the fringe of 'Shifting dunes along the shoreline with *Ammophila arenaria* (white dunes) to the west of the 'cut'. Based on the site visit, however the proposed flow control structure does not intersect with this habitat, as it had likely eroded. The area of the

intersection of the flow control structure actually comprised fine sand supporting no vegetation contiguous with the wider area of sediment at the cut.

There are records of Cottonweed in the Fixed dunes (grey dunes) and within Marram dunes (white dunes). This plant was also recorded by the consultant ecologists in shingle habitat ca. 200m and 240m east of the proposed flow control structure, during the October 2018 survey (see NIS Figure 5). The habitats supporting this plant could potentially be damaged/lost during construction stage in the event that machinery tracked over it, or due to machinery induced changes in dune dynamics in the environs.

Table 2 AA summary matrix for Lady's Island SAC

Lady's Island Lake SAC (site code 000704):

Summary of Key issues that could give rise to adverse effects: Note the proposal, once operational may also result in positive effects

- **Habitat Loss/ alteration**
- **Fragmentation (habitats/species)**
- **Disturbance of QI species**
- **Water quality and resource**

Detailed Conservation Objectives available: Lady's Island Lake SAC | National Parks & Wildlife Service (npws.ie)

		Summary of Appropriate Assessment	
Qualifying Interest feature ***priority habitat Annex I**	**Conservation Objectives** **Targets and attributes (summary)**	**Potential adverse effects**	**Mitigation measures**
Coastal lagoons* [1150] **Unfavourable Conservation Status**	**Restore favourable conservation condition:** Habitat area stable	No impacts on habitat area or habitat distribution Possible ingress of salt water during construction- Management of	**Construction**: Carrying out works behind silt curtain- Sediment and erosion controls, excavation and

	No decline in habitat distribution subject to natural processes Salinity and hydrological regime within natural ranges Barrier connectivity-appropriate connections including appropriate management Water quality within natural ranges (specified for chlorophyll a, Molybdate Reactive Phosphorus, dissolved inorganic nitrogen) Macrophyte colonisation to 2m, maintain listed lagoonal specialist plant and animal species, Negative indicator species absent or under control	salinity during operation Increased stability with removal of 'cut' Disturbance of substrates during construction and dredging may affect water quality parameters Importation of invasive species on equipment and machinery Also, potential for positive effects	spoil management Concrete and hydrocarbon controls Water quality management Preventing uncontrolled flow of sea water into lagoon during construction **Operation:** Monitoring of lake levels and salinity by Wexford County Council
Reefs [1170]	**Maintain favourable conservation condition:** Habitat area stable or increasing Distribution stable or increasing Conserve community type	No	None required
Perennial vegetation of stony banks [1220]	**Restore favourable conservation condition:** Area stable or increasing (0.97ha)	Direct impacts on habitat with temporary disturbance for	Reinstatement of habitat – segregation of sediments for reinstatement

	No decline or change in habitat distribution – subject to natural process including erosion and succession Maintain and where necessary restore natural circulation of sediment and organic matter without any physical obstructions No more than 20% of habitat affected by disturbance Maintain range of costal habitats and typical species Negative indicator species cover <25% Non native species not more than 1% over whole site	access and trenching for cable The process of overtopping will not be prevented allowing for natural process of sediment movements. Changes to current sediment circulation due to removal of cut-short term Also, potential for positive effects Area disturbed (temp) 0.06% of 0.97ha Area of some dune habitats will be temp reduced-post construction habitats likely to develop naturally	Minimising impact area by site management and protection of habitat and protected plant species (Cottonweed in particular).

Overall conclusion: Integrity test

Following the implementation of mitigation, the construction and operation of this proposed development will not adversely affect the integrity of this European site and no reasonable doubt remains as to the absence of such effects. The cessation of the physical cut of the barrier beach and future ongoing active management of the water levels through the operation of the propels and regulation of salinity levels of Lady's Island Lake will result in an overall positive effect and contribute to the improvement of the conservation status of Coastal Lagoons and Perennial vegetation of stony banks

Lady's Island Lake SPA

The proposed lake water level management impacts directly on SPA. The main impacts that could adversely affect the SPA include: disturbance to the bird species for which the site is designated during the construction phase, deterioration of water quality and changes in salinity which may affect the food resource, positive impacts of management of water levels.

Site specific conservation objectives have not been set for Lady's Island Lake SPA and a generic conservation objective has been set. The applicant has based their assessment on the attributes, measures and targets for Common Tern and Wetlands based on the NPWS (20140 conservation objectives for Cork harbour SPA and the attributes, measures and targets for Roseate Tern and Artic Tern from the Rockabill SPA (See 11.2, Table 19 NIS).

Table 3 AA summary matrix for Lady's Island Lake SPA

Lady's Island Lake SPA (site code 004009) **Summary of Key issues that could give rise to adverse effects: Note the proposal once operational will result in positive effects.** • **Water Quality and water dependant habitats** • **Disturbance of QI species** • **Water level management for conservation of Tern colonies** **Conservation Objectives (non-specific): [**CO004009.pdf (npws.ie)} See also: Microsoft Word - Lady's Island Lake Tern Report 2012 _NOT PDF_.doc (npws.ie)			
		Summary of Appropriate Assessment	
Qualifying Interest feature	**Conservation Objectives** **Targets and attributes**	**Potential effects** **(adverse or positive)**	**Mitigation measures**
Gadwall (*Anas strepera*) [A051]	To maintain or restore the favourable	Possible collision risk if electricity	Underground cable eliminates any risk

	conservation condition of the bird species listed as Special Conservation Interests for this SPA	connection via overhead line, Disturbance during construction Changes in salinity may affect food resource	Avoidance of water quality impacts See Coastal Lagoon mitigation
Black-headed Gull (*Chroicocephalus ridibundus*) [A179]		Use of islands may change as water levels managed but considered a positive impact	None required
Sandwich Tern (*Sterna sandvicensis*) [A191]		Disturbance to foraging and feeding terns during construction phase Water level management will infer protection of nests from sudden rises in lake water levels and reduce losses and will also reduce likelihood of extreme low water levels thereby reducing access to islands from land based predators	Timing of construction work will be outside of Tern breeding season
Roseate Tern (*Sterna dougallii*) [A192]			
Common Tern (*Sterna hirundo*) [A193]			
Arctic Tern (*Sterna paradisaea*) [A194]			

Wetland and Waterbirds [A999]		Management of levels will result in positive effect	Monitoring of lake levels and salinity levels by Wexford County Council

Overall conclusion: Integrity test

Following the implementation of mitigation, the construction and operation of this proposed development will not adversely affect the integrity of this European site and no reasonable doubt remains as to the absence of such effects. The proposal will have an overall positive effect and is required to prevent loss of Tern nests and reduce predation of the 4 Tern species that nest and breed on the Islands within Ladys Island Lake.

Carnsore Point SAC

The applicant has identified that proposal may impact on the qualifying interest *Reefs* of Carnsore Point SAC.

The outflow pipe discharges into the sea within this SAC and pipe structure comprising the

An examination by the applicant of the beach revealed that the reef habitat is at least 100m from the footprint of the proposed development. There is nonetheless potential for alteration of this habitat by transport of sediment from the works area, or through water quality impacts. The continuous effects of longshore drift and onshore erosion/deposition will likely bring about constant/regular profile change to the beach in the environs of the southern end of the pipeline and associated piles, especially where these structures are above the level of the beach.

Water quality effects could also occur within the intertidal zone of the sea adjacent to the 'cut'. I consider that the potential for significant water quality impacts on marine habitats would be of low magnitude due to tidal fluctuations and associated dilution/dispersion.

Table 4 AA summary matrix for Carnsore Point SAC

Carnsore Point SAC (site code 002269):

Summary of Key issues that could give rise to adverse effects

- **Habitat Alteration**
- **Water Quality issues**

Conservation Objectives: [Insert reference (see www.npws.ie)]

		Summary of Appropriate Assessment	
Qualifying Interest feature	**Conservation Objectives** **Targets and attributes**	**Potential adverse effects**	**Mitigation measures**
Mudflats and sandflats not covered by seawater at low tide [1140]	**Maintain favourable conservation condition:** Permanent habitat area is stable/ increasing (ha) Intertidal sand community dominated by polychaetes and crustacea community conserved in natural condition (ha)	None predicted	
Reefs [1170]	**Maintain favourable conservation condition** Habitat distribution and area stable subject to natural process, Community structure maintained in natural condition, Extent of laminaria dominated community should be conserved in extent and structure	Potential for physical disturbance during construction Structure and function may be negatively affected by sedimentation Adverse effects on water quality may affect biological composition, due to release of poor quality water during	Avoidance of reef habitats Water quality mitigation measures

		construction and dredging.	

Overall conclusion: Integrity test

Following the implementation of mitigation, the construction and operation of this proposed development will not adversely affect the integrity of Carnsore Point SAC and no reasonable doubt remains as to the absence of such effects.

6.6.2. **In combination effects with other plans and projects**

The potential for effects the proposed development to act in combination with other plans and projects or ongoing activities at the site and give rise to adverse effects is addressed comprehensively in Section 7 and 9.3 of the NIS. Potentially cumulative effects of existing threats and pressures on Lady's Island Lake including shingle extraction, non-native species, climate change, modification of hydrographic functioning, water pollution and eutrophication, impacts of leisure activities on tracks through the habitats and cumulative impacts on the Tern colony are all considered.

6.6.3. **Mitigation Measures**

A summary of mitigation measures is presented in the tables above. Full details are provided in Section 10 of the NIS covering measures required during construction, and operation of the proposal, the preparation of method statements, construction and environmental management, duties and responsibilities.

Section 10.1.2.2 of the NIS lists the key people on site implementing mitigation as:

- The project manager
- The Construction manager
- The Design Engineer
- The Environmental clerk of works/ project ecologist

Section 10.1.3 lists the various roles and responsibilities of these key people.

I note that there is reference throughout this section to the *Environmental manager* a role that is not listed in 10.1.2.2. It is unclear to me if based on description that the

role described as project manager is one and the same as the Environmental Manager. This will be clarified as part of the schedule of commitments in advance of commencing any works (see suggested condition).

Detail on the various environmental commitments are listed in detail relating to sediment control, timing of works, concrete and hydrocarbon control, an emergency response plan, control of non-native and invasive species, waste management and noise control are also provided. Training and environmental awareness for contractors on site will be provided also.

All the measures detailed are considered best practice and will be effective in achieving their aims. The measures are implementable, and the timing of their application considered.

Overall, I am satisfied that the measures as described will be effective in avoiding and reducing any potential adverse effects to a level that is not significant.

6.6.4. **Residual effects**

Consideration of any potential residual effects is presented in Section 11 of the NIS and summarised in tables 18-20 for each European Site affected by this development. I am satisfied that with the correct and timely application of the mitigation measures proposed the residual effects of the project will not be significant in view of the conservation objectives of the European Sites.

I agree with the conclusion of the applicant that the operation and management of the lake water levels will improve ecological stability of Lady's Island lake. Overall, the residual effect will be positive with reference to the current practice of breaching the barrier.

- The flora of the lake can be expected to benefit by moving away from extreme variation of water levels and salinities, with positive effects on a variety of lagoonal specialists such as stoneworts.
- Seasonal management of water levels will ensure that the colonies of Terns nesting on the Islands of Lady's Island Lake will be afforded more reliable

protection from mammalian predators, increased nesting habitat value and likely improved feeding opportunities in the lake.

- Reinstatement of the sedimentary barrier beach at the 'cut' as proposed will provide dune habitat and possibly increase the range of stable shingle habitat in an area that currently comprises highly mobile substrates incapable of supporting vegetation.

7.0 Appropriate Assessment Conclusion: Integrity Test

The proposal put forward by Wexford County Council to control water levels in Lady's Island Lake through the installation of a flow control structure between the Lake and the sea is likely to result in significant effects on Lady's Island SAC, Lady's Island SPA and Carnsore Point SAC and therefore requires Appropriate Assessment under the provisions of S177AE.

Following an examination and evaluation of the material submitted as part of a request for further information, my findings are that the information before the Board comprehensively addresses all issues and concerns regarding potential adverse effects on Lady's Island SAC, Lady's Island SPA and Carnsore Point SAC.

I consider that the information provided in the NIS allows for detailed assessment of the implications of the proposal on the conservation objectives of these European Sites and complete, precise, and definitive findings for the purpose of Appropriate Assessment.

Following Appropriate Assessment, my recommendation is that it can be ascertained beyond reasonable scientific doubt that the proposed development, individually or in combination with other plans or projects would not adversely affect the integrity of Lady's Island Lake SAC, SPA or Carnsore Point SAC or any other European site, in view of the sites Conservation Objectives. The proposal will result in positive outcomes for the conservation objectives of Lady's Island SPA with respect to the four species Terns that breed on Islands within the Lake. This conclusion is based on the following:

- The proposal to install a drainage pipeline that will act to manage water levels in Lady's Island Lake and the *exclusion* of proposals to install a reprofiled dune

crest and rock armour within the beach system, thus preserving natural overtopping processes.

- A full and detailed assessment of all aspects of the proposed project including proposed mitigation and ecological monitoring in relation to the conservation objectives of Lady's Island SAC and lady's Island SPA and also Carnsore Point SAC
- No adverse effects on the qualifying interest habitats Coastal Lagoons (priority habitat) or Perennial vegetation of stony banks as natural processes of *overtopping* will not be prevented. The achievement of the conservation objectives of these habitat types will not be hindered by the proposed development.
- No adverse effects on the continued presence of the protected vascular plant species Cottonweed (*Achillea maritima*) on the shingle barrier between Lady's Island and the sea which forms part of the vegetation community of the priority habitat Perennial vegetation of stony banks.
- No adverse effects on the special conservation interest bird species of Lady's Island SPA
- Positive effects on the special conservation interest species; Sandwich Tern (*Sterna sandvicensis*), Roseate Tern (*Sterna dougallii*), Common Tern (*Sterna hirundo*), Arctic Tern (*Sterna paradisaea*) due to active management of water levels and positive contribution to the achievement of conservation objectives for these species at Lady's Island SPA.
- No adverse effects on any qualifying interest habitat type associated with Carnsore Point SAC.

Suggested Conditions

1. Duties and responsibilities of key personnel will be defined in advance of works in particular the Project Manager and Environmental Manager as may be required.

2. A suitably qualified ecologist shall be appointed by Wexford County Council as a Project Ecologist/ Ecological Clerk of works to oversee the site set up and construction of the proposed development and implementation of mitigation and all monitoring measures relating to ecology set out in the NIS and outline schedule of environmental commitments. The ecologist shall be present during site construction works. Ecological monitoring reports detailing all monitoring of the site works shall be prepared by the appointed ecologist to be kept on file as part of the public record. **Reason**: In the interest of nature conservation; to prevent adverse impacts on European sites and to ensure the protection of Annex I habitats, including priority habitat, protected plant species and qualifying interest for which the sites are designated.

Maeve Flynn BSc. PhD, MCIEEM
Inspectorate Ecologist

21st June 2021