



An
Bord
Pleanála

Inspector's Report

ABP-310996-21

Development	Site investigation works to allow further development of the Graiguenamanagh-Tinnahinch Flood Relief Scheme
Location	Tinnahinch, Co. Carlow and Graiguenamanagh and Priest's Valley, Co. Kilkenny
Local Authority	Kilkenny 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	Transport Infrastructure Ireland Department of Housing, Local Government and Heritage (DAU)
Observer(s)	None
Date of Site Inspection	21 June 2022
Inspector	Una Crosse

1.0 Introduction

- 1.1. Kilkenny County Council is seeking approval from An Bord Pleanála to undertake site investigation works to allow further development of the Graiguenamanagh-Tinnahinch Flood Relief Scheme within/adjacent to the River Barrow and River Nore SAC which is a designated European site. There are several other designated European sites (SPAs and SACs) in proximity to the proposed works (see further analysis below). A Natura Impact Statement (NIS) and application under Section 177AE was lodged by the Local Authority on the basis of the proposed development's likely significant effect on a European site.
- 1.2. Section 177AE of the Planning and Development act 2000 (as amended) requires that where an appropriate assessment is required in respect of 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.
- 1.3. For the Boards information it should be noted that the application for approval was advertised outlining the period of consultation was from 20th July to 10 September 2021. Due to an error on the notices (incorrect day/date), revised notices were requested and addendum notices were provided with proposal readvertised outlining that the final date was extended to Tuesday 14th September. It should also be noted that additional time to make a response was requested by the DAU which was provided.
- 1.4. It should be noted that while the site of the proposed development is located in both Counties Kilkenny and Carlow, the documentation submitted states that both local authorities have entered into a formal agreement which permits Kilkenny County Council to progress the scheme on behalf of both.

2.0 Proposed Development

2.1. Context

- 2.1.1. The towns of Graiguenamanagh (County Kilkenny) and Tinnahinch (County Carlow) are separated by the Barrow River and have been subject to historical flooding when the existing river channel capacity is exceeded. Additionally, the River Duiske comprises a smaller river which traverses through Graiguenamanagh also causing flooding of the town. The Graiguenamanagh- Tinnahinch Flood Relief Scheme has been developed in order to alleviate the risk of flooding to both communities.

2.2. Details of Proposed Development

- 2.2.1. The proposed development comprises the undertaking of exploratory holes to ascertain ground conditions and utility services to facilitate the further development of the flood relief scheme. The following site investigation works (number of same outlined) which are located throughout the site area as outlined in the accompanying drawings and appendices in the NIS.

- Boreholes (BH) – 32
- Trail Pits (TP) – 20
- Inspection pits (IP) – 35
- Silt trenches (ST) – 25

2.3. Accompanying documents

- 2.3.1. The following information was submitted with the application for approval.
- Natura Impact Statement
 - Planning Report
 - Drawings (6) – Site Investigation Works Location Map and 5 layout plans.

2.4. Response to Further Information

- 2.4.1. Further information was requested on 17 January 2022. A response was received on 14 April 2022. This is outlined in Section 8 below.

3.0 Site and Location

- 3.1. The site of the proposed works comprises three areas within the urban settlements of Graiguenamanagh, Co. Kilkenny located on the northern banks of the River Barrow and Tinnahinch, Co. Carlow which is on the southern banks of the River Barrow.
- 3.2. The first area is located along the southwestern bank of the River from the bridge in Tinnahinch east of the bridge along the Quay and onto an area just west of the entry point of the mill race (much of which has been culverted) into the Barrow.
- 3.3. The second area is located along the north-eastern bank of the river in Graiguenamanagh along the Quay from the bridge to the clubhouse and the land directly adjoining same.
- 3.4. The third area of proposed works is located adjoining the channel of the Duiske River which flows into the Barrow from the north through a channel within the urban area of Graiguenamanagh. The river channel flows to the rear of/west of and effectively parallel to the main street meeting the Barrow at a location to the west of the bridge on the northern bank. This river channel varies in width and depth is crossed at a number of locations by narrow access bridges to properties, is culverted in locations and is effectively largely hidden from the urban environment.

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. Article 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:** 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:** 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 located in proximity to the subject site include:

- River Barrow and River Nore SAC (site code 002162)

5.5. **Planning and Development Acts 2000 (as amended):** Part XAB of the Planning and Development Act 2000, as amended 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 assessment 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.

6.0 The Natura Impact Statement

6.1. Kilkenny County Council's application for the proposed development was accompanied by a Natural Impact Statement (NIS) which was prepared by Byrne Looby using a sub-consultant. The further information response included a revised NIS which included a number of changes to the original NIS and addressed the queries raised by the NPWS particularly in respect of referenced surveys which were not included with the original submission and the application of the correct terminology for the two stages of assessment. These changes are considered in the assessment in this report.

7.0 Consultations

7.1. Circulation of Application

7.1.1. The application was circulated to the following bodies:

- An Taisce
- Department of Housing, Local Government and Heritage (DAU)
- EPA

- ESB
- HSE
- Inland Fisheries Ireland
- Irish Water
- National Transport Authority
- The Heritage Council
- Transport Infrastructure Ireland
- Waterways Ireland

Responses were received from Transport Infrastructure Ireland and The Department of Housing, Local Government and Heritage (DUA) with the submissions summarised as follows:

7.2. Transport Infrastructure Ireland

- Subject stie at a remove from strategic national road network in the area with no implications for the national road network.
- No specific observations to make.

7.3. Department of Housing, Local Government and Heritage

7.3.1. Underwater Archaeology

- Works are within/proximate the Zones of Archaeological Notification for a number of RMP's/SMR's and are subject to statutory protection.
- Site Investigation works are proposed on the two rivers and on historic north quays and canal on the south bank and other areas of archaeological and architectural heritage significance.
- High probability that Site Investigation works will impact on archaeological structures, features and deposits, architectural heritage and cultural heritage, both terrestrial and underwater.

- Cumulative impact of the overall Site Investigation works on archaeological and cultural heritage is also potentially quite considerable.
- Department notes that in previous correspondence (letter dated 26th August 2020) it was recommended that the services of a suitably qualified and experienced archaeologist be engaged to act as Project Archaeologist (PA) for the proposed scheme and that the PA should be integral to advising on and devising a strategy for the Cultural Heritage requirements, including the management of archaeological mitigation in advance of, during and post-works (e.g. post-excavation requirements). It was also noted that the input of the PA should be from the earliest stages of the scheme, ideally pre-design stage so as to identify and mitigate any potential impacts to the Cultural Heritage (both terrestrial and underwater) and to advise on ways to avoid such risk.
- Also noted that a Section 14 Ministerial Consent (with condition for archaeological monitoring) has been issued to Kilkenny County Council for the project and a Section 26 excavation licence has been issued to Mr Richard Clutterbuck, project archaeologist, Archaeological Management Solutions, to undertake archaeological monitoring of certain Site Investigation works.
- Following recommendations:
 - All archaeological monitoring works shall be undertaken in compliance with conditions as set out in the Section 14 Consent and Section 26 licence as issued and attendant approved method statements.
 - An Office of Public Works (OPW) Project Archaeologist shall be on site to oversee monitoring by the archaeological contractor of all excavations for Site Investigation works and to assess, on an ongoing basis, proposed locations of all Site Investigations in order to ensure archaeological impacts are minimised. If archaeological materials are encountered during monitoring, all mechanical excavation works shall be suspended in the affected Site Investigation and, following recording, no further excavations shall be undertaken. Where archaeological material is shown to be present, further mitigatory measures may be required; these may include relocation and/or redesign (in whole or in part) to allow for preservation in situ, excavation ('preservation by record') and/or test-excavations or

further monitoring. The Department of Housing, Local Government and Heritage will advise the applicant with regard to these matters.

- As far as practicable, no night-time Site Investigation work shall be undertaken to ensure effective archaeological monitoring by the licensed archaeologist. (Reason: To ensure the continued preservation (either in situ or by record) of places, caves, sites, features or other objects of archaeological interest).

7.3.2. Nature Conservation

- Reference made to the findings of a number of court judgements.
- The Department advises that the surveys and assessments outlined in points 1 to 7 below, which were used to assess impacts and come to conclusions in the NIS must be provided:
 1. The NIS states that a general assessment of the site was carried out. It further states that the composition of floating river vegetation was assessed, if present. The general habitat mapping and floating river vegetation assessment should be provided with the NIS.
 2. It is noted that an extended habitat survey was carried out between 16/02/2021 and 18/02/2021. This is considered a sub-optimal time for habitat survey. A statement in relation to the adequacy of the habitat survey must be provided.
 3. The NIS states that the presence of European otter (*Lutra lutra*) was checked for by a survey of the bankside for holts or coaching sites and an examination of hard bankside surfaces for the presence of spraints and bankside mud/sand for imprints. The habitat quality for this species was assessed. This survey and assessment should be provided with the NIS.
 4. The NIS states that the habitat quality for Atlantic salmon (*Salmo salar*) was assessed. This assessment must be provided with the NIS. It is noted that the Duiske River is an Atlantic salmon nursery. Records of any salmon spawning areas held by Inland Fisheries Ireland must be consulted.

5. The NIS states that habitat quality for the three species of lamprey (all of which are Qualifying Interests of the site) was assessed. This assessment must be provided.
 6. No assessment or survey is provided in relation to Twaité shad, a Qualifying Interest (QI) species for the site.
 7. The NIS states that invasive species surveys have been completed and an invasive species management plan is currently being implemented across the whole site. This management plan should be included with the NIS.
- Additional comments
 - Sources of Information: Figure 6.1 shows the known locations of the QI habitats and species in the vicinity of Graiguenamanagh – Tinnahinch. The source of the information depicted in Figure 6.1 must be provided and it should be clarified whether this map includes results of the above surveys and assessments.
 - Timing of the works: The report states that works may alternatively take place in May 2022 (open work season for Salmon) unless a derogation can be received from Inland Fisheries Ireland (Section 3.2, NIS). The Department notes that significant lamprey numbers have been recorded in the Duiske River at the Well Lane. Impacts of works taking place in May on spawning lamprey species must be assessed. River sections containing spawning habitat must be avoided

8.0 Further Information Request & Response

The further information requested and a summary of the response received to same is outlined as follows:

8.1. Item 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 including the report entitled 'Planning Report' 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. In particular, you are requested to address the following:

(a) Notwithstanding that the SI works are required to inform the future flood defence works, you are requested to provide a rationale behind the requirement for such extensive and numerous SI, in particular the requirement for 26 inspection pits in the Duiske River.

(b) You are also requested to provide detail of the proposed timing and duration of the proposed works.

Item 1 - Response

- Rationale for extent of SI works outlined.
- Timing and duration of works provided.

8.2. Item 2 - Cultural Heritage and underwater archaeology – Request

(a) As set out in the observations/recommendations made by the Department of Housing, Local Government and Heritage (DAU, 24th September 2021), there is a high probability that site investigations as proposed will impact on archaeological structures, features and deposits, architectural heritage and cultural heritage, both terrestrial and underwater. The cumulative impact of the overall site investigation works on archaeological and cultural heritage is also potentially quite considerable.

(b) Such impacts should be considered when addressing "*the likely effects on the environment*" as outlined above (Section 177AE(6)(a)) and all recommendations made by the Department in relation to the site investigation works shall be implemented as part of a construction environmental management plan.

Item 2 Response

Impact assessment undertaken included as Appendix B.

Noted that:

- Monitoring works undertaken in accordance with Section 14 consent and Section 26 licences obtained.
- OPW have engaged a project archaeologist to liaise with the NMS with PA overseeing monitoring by works contractors archaeologist in advisor capacity.
- Night works to be avoided as far as practical but envisaged at Graiguenamanagh Quay for traffic safety reasons.

8.3. Item 3 - Natura Impact Statement – Request

(a) Observations made by the Department of Housing, Local Government and Heritage (DAU, 24th September 2021) on nature conservation identify gaps in the survey information and assessments presented in the NIS. You are requested to address all points made by the Department in their submission as part of a revised NIS.

(b) The scientific information provided as part of an NIS to inform Appropriate Assessment should assess the potential for adverse effects against site specific conservation objectives including attributes and targets set for the individual qualifying interest features. This has not been demonstrated in the NIS.

3.3 The NIS should apply the correct Appropriate Assessment test, the conclusion of which should enable to Board to determine if adverse effects on site integrity can be excluded. Sections 6.3 – 6.8 of the NIS consider whether the project could cause ‘likely significant effect’ on the qualifying features of the Natura 2000 site(s), alone or in-combination with other plans/projects. This is the test for stage 1 Screening for Appropriate Assessment and not stage 2.

3.4 The cumulative impacts of instream site investigation works in the Duiske River have not been assessed for qualifying interest species. While individual inspection pits maybe of relatively minor dimensions, 26 such site investigations are proposed within the River Duiske, which based on an average length of 2.6m amounts to over 40m² disturbance of the riverbed (not taking account of the area required for sandbagging and dewatering). As observed by the Department, significant lamprey numbers have been recorded in the Duiske River at the Well Lane. Impacts of works taking place in May on spawning lamprey species must be assessed and considered in view of the conservation objectives of these species.

3.5 The NIS makes reference to a 10m buffer, where it is considered that outside of this area, any impacts and effects on the SAC would not be of concern. This approach is applied to reduce the likely areas of impact requiring assessment. However, the rationale behind this buffer area is not presented and it would appear that there a number of locations where such a buffer (10m) between a trial pitt/ borehole location and the SAC boundary is not available.

You are requested to provide an amended NIS to reflect the amendments required and observations in section 3.1-3.5 above.

Item 3 - Response

- Sections of NIS updated – text included, clarified, updated or amended to address matters arising.
- Ecology baseline report added as Appendix M.
- Dates of Surveys clarified
- Invasive species surveys referenced included as Appendix N.
- Table 6.2 added.
- Timing of works addressed.
- Rationale for 10m buffer zone outlined (Appendix O).

8.4. Item 4 - Submissions and Observations – Request

You are invited to respond the other submission received by the Board from Transport Infrastructure Ireland.

Item 4 - Response

No comment on TII response.

8.5. Further Consultations on Further Information

It was determined that the information received was not significant and therefore readvertisement was not required.

9.0 Assessment

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

- 9.1.1. This matter was not addressed in any detail in the documentation received by the Board notwithstanding that a 'Planning Report' accompanied same. Further information was requested and sought on same as outlined in Section 8 above. The applicant's response has concentrated on the specific matters raised in the further information although they have outlined the basis for the proposal. These are the rationale for the extent of the works and secondly the timing and duration of the works which I will address in turn.

Rationale for the extent of the works

- 9.1.2. As outlined above the area has been the subject of historical flooding. It is outlined that the OPW, working in partnership with Kilkenny County Council and other Local Authorities, commissioned and have completed the South Eastern Catchment Flood Risk Assessment and Management (CFRAM) Study, which included the subject area. In terms of planning policy, the joint Graiguenamanagh-Tinnahinch Joint LAP 2021 adopted by both Kilkenny and Carlow County Council's includes objectives to support the implementation of flood relief measures with Objective INFO3.1 proposing:

To support and co-operate with the OPW and other stakeholders in delivering Graiguenamanagh-Tinnahinch Flood Relief Scheme under the South Eastern CFRAM Programme, whilst ensuring heritage considerations inform the design of proposed works and to ensure development maximises the protection of the integrity of the historical settlement.

- 9.1.3. Therefore, I would note that there is specific planning support for the proposal.
- 9.1.4. The applicant further outlines that the Graiguenamanagh-Tinnahinch Relief Scheme commenced in March 2020 with the objective the establishment of a viable sustainable flood relief scheme to address the flood risk in Graiguenamanagh-Tinnahinch with the design team currently assessing multiple options to alleviate flooding. It is stated that the proposed site investigations have been scoped and specified based on a range of typically standard options that are under consideration

with the objective of such investigation to gather information to assist in identifying constraints that may influence the decision on the preferred option. The constraints which may arise include infrastructural features, subterranean footings, and general ground conditions.

- 9.1.5. It is outlined that the extent of the terrestrial site investigations have been scoped to provide a representative overview of the land based constraints with a balance required between obtaining the required amount of information needed to have confidence in the final option chosen, whilst acknowledging that some trial pits will ultimately end up outside the direct works zone of the preferred option.
- 9.1.6. While I address archaeology specifically in the following section, it has been pointed out in the response to further information that it has been agreed with the NMS that IP-08 (inspection pit at Tinnahinch Castle) will be omitted from the works, and there may ultimately be further omission as works progresses. I would suggest, that if the Board are minded to approve the proposal that a condition is attached to any approval requiring that any works to be omitted as the scheme progresses are specified and included in a report to be placed on file for public record.
- 9.1.7. For the instream works affecting the SAC, which are the main trigger of the approval application, the view is that as much information as possible should be obtained to avoid having to revisit a further instream site investigation that would trigger a further application to the Board. The necessity to undertake investigation works which may be outside the eventual site area is outlined and I consider that the rationale for same is satisfactory. They also outline that some of the exploratory hole locations may not be used if sufficient information is gained from adjoining SI. The rationale for this is that they consider it is prudent to present the anticipated scale of the works to ABP for consideration and I consider that this is reasonable.
- 9.1.8. The applicant's agent outline that they corresponded and consulted with the IFI in relation to the instream works in advance of the application with the correspondence attached (Annex A) which confirms that IFI do not object to the extent proposed.

Timing and Duration of the Works

- 9.1.9. The applicant's response to the further information acknowledges that the timing of the works was not addressed in the original NIS as they had decided not to use same as a mitigating feature. In terms of the land based works, it is stated that "no

particular timings are proposed for the land based works where there is not considered to be potential for impact on the SAC habitats/species". While it somewhat confusingly then continues by stating that "where the land based SI works have potential to impact on protected habitats/species, the mitigation measures in the NIS will be followed and these are considered to appropriate mitigate the risk", I consider that the timing of works as they relate to the land area are not of significance in respect of potential impacts.

9.1.10. In terms of instream works, it is suggested that August and September would be preferable given the presence of Salmon, Lamprey and Twait Shad but following discussions with the IFI, the possibility of instream hand dug trial pits is a possibility subject to the mitigations in the NIS. This provides that subject to the agreement and approval of the NPWS and IFI that there is no restriction on the timing of the works. I consider that this is acceptable.

9.1.11. It is outlined that the duration of works is c.6 months with 4-5 months for land based works and 2 months for in-stream works.

9.2. The likely effects on the environment

9.2.1. Overview

Given the submission from the Department in respect of cultural heritage and archaeology, it was this factor that was concentrated upon by the applicant in response to this matter. While the consideration of other factors could have been addressed I consider that factors such as water (quality) and land and soils is satisfactorily considered in respect of the likely significant effects on European sites which is addressed separately in the next section and appendices thereto. I would note that there are no landscape and visual issues, material assets are not impacted to any significant degree and population and human health are addressed above in terms of proper planning. I would also note that the works comprise investigations to facilitate further research and consideration and in this regard I consider that the concentrating on archaeology and cultural heritage as it relates to likely effects on the environment is an appropriate response to the nature of the works currently proposed.

9.2.2. Archaeology and Cultural Heritage

- 9.2.2.1. As outlined by the Department in their response the location of the proposed development is one of considerable cultural heritage. Graiguenamanagh is a medieval town with a number of significant sites such as a castle and abbey. In response to the request for further information, the applicant has undertaken an Archaeological Impact Assessment, prepared by Courtney Deery (Appendix B of response).
- 9.2.2.2. I have reviewed the assessment which I note comprises a tabular examination of all the works proposed and the potential constraint/impact and any mitigation considered necessary. I consider it is comprehensive. Archaeological monitoring is the main mitigation and the proposal to have a Project Archaeologist on site is acknowledged. It is further noted that if archaeology is encountered it is proposed that all excavation works will be immediately stopped in the locality and the remains will be protected and the relevant bodies notified and an appropriate mitigation strategy agreed.
- 9.2.2.3. It is outlined that the necessary licence and consent have been obtained for the terrestrial works and at the time of the submission that the applicant were preparing a Section 26 licence for the instream works. In particular response to the matters raised by the Department in their submission the applicants note that all monitoring works will be undertaken in accordance with the consent and licence. A project Archaeologist has been engaged by the OPW for the project. While night-time works were not advised by the Department in respect of ensuring archaeological monitoring would be facilitated, it is stated that same will be required to be undertaken on Graiguenamanagh Quay for safety reasons associated with vehicular traffic and restrictions imposed by the roads department of Kilkenny County Council. I consider that in such instances such works can be accommodated.
- 9.2.2.4. A number of other matters which were revealed were outlined in the report. One such matter is that given the small diameter of boreholes, there will be constraints on archaeological monitoring of these SI but that the material removed from the boreholes will be observed at the surface as set out in the approved Method

Statements, and the logs and reports of borehole investigations will be made available to the consultant archaeologist to inform on the nature and depth of stratigraphy in the area.

9.2.2.5. It was also outlined that the Zone of Notification (ZoN) for Tinnahinch Castle (RMP CW024-026) which was published on the NMS Constraints Maps (1995) is slightly larger than what is currently depicted on the Historic Environment Viewer (HEV). While it is stated in the archaeological assessment that a dedicated strategy is proposed to be agreed upon with the OPW Project PA and the NMS for all SI locations within the published ZoN of Tinnahinch Castle. However, as I outline in section 9.1.6 above, I note that at page 2 of the further information response report, that is stated that it has been agreed with the NMS that IP-08 (inspection pit at Tinnahinch Castle) will be omitted from the works, and there may ultimately be further omission as works progresses. I would recommend that a condition is attached, if the Board are minded to granted permission confirming this position.

9.2.2.6. I consider that the matter of archaeology and cultural heritage has been satisfactorily addressed and that the proposed development would not create any significant effects on the environment.

9.3. **The likely significant effects on a European site:**

9.3.1. 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 River Barrow and River Nore SAC (site code 002162)

9.3.2. 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 one site is directly impacted by the proposal require AA, i.e. River Barrow and River Nore SAC.

9.3.3. I concur with the conclusion that following appropriate assessment, it has been ascertained beyond reasonable scientific doubt that the proposed site investigation

works to allow further development of the Graiguenamanagh-Tinnahinch Flood Relief Scheme taken individually or in combination with other plans or projects would not adversely affect the integrity of the River Barrow and River Nore SAC in view of the Conservation Objectives of this site. The conclusion is based on the following:

- A full and detailed assessment of all aspects of the proposed works including proposed mitigation and ecological monitoring in relation to the conservation objectives of the River Barrow and River Nore SAC
- The proposed site investigation works will not undermine the conservation objective of maintaining the favourable conservation condition of the qualifying interest habitat of Floating River Vegetation (Watercourses of plain to montane levels with the *Ranunculus fluitans* and *Callitriche-Batrachion* vegetation)
- With the application of all mitigation measures the proposed site investigation works will not undermine or delay the conservation objective of restoring the favourable conservation condition of the qualifying interest freshwater species.

10.0 Recommendation

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 documentation received including the response to the further information request.

Reasons and Considerations

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 River Barrow and River Nore SAC (site code 002162)
- (e) the nature and extent of the proposed works as set out in the application for approval including the response received to the further information request,
- (f) the information submitted in relation to the potential impacts on habitats, flora and fauna, including the Natura Impact Statement and further information submission on same,
- (g) the submissions received in relation to the proposed development, and
- (h) the report and recommendation of the person appointed by the Board to make a report and recommendation on the matter.

Appropriate Assessment

10.1.1. The Board agreed with the screening determination that the River Barrow and River Nore SAC, is the only European Site in respect of which the proposed development has the potential to have a significant effect in view of the conservation objectives of those sites.

10.1.2. 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 Site, namely River Barrow and River Nore SAC, in view of the conservation objectives of this site. 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 in line 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 Site.

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 Site, 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 Site, in view of the conservation objectives of this site.

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

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 cultural, archaeological and built heritage of the area, in particular the land or underwater archaeology 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.

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 Natura Impact Statement, submitted with the application to An Bord Pleanála on the 30th day of July, 2021 and in the Further Information Response submitted to An Bord Pleanála on the 14th day of April, 2022, 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 mitigation measures and monitoring commitments identified in the Natura Impact Statement and revision to same, and other plans and particulars submitted with the application shall be carried out in full except as may otherwise be required in order to comply with other conditions.

Reason: In the interest of clarity and protection of the environment during the construction and operational phases of the proposed development.

3. Prior to the commencement of development, the local authority shall agree with the relevant statutory agencies a Construction Environmental Management Plan and Method Statement, incorporating:

- (a) all mitigation measures indicated in the Natura Impact Statement and revision to same;

- (b) Methods to be employed to sterilise the equipment and machinery:

This Construction Environmental Management Plan shall be placed on file prior to commencement of development and retained as part of the public record.

Reason: In the interest of protecting the environment.

4. A suitably qualified ecologist shall be appointed as a Project Ecologist/ Ecological Clerk of works to oversee the site investigations and implementation of mitigation and monitoring measures relating to ecology set out in the NIS. The ecologist shall be present during the period of in-stream works.

Reason: In the interest of nature conservation; to ensure the appropriate application of mitigation measures to ensure the protection of Annex I habitats, and qualifying interest species and their habitats for which the site is designated.

5. Prior to the commencement of development, details of measures to protect fisheries and water quality of the river systems shall be outlined and placed on file.

Timing of in-stream works will be undertaken in the period August to September. Any possible extension of works beyond this period will require approval and supervision from Inland Fisheries Ireland.

Full regard shall be had to Inland Fisheries Ireland's published guidelines for construction works near waterways (Guidelines on Protection of Fisheries during Construction Works in and Adjacent to Waters, 2016). A programme of water quality monitoring shall be prepared in consultation with the contractor, the local authority and relevant statutory agencies and the programme shall be implemented thereafter.

Reason: In the interest of the protecting of receiving water quality, fisheries and aquatic habitats.

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.

7. IP-08 (inspection pit at Tinnahinch Castle) shall be omitted from the works, any further works to be omitted as the scheme progresses shall be specified and included in a report to be placed on file for 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.

8. The County Council and any agent acting on its behalf shall facilitate the preservation, recording, protection or removal of archaeological materials or features that may exist within the site. A suitably qualified project archaeologist shall be appointed and the archaeologist shall be present on site for the duration of the works.

Reason: In order to conserve the archaeological heritage of the site and to secure the preservation and protection of any remains that may exist within the site.

Una Crosse
Senior Planning Inspector

27 June 2022

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 Pleanála

1.0 Introduction

1.1. Background

Kilkenny County Council is seeking approval under Section 177(AE) of the Planning and Development Act (2000) for preliminary site investigation works which will inform the proposed Graiguenamanah Tinnahinch flood relief scheme.

The application was accompanied by an A Natura Impact Statement (NIS) to inform Appropriate Assessment (June 2020). An Bord Pleanála requested Kilkenny County Council to provide further information on a number of issues, including those raised by the Department of Housing, Local Government and Heritage in relation to nature conservation and potential impacts on the River Barrow River Nore Special Area of Conservation (SAC).

Consultants Byrne Looby on behalf of the applicant submitted a detailed response to the request for further information (April 2022). The response included clarifications on a number of issues related to biodiversity and Appropriate Assessment (AA).

1.2. Scope of 'Report to Inspector'

This report to the Senior Planning Inspector and available to the Board is a written record of my review of the submitted information and a detailed examination and analysis of the information provided by the applicant for the purpose of Appropriate Assessment.

In a previous memorandum dated 11th May 2022, I examined the information submitted as further information including an updated NIS and considered that the issues were adequately addressed and provided clarifications without the necessity for any additional surveys, analysis, or detailed assessment to be included or incorporated into the overall application.

I made a site visit to Graiguenamanagh and Tinnahinch on the 13th of October 2021 to inform the assessment.

2.0 Proposed Development

2.1. Summary of proposed development

A comprehensive description of the proposed site investigation works (SI) is provided in Section 3 of the NIS, Figures W3451-FG 003 to 009, Appendix B- schedule of proposed SI works.

As part of the request for further information, the applicant was requested to provide more detail on the rationale behind the requirements for the proposed extensive instream works within the Duiske River in particular, which are the main trigger for the Section 177AE planning application. In response, the applicant outlined that they sought to obtain as much information possible at SI stage to allow the overall flood relief scheme to progress without having to revisit further instream site investigation that could trigger a further application to the Board. The applicant considers it necessary to undertake the site investigations to inform the proposed flood relief scheme and to allow for the planning and development of mitigation for the overall impacts of the final scheme.

In summary the proposed works comprise both land-based and in-stream (Duiske River) site investigations and consist of:

- Bore holes (32 no.)
- Trial pits (20no.)
- Inspection pits (35 no.)
- Slit trenches (25 no.)

In-stream inspection pits are stated to be required to find the location of footings within the Duiske river. These works are proposed to be done by hand, and no excavators are required in the river channel. Before operations commence, the local area will be electrofished to move fish and any lamprey species downstream of the particular SI location. A small area will be bunded using a sandbag coffer dam (Fig 3.2 NIS) and dewatered using a small pump. Boulders and stones will be moved aside, and the substrate dug by hand to investigate the stream bed. Upon completion of works the area will be reinstated. Twenty-six such pits are proposed

within the Duiske River, with an anticipated size of 1.2m depth x 2 to 3m length x 0.6m wide.

While the duration of the works is stated to be in the region of 6 months, in-stream works would be over a period of 2 months and *preferably undertaken in August/September given the presence fish species.*

3.0 European Sites

The villages of Graiguenamanagh and Tinnahinch are located along the River Barrow, part of the River Barrow and River Nore SAC (site code 002162). The SAC comprises the freshwater stretches of the Barrow and Nore River catchments as far upstream as the Slieve Bloom Mountains, and it also includes the tidal elements and estuary as far downstream as Creadun Head in Waterford. The proposed site investigation works include elements that are within or in close proximity to the SAC which includes the main channel of the River Barrow and its tributary the River Duiske. A summary of the qualifying interest habitat and species for which the SAC is designated is presented in section 6.2 of the NIS and section 5 of this report.

4.0 Submissions and Observations

4.1. Prescribed bodies

The Department of Department of Housing, Local Government and Heritage) is the only prescribed body that made submissions on nature conservation aspects the application. The Department advised that surveys and assessments for the following which were referenced and used to assess impacts in the NIS be provided: habitat survey, floating river vegetation, Otter, Atlantic Salmon, Lamprey species, Twaite Shad, invasive species and invasive species management plan. Clarification on the source of information in NIS Figure 6.1 was requested. The Department also noted the timing of works and any impacts of works taking place in May on spawning lamprey species must be assessed and river sections containing spawning habitat avoided.

I also bring the Inspector and the Boards attention to the fact that the Applicant has had consultation with Inland Fisheries Ireland with evidence of this included in the NIS and in the Further Information supplied.

As outlined above, the Board made a request for further information on various topics including the nature conservation points raised by the Department.

ByrneLooby consultants working on behalf of Kilkenny County Council responded to each query and supplied additional information in the form of an updated NIS to assist in the assessment of significant effects.

5.0 **Consideration of the Likely Significant Effects on a European Site**

5.1. **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

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

Article 6(3) of the Habitats 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.

5.3. 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. 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).

A screening determination from both Kilkenny County Council (Graigenamanagh) and Carlow County Council (Tinnahinch) was provided with the application (Appendix E). The applicants concluded that the possibility of significant effects could not be ruled out for the River Barrow and River Nore SAC and thus the proposed site investigation works must proceed to Appropriate Assessment and a Natura Impact Statement prepared. The possibility of significant effects on any other European Sites was excluded based on the absence of ecological pathways. Table 1 presents a summary of the potential impacts identified in the screening stage.

Table 1: Summary of potential ecological impacts that may result in significant effects on the River Barrow and River Nore SAC as identified in the Local Authority AA Screening determination

Project elements that could result in significant effects on the SAC	Potential Impact types	Qualifying interests of the River Barrow River Nore SAC within a possible zone of influence of the SI works
SI works including excavation requirements Introduction of invasive species	Temporary impacts: Habitat loss/alteration Water quality deterioration	Habitats: Floating river vegetation Hydrophilous Tall herb fringe communities

Siltation and emissions including hydrocarbons		Alluvial forests
Activities that interfere with the riverbed and or water quality Activities that interfere with the riverbank/riparian habitats	Temporary impacts: Disturbance and or displacement of species Disturbance of spawning redds Water quality deterioration	Species Freshwater Pearl Mussel White-clawed Crayfish Atlantic Salmon Twaite Shad Lamprey Species Otter

5.4. Screening Determination

Having regard to the information presented in the AA Screening Reports, 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 applicant’s screening determination that the significant effects cannot be ruled out for the River Barrow and River Nore SAC in view of the conservation objectives of the site.

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

5.5. The Natura Impact Statement (overview)

As described, an updated NIS has been prepared in response to a further information request and this NIS is the subject of the Appropriate Assessment.

The NIS was prepared by ByrneLooby and sub consultants AQUAFACT. The scientific information provided in the NIS and ecological assessment has been prepared by Brendan O Connor (AQUAFACT). It has been prepared in line with

standard methodological guidance and in consultation with relevant stakeholders including the National Parks and Wildlife Service and Inland Fisheries Ireland. Scientific information was collated from desk study, field survey and information from the National Parks and Wildlife Service resources (www.npws.ie).

The full suite of surveys undertaken to date to inform the overall proposed flood relief scheme and the site investigation works is provided in Table 5.1. As noted in the Departments submission, the habitat survey was carried out in February (2021), which is considered a sub-optimal time for habitat survey. The applicant has provided a statement in relation to the adequacy of the habitat survey for the purpose of the assessment of the SI works stating that it was possible to identify sensitive habitats that may be affected by the works outside of the optimal survey window. I consider that habitat types likely to be present in this case can be defined and classified to the Heritage Council (Fossitt 2000) classification level outside of the optimum period. However, if detailed flora survey were required to define a particular habitat type or to survey for any rare or protected plant species, February is a sub-optimal survey time.

The NIS outlines the methodology used for assessing potential impacts on the habitats and species that are qualifying interests of the River Barrow River Nore SAC. It identifies and assesses the potential for adverse effects on qualifying interest features in view of their conservation objectives, attributes and targets. Mitigation measures are detailed and described, and in-combination effects assessed.

The NIS considers the main impacts to be related to the requirement for instream works which could result in temporary localised disturbance or loss of spawning habitat, sedimentation and loss of individual fish including lamprey species and also white-clawed crayfish, disruption of riparian habitat and disturbance of otter.

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 River Barrow and River Nore SAC in relation to the sites conservation objectives.

Having reviewed the NIS and the supporting documentation including appendices 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 to exclude any adverse effects are provided in Section 7 in Table 7.2.

I am satisfied that the scientific information submitted including clarifications provided as part of the further information allows for appropriate assessment of the proposed site investigation works (see further analysis below).

5.6. **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 (2021) Assessment of plans and projects in relation to Natura 2000 sites. Methodological guidance on the provisions of Article 6(3) and 6(4) of the Habitats Directive 92/43/EC
- EC (2018) Managing Natura 2000 sites. The provisions of Article 6 of the Habitats Directive 92/43/EEC

5.6.1. **European site: River Barrow and River Nore SAC**

A full description of the site and Conservation Objectives and Qualifying Interests (QI) including relevant attributes and targets for the SAC, is set out in section 6 of the NIS and summarised in this report as part of my assessment (See Tables 2-4).

Table 2: Qualifying interests and general conservation objectives for the River Barrow and River Nore SAC

<p>River Barrow and River Nore SAC is selected for the following qualifying interests (QI):</p> <p>QI in BOLD are within a possible zone of influence of the proposed site investigation works (from NIS)</p> <p>Conservation Objectives: Restore conservation condition (R), Maintain favourable conservation condition (M)</p>	
Annex I Habitats (*priority)	Annex II Species
[1130] Estuaries (M)	[1016] Desmoulin's Whorl Snail (<i>Vertigo moulinsiana</i>) (M)
[1140] Tidal Mudflats and Sandflats (M)	[1029] Freshwater Pearl Mussel (<i>Margaritifera margaritifera</i>) Status under review
[1170] Reefs	[1092] White-clawed Crayfish (<i>Austropotamobius pallipes</i>) (M)
[1310] Salicornia Mud (M)	[1095] Sea Lamprey (<i>Petromyzon marinus</i>) (R)
[1330] Atlantic Salt Meadows (R)	[1096] Brook Lamprey (<i>Lampetra planeri</i>) (R)
[1410] Mediterranean Salt Meadows (R)	[1099] River Lamprey (<i>Lampetra fluviatilis</i>) (R)
[3260] Floating River Vegetation (M) (Watercourses of plain to montane levels with the Ranunculion fluitantis and Callitriche-Batrachion vegetation)	[1103] Twaite Shad (<i>Alosa fallax</i>) (R)
[4030] Dry Heath (M)	[1106] Atlantic Salmon (<i>Salmo salar</i>) (R)
[6430] Hydrophilous Tall Herb Communities (M)	[1355] Otter (<i>Lutra lutra</i>) (R)
[7220] Petrifying Springs* (M)	[1421] Killarney Fern (<i>Trichomanes speciosum</i>)
[91A0] Old Oak Woodlands (R)	[1990] Nore Freshwater Pearl Mussel (<i>Margaritifera durrovensis</i>) (R)
[91E0] Alluvial Forests* (R)	

I have also examined the Natura 2000 forms and Conservation Objectives Supporting Documents available through the NPWS website (www.npws.ie). Site specific conservation objectives are available on the NPWS website and are included in hard copy as part of the case file.

- 5.6.2. The applicant identifies the qualifying interest habitats and species within and or adjacent to the SI works footprint (terrestrial) and within 5km downstream for aquatic species and habitats. Given the nature of the proposed SI works, this is a reasonable approach. Having reviewed the information on the NPWS website, the information presented in the NIS, distance to other habitat types and from my site visit, I am satisfied that no other qualifying habitats are at risk of any significant effects from the proposed SI works.
- 5.6.3. I note that the screening determination did include Hydrophilous Tall herb fringe communities and Alluvial forests as being within a possible zone of influence, but I am satisfied that the information contained in the NIS following survey rules out these habitats from risk of significant effects as they are not present at within the immediate area.
- 5.6.4. While species of floating river vegetation have been identified, the applicant has not clarified if it conforms to the Annex I habitat type *Watercourses of plain to montane levels with the Ranunculion fluitantis and Callitriche-Batrachion vegetation* or is more representative of a water crowfoot (*Ranunculus penicillatus*) dominated reach which is of lower conservation value. I am satisfied to take a precautionary approach with the inclusion of this habitat type in the assessment.

Freshwater pearl mussel is identified as possibly present within 5km of the SI works area. Dedicated surveys undertaken by AQUAFAC in 2021 did not identify any in the vicinity of Graiguenamanagh, and extant populations in the River Barrow catchment are confined to its upper reaches. However, a water sample examined for eDNA for freshwater pearl mussel was positive (low concentration) from the River Barrow at lower Tinnahinch. Therefore, this species was included in the NIS on a precautionary basis.

The presence of Twaité Shad and River Lamprey in the River Barrow are impeded by weirs along the River Barrow and their distribution is restricted to below the weir

north of Saint Mullins, referred to as Bahanna Woods in the NIS. Therefore, the inclusion of these species in the NIS is precautionary.

There are records of White-clawed Crayfish in the vicinity of the proposed SI works, however Crayfish plague has affected local populations and surveys undertaken by the applicant in 2021 failed to record any crayfish.

Fish survey (electrofishing) of the Duiske River by AQUAFAC in 2021 confirmed the presence of Atlantic Salmon, brown trout, Brook lamprey and European eel in stretches of this river. Based on the habitats present, AQUAFAC consider that the Duiske River is a very good salmonid nursery and has very good salmonid spawning habitat and that Lamprey ammocoete habitat is also excellent locally, with suitable silt and sand beds supporting healthy populations.

Evidence of otter was recorded and is detailed in the NIS.

5.6.5. I bring the Inspectors and Boards attention to the fact that in the revised NIS, the applicant has included further details on surveys and assessment of qualifying interest species as requested by the Department in their submission. I am satisfied that this provides clarification on the concerns raised and allows for a full assessment by the Board of the likely significant effects identified to determine if adverse effects can be excluded on the site integrity of this SAC.

5.6.6. Direct Effects

The proposed site investigation works will have direct short-term impacts on habitats and species present in the Duiske river in particular, where instream SI works are proposed.

As detailed and informed by survey, the Duiske River hosts habitats suitable for spawning salmon and brook and river lamprey. In-stream works have the potential for short term localised habitat disturbance and loss including spawning habitats, disturbance of species, short term sedimentation/ turbidity and loss of individuals during de-watering. Accidental spillage of construction related pollutants/ oils from machinery may impact water quality and may have an adverse effect on all fish species present. Given that all QI species known to be present have a conservation objective of restoring favourable conservation condition, any impacts that delay

attainment of that objective may have an adverse effect. A target of no decline in extent and distribution of spawning beds is specified for lamprey species and Atlantic Salmon. In assessing cumulative impacts of the overall extent of the SI works, the applicant has estimated that up to 1,418m² of riverbed could potentially be disturbed over the 2-month duration of the instream works. If SI works are undertaken during the lamprey or Salmon spawning period, then localised adverse effects cannot be ruled out for that particular period- short term loss or disruption of spawning habitat and reduction in local population recruitment in the absence of mitigation.

I note that regardless of the time of year that works are to be undertaken, the works will not create a barrier to fish movement as only the site investigation pit area will be dammed, leaving the remainder of the channel open.

Floating river vegetation habitat is reported as being present in the Duiske River and there is potential for localised short-term disturbance of this habitat and a reduction in suitable conditions from risk from increased silt deposition and accidental spillage and invasive species.

5.6.7. Indirect effects

The terrestrial elements of the proposed site investigation works could have indirect effects on water quality and species dependant on good water quality where excavations close to the riverbanks of the Duiske, River, Graiguenamanagh stream and the River Barrow could result in ingress of accidental spillage of pollutants, sediment and increased turbidity.

Disturbance of otter may also result from increased noise and human disturbance, which could constitute short term habitat loss if excluded from an area and short-term reduction in prey availability as a result of sedimentation/turbidity.

The further spread of Crayfish plague is a possible risk if biosecurity measures are not implemented.

5.6.8. In combination effects with other plans and projects

The potential for effects of 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 in Section 6.5 of the NIS. The one project identified as having potential for in combination effects is the actual parent project of the Flood Relief scheme. This scheme alone has the potential for more extensive impacts and will be assessed once submitted for planning. The applicant identifies a number of potential in combination impacts that could arise but does not go further in terms of assessment of these impacts.

I bring the Boards attention to the fact that the SI works will occur in advance of any permitted flood relief scheme, will be short term, with temporary localised impacts predicted that can be mitigated (see below). No significant residual effects are predicted to remain that could add further to the possible effects of the overall Flood scheme which will require appropriate assessment as part of any planning consent.

The proposed SI works will not interact with any currently approved development projects or plans.

5.6.9. Mitigation Measures

For ease of reference, I provide a summary of mitigation measures in Table 3 below. This is compiled from section 6 and Section 7 of the NIS and associated appendices.

Table 3 Summary of Mitigation Measures

Proposed Mitigation measure
Standard operating procedures including: <ul style="list-style-type: none">• Avoidance of working during very wet weather conditions to minimise the occurrence of silt mobilisation;• Retention of eroded sediments close to watercourses with erosion and sediment control structures, including the use of biodegradable matting over exposed soil within 5m of channels where necessary;

- Fuels, lubricants and hydraulic fluids for equipment used on the construction site, as well as any solvents and oils, will be carefully handled to avoid spillage, properly secured against unauthorised access or vandalism, and provided with spill containment;
- Fuelling and lubrication of equipment will not be carried out within 10m of watercourses where this is possible, and shall only be undertaken in designated bunded areas;
- Any spillage of fuels, lubricants or hydraulic oils will be immediately contained and the
- contaminated soil removed from the site and properly disposed of;
- Waste oils and hydraulic fluids will be collected in leak-proof containers and removed from the site for disposal or re-cycling;
- Temporary portable toilet facilities are to be provided for staff during the construction period. These units will be maintained regularly and the waste disposed of by an appropriate contractor;
- Construction machinery is to be power-washed prior to arrival at the site, to avoid importation of invasive species;
- All excavation/access areas are to be pre-checked for invasive species;
- If any invasive species are found in the pre-check, the infested areas are to be fenced off and appropriate warning signage erected; and
- No machinery is to enter these fenced-off locations, unless instructed by the Client or his Representative's and appropriate management measures are put in place.

In-stream site investigation works will be preferably undertaken in August and September. If this cannot be undertaken, permission/ appropriate license procedure will be followed with Inland Fisheries Ireland (see text below).

Each instream SI location will be electrofished (by aquatic expert) prior to any dewatering and any fish collected will be returned to the river downstream of works area

If any redds are present (lamprey or salmon), the location of the SI works will be adjusted to avoid the redd (see text below).

Throughout the SI works, an ecological watching brief (aquatic expert) will be present to check for invertebrates and will capture and remove from the area as necessary

SI locations will be fully restored on completion of works

Upon completion of works, the aquatic ecologist will inspect the are to confirm instream substate has been restored

In general, I am satisfied that the water quality protection measures are standard, best practice, can be implemented and supervised. The measures proposed will protect the watercourses and supporting habitat for QI species from any possible spillages or increased sediment load that may arise from the SI works. Any possible disturbance of species, including otter will be temporary and will not affect resting places or movements along watercourses.

In the Departments submission, concerns were raised regarding the timing of works and possible impacts on the extent and distribution of spawning redds for Brook and River lamprey in particular. The applicant acknowledges that August and September is the optimum time for instream works in order to avoid impacts on spawning habitat. Both lamprey species spawn during the period March to April. In avoiding impacts on these species, the potential for impacting on Salmon spawning must be taken into account, the closed season runs from October to May inclusive.

The applicant details consultation with Inland Fisheries Ireland whereby it is proposed that in the event that site investigations are required outside of the August to September period, they could be accommodated under license by IFI. In order to comply with the provisions of Article 6(3) this can only be the case where there is no risk of adverse effects, and such works would not result in a decline/ extent of spawning beds. My recommendation is that in-stream works are confined to August and September and if any extension of that period is required it is done so under the

strict direction of Inland Fisheries Ireland with supervision to avoid directly impacting on spawning locations.

I also recommend that the role of the project ecologist/ ecology watching brief as described in the NIS is expanded to ensure that ecological supervision occurs for the duration of the in-stream SI works ensuring that all measures are appropriately implemented.

The risk of the spreading of invasive species is addressed as part of the overall proposed flood relief scheme and a management plan is currently being implemented across the site. The assessment reported in the NIS, states that the main invasive species present in the overall study are not present at the SI works areas and the management of site plant and the cordoning off of any stands of Giant rhubarb, Himalayan balsam or Japanese knotweed that may occur will prevent adverse effects. In addition, biosecurity protocol for crayfish plague will be established prior to and after in-stream works.

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 in view of the conservation objectives of the site. These measures will be integrated into a method statement for the SI works.

Table 3 below summarise the information considered for the Appropriate Assessment and site integrity test using best scientific information provided in the NIS. 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.

Table 4 AA summary matrix for River Barrow and River Nore SAC

<p>River Barrow and River Nore SAC (site code 002162): Summary of Key issues that could give rise to adverse effects (temporary):</p> <ul style="list-style-type: none"> • Habitat Loss/ alteration • Disturbance of QI species • Water quality and resource <p>Detailed Conservation Objectives available: Site specific cons obj (npws.ie)</p>		
		Summary of Appropriate Assessment
Qualifying Interest feature	Potential adverse effects	Mitigation measures are possible-summary
Floating River Vegetation	Temporary impacts on habitat quality due to possible disturbance, increased turbidity, sedimentation, accidental spillage	Yes Standard operating procedures including pollution prevention measures and invasive species management
Freshwater pearl Mussel	Temporary impacts on habitat quality and any individuals present downstream by increased turbidity, sedimentation, accidental spillage	
Twaite shad		
Sea Lamprey		
White Clawed crayfish	Short term habitat loss, reduction in water quality, loss of individuals, further spread of crayfish plague	Yes Standard operating procedures including pollution prevention measures and biosecurity protocol if crayfish plague confirmed as present. Removal of any individuals from SI areas.
Atlantic Salmon	Short term disturbance/habitat loss including extent and distribution of spawning areas, reduction in water quality	Yes, As above + Timing of works to avoid spawning season unless under prior agreement and under license and supervision from IFI
Brook Lamprey		Yes, As above + Timing of works in August and September to avoid spawning season. May only be extended under prior agreement and under license and supervision from IFI
River Lamprey		
Otter	Short term disturbance/habitat loss, reduction in water quality, impacts on prey biomass	Yes, As above for water quality protection
<p>Overall conclusion: Integrity test Following the implementation of mitigation, the proposed site investigation works will not adversely affect the integrity of this European site and no reasonable doubt remains as to the absence of such effects.</p>		

6.0 **Appropriate Assessment Conclusion: Integrity Test**

In Screening the proposed site investigation works required to inform the Graiguenamanagh and Tinnahinch flood relief scheme, Kilkenny and Carlow County Councils found that the likelihood of significant effects could not be excluded and therefore the works require 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 the River Barrow and River Nore SAC. I consider that the information provided in the NIS allows for detailed assessment of the implications of the proposed SI works on the SAC 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 site investigation works, individually or in combination with other plans or projects would not adversely affect the integrity of the River Nore and River Barrow SAC in view of the sites Conservation Objectives.

This conclusion is based on the following:

- A full and detailed assessment of all aspects of the proposed works including proposed mitigation and ecological monitoring in relation to the conservation objectives of the River Barrow and River Nore SAC
- The proposed site investigation works will not undermine the conservation objective of maintaining the favourable conservation condition of the qualifying interest habitat of Floating River Vegetation (Watercourses of plain to

montane levels with the Ranunculion fluitantis and Callitriche-Batrachion vegetation)

- With the application of all mitigation measures the proposed site investigation works will not undermine or delay the conservation objective of restoring the favourable conservation condition of the qualifying interest freshwater species.

Suggested Conditions

1. All mitigation measures described in the NIS will be implemented in full.
2. Timing of in-stream works will be undertaken in the period August to September. Any possible extension of works beyond this period will require approval and supervision from Inland Fisheries Ireland.

Reason: To prevent impacts on spawning lamprey species and Atlantic Salmon in the Duiske River.

3. A suitably qualified ecologist shall be appointed as a Project Ecologist/ Ecological Clerk of works to oversee the site investigations and implementation of mitigation and monitoring measures relating to ecology set out in the NIS. The ecologist shall be present during the period of in-stream works.

Reason: In the interest of nature conservation; to ensure the appropriate application of mitigation measures to ensure the protection of Annex I habitats, and qualifying interest species and their habitats for which the site is designated.



Maeve Flynn BSc. PhD, MCIEEM
Inspectorate Ecologist

24th June 2022