Report on Objections to Part 10 Development (ACP-323950-25)

Graiguenamanagh Tinnahinch Flood Relief Scheme

Report No. W3451-W-R021

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Graiguenamanagh Tinnahinch Flood Relief Scheme

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Contents

Introduction

Background

On 12 December 2025, Kilkenny County Council (KCC) submitted a planning application for approval under Section 175 and 177AE of the Planning Development Act (as amended) and the Planning and Development Regulations 2011 (as amended) for proposed development works for the Graiguenamanagh-Tinnahinch Flood Relief Scheme (GTFRS). The An Coimisiún Pleanála (ACP) Case Number for the Planning/EIAR Application is ACP-323950-25.

On the same day, KCC also submitted an application to compulsory purchase lands to facilitate the construction of the Graiguenamanagh-Tinnahinch Flood Relief Scheme. This was entitled '*Kilkenny County Council Compulsory Purchase Order No. 07 of 2025 Graiguenamanagh-Tinnahinch Flood Relief Scheme*'. The ACP Case Number for the CPO is ACP-323951-25.

11no. submissions were received by ACP and forwarded to KCC on 23 February 2026. This document sets out KCC's response to the issues raised in the submission received.

List of Submissions

The submissions received from ACP (ACP-323950-25) are listed below.

1. **An Taisce**
2. **Cherri and Eugene Conlon**
3. **DAU**
4. **Edward Hughes**
5. **Inland Fisheries Ireland**
6. **Jim Butler and Martin Malone**
7. **John and Siobhan Walsh and Family**
8. **Mary and Pat Butler**
9. **Thomas (TJ) and Martina O'Neill**
10. **Thomas O Shea**
11. **Uisce Éireann**

KCC's response to these individual submissions are in the following sections.

[1] An Taisce

Ayesa has structured the response and responded to An Taisce's queries/issued raised under respective headings for clarity and organisation.

[1.1] Catchment Measures

To aid in providing a response to An Taisce's submissions, we have provided some signposts to the information and clarification An Taisce is seeking from the EIAR.

Section 2.3.15 of the EIAR references the Natural Flood Risk Management Report that was prepared to examine the potential of Natural Water Retention Measures (NWRM). It is concluded that whilst Woodland Creation and Offline Wetlands had potential, the cost and performance of these measures meant they were not viable to protect against the 1% AEP flood event. Further, it is noted in the Natural Flood Risk Management Report (NWRM) that the Barrow Catchment would be ineffective in providing flood relief to Graiguenamanagh-Tinnahinch give the vast size of the catchment (2,778km^2).

As per Section 4.2.6 of the EIAR, the Storage Area entails the establishment of a flood storage area by constructing a raised earthen dam which will impound flood waters during extreme events. Water will be conveyed through the dam in a Hydrobrake, which will have a debris screen upstream to prevent blockage. Water levels will be monitored using sensors which can be accessed remotely. The Hydrobrake on the storage area is designed to allow a controlled flow of water in the River Duiske in times of intense and prolonged rainfall, contrary to the statement that 'this approach is likely to simply move the water through the Graiguenamanagh area more quickly.' Careful consideration has been given to potential impacts to river ecosystems and water quality, and the proposed measures are deemed to be the least impactful from this perspective. These impacts are detailed in Chapter 8 'Surface Water – Hydrology' and Chapter 10 'Biodiversity' of the EIAR.

Residences downstream will not be impacted by 'exacerbating flooding' as flood walls and embankments have been designed based on extensive hydraulic model, i.e., there is no downstream increase in flood level on the River Barrow. This is stated in Section 11.2.1 of the Hydraulics Report 'Walls have been tied into existing model elements of sufficient height to ensure that flows are retained within channel in all instances.' Comparison of pre and post scheme flood levels downstream of Graiguenamanagh indicates that water levels downstream (from Tinnahinch Weir) are not influenced by the proposed works.

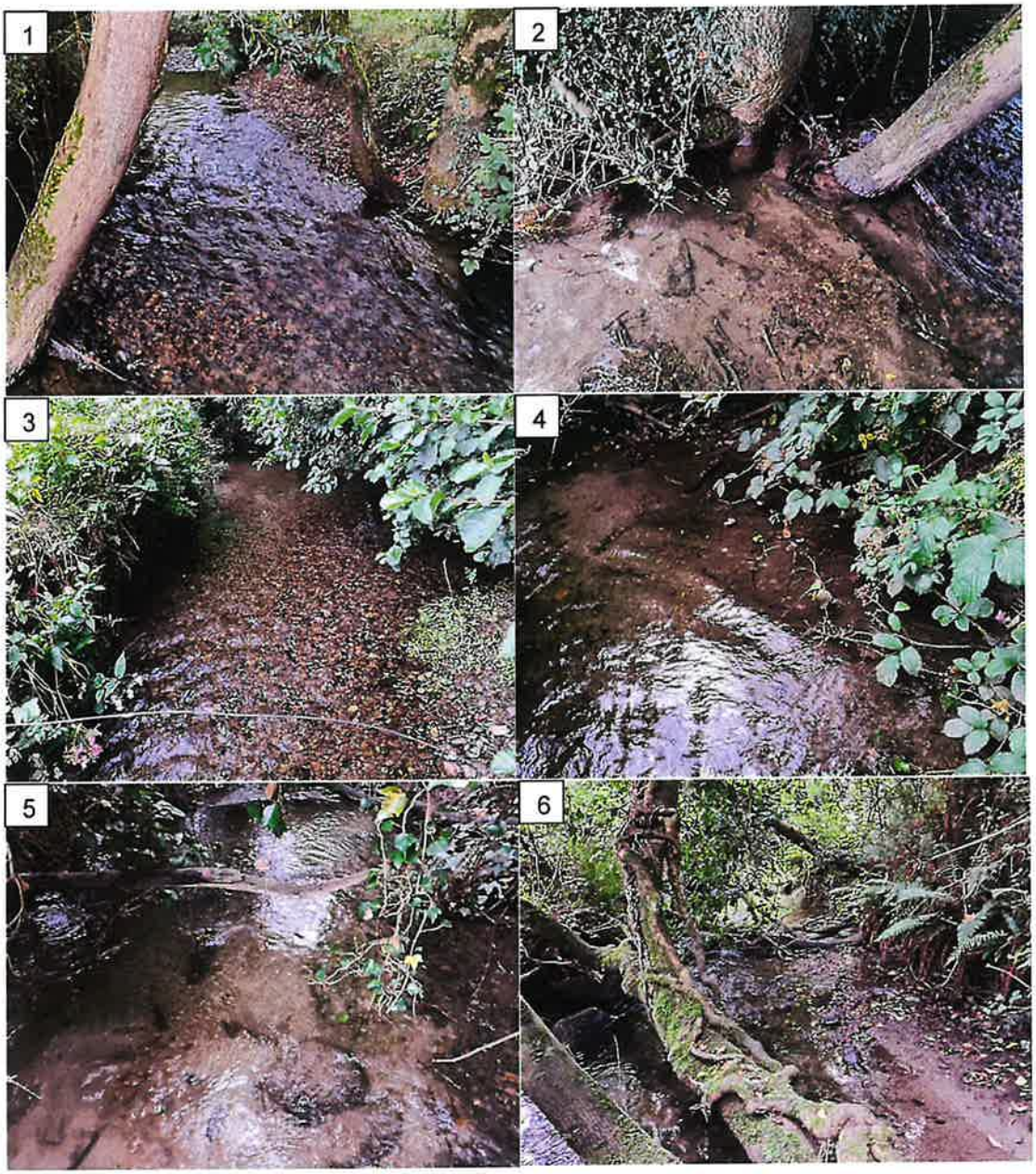
Climate Change has been considered when designing the scheme. Chapter 14 of the EIAR deals specifically with climate change. Section 4.3.105 of Chapter 4 of the EIAR also states that the flood defences have been designed to facilitate future increases in their height. A Climate Change Adaptation Plan has been developed for the scheme. The report is based on climate change modelling runs that were completed on the model in accordance with the SCCAP Technical Methodology. The Climate Change Adaption Plan verifies that the scheme is adaptable to climate change and has assessed all adaptation pathways. The SCCAP Methodology includes allowances for Mid-Range Future Scenarios (MRFS) and High-End Future Scenarios (HEFS). Tracking the impact of climate change on key indicators fluvial flows using the gauges installed for the purposes of the scheme will allow increasing confidence in the assessment of future increases in flood risk.

[1.2] Habitats Directive

The submission addresses the Habitats Directive as transposed in Irish Law within and throughout the EIAR and the Appropriate Assessment. The Appropriate Assessment Report included in the Planning Application details relevant material to inform a decision by the Competent Authority as to whether the proposed development is likely to have any significant impacts on the Conservation Objectives of any Natura 2000 sites. This report outlines the results of desktop studies, as well as the extensive scheme specific ecological surveys that were undertaken. The results of these desktop studies and ecological surveys have been interpreted and have guided the formulation of the proposed scheme. Where relevant, mitigation measures have been detailed to minimise the potential impacts of the construction and operation of the scheme. It has been demonstrated that the proposal will have no adverse effects on the integrity of the River Barrow and River Nore SAC and there remains no uncertainty in this regard in the proposed scheme.

[1.3] Salmonids & Fish

Specific mitigation measures for the protection of surface water (Bio_5-Bio_16) and freshwater fish (Bio_33-Bio_52) have been outlined which will ensure that the instream works will not act as impassable fish barriers to the detriment of resident fish species. These include measures for the protection of watercourses during instream works and follows the guidelines from IFI for the Protection of Fisheries During Construction Works in and adjacent to waters (Bio_52). Furthermore, Bio_39 requires the temporary watercourse diversion will be lined with an appropriate substrate mix (gravel-sand-cobbles) to reflect the natural substrate composition of the watercourse. This will facilitate the natural migration of fish whilst construction works are ongoing. The in-stream works will be timed to only take place outside of spawning season. The area directly impacted by the flow control structure consists of riffle, mixed juvenile, pool and glide habitats and supports lamprey habitat. The area was considered to have suboptimal silted spawning habitat for salmonids as per the Aquatic Ecology Surveys Report included in Appendix 10.10 of the EIAR. The images below show the habitat directly impacted by the flow control structure. Whilst there are patches of gravel, as in images and 1 and 3 below, there is significant presence of silt (images 2, 4, 5, 6 and also visible in 1 and 3). This reduces the suitability of the gravels for salmonid spawning, making the habitat suboptimal.



As per Section 4.8 of the EIAR, the river flows will be monitored post-implementation and regular inspections of the flow control structure will take place which will confirm no barriers to fish exist. In the unlikely event of a barrier forming, mitigation will need to be implemented by KCC.

The flow control structure will not prevent the migration to upstream spawning grounds. During typical flows, the flow velocities are similar to the prevailing conditions as outlined in Figure 1-1. Inlet conditions on Vortex Flow Control Structure on a UK EA flood scheme (typical low flow conditions).Figure 1-1 and Figure 1-2 below. The project team for GTFRS visited sites in the UK to observe hydrobrake (vortex control structures) 1st hand and are satisfied that upstream and downstream migration of both fish and small waterborne mammals will be possible. The use of vortex control for such purposes is well documented[1].

[1]https://www.researchgate.net/profile/Mike-Faram/publication/270685377_Vortex_flow_controls_in_integrated_stormwater_management_for_urban_environments/links/54c212570cf25b4b8072cf3d/Vortex-flow-controls-in-integrated-stormwater-management-for-urban-environments.pdf

Figure 1-1. Inlet conditions on Vortex Flow Control Structure on a UK EA flood scheme (typical low flow conditions).

Figure 1-2. Outlet conditions on Vortex Flow Control Structure on a UK EA flood scheme (typical low flow conditions).

[1.4] Otter

The An Taisce submission refer only to the initial screening in Table 6-3 (Stage 1 of AA) on p.73. It is concluded in the Screening Statement on p. 78 that "it has been determined that the likelihood of significant negative effects to the River Barrow and River Nore SAC via surface and groundwater, air and land pathways cannot be ruled out as they pertain to...otter". The potential impacts on Otter are reassessed in Table 9-1 (p.85) allowing for mitigation measures. It is the concluded that significant impacts with appropriate mitigation are unlikely. The mitigation measures that will be implemented are outlined in Sections 10.1-10.5 of the NIS. Section 11 of the NIS (p.92) concluded that the conservation objectives of any Natura 2000 site will not be adversely affected by the proposed scheme works.

Pre-construction surveys will be undertaken as outlined in Section 10.8, Bio_3 of the EIAR. This will confirm any derogation requirements. However, as per the NIS, no significant effects are anticipated for the conservation objectives of Natura 2000 sites. Therefore Article 16 derogation is not required and is not proposed.

Otter have been carefully considered in the EIAR and NIS. The details of otter presence throughout the scheme area is detailed in 10.4.41 and 10.4.47 of the EIAR with pre-construction surveys being undertaken to update this data.

Regarding the potential for impacts due to encroachment on riparian zone and vegetation removal, the proposed scheme does not change from the existing scenario in the townlands where defences are in made ground with minimal vegetation removal required. Where vegetation removal is required to facilitate the upstream storage structure there may be impacts on the otter moving through the riparian zone at this location should they be present. Otter are known to move around embankments where they impact their passage through the river. It is stated in Table 10-23 of the EIAR that "although otters are dependent on rivers, they are not confined to them and can traverse across farmland when required".

That being said, it will be possible for Otter to pass through the hydrobrake. The opening is sufficiently large, the flows are not strong, and the Otter have been known to pass through longer structures. There are no barriers to otter movement in the larger area due to the rural nature of the site. It is acknowledged that the otter will also utilise other routes to pass by the upstream storage area and therefore will not compromise the conservation objectives of otter as a QI of the River Barrow and River Nore SAC.

In relation to An Taisce's reference to p.89, what is meant here is that 'sharing' of the existing river channel by Otter and the temporary works is not possible. Otter migration during the works will be accommodated along the proposed temporary river diversion at the flow control structure. However, it is important to note that works will be carried out during the day with no disturbance at night when otter are most active.

[1.5] Bats

As noted in Table 10-1, specialist bat surveys were undertaken 14-16/09/2020 and 10-14/06/2024. The results of these surveys are outlined in Section 10.4.24-10.4.31 of the EIAR. Further, the tree surveys undertaken 23/05/2023, 19/12/2023 and 15/11/2024 noted ecological significance of individual trees as per Section 10.3.19 of the EIAR. These did not identify any roosts directly impacted by the scheme. Pre-construction surveys will be undertaken as outlined in Section 10.8, Bio_3 of the EIAR. This will confirm presence of bat roosts to be removed, should any have appeared

since the completion of the bat and tree surveys for the scheme. This will also confirm any derogation requirements. However, the statement "the necessity of proposed culverting requires serious consideration, including within a bat derogation licence process" is incorrect, as there is no culverting as part of the proposed scheme.

[1.6] Kingfisher

Impacts to Kingfisher are considered in Table 6-2 of the NIS. It is stated that "the proposed works are short-term and primarily limited to bankside works (with small volumes of instream works), and whereby the occurrence and abundance of aquatic communities along the River Duiske and River Barrow will not be significantly altered in the medium - or long-term. As such, significant effects to the conservation objectives of Kingfisher through surface water pathways are unlikely." Impacts on the conservation objectives as a result of noise and vibration are also considered to be short-term. Further, it is noted there are no suitable breeding sites for Kingfisher adjacent to the works. Maps of the recorded perches are included in Figure E-1 and Figure E-2 of Appendix E of the NIS. None of these perches are affected by the proposed scheme. Pre-construction surveys will be undertaken as outlined in Section 10.8, Bio_3 of the EIAR.

[1.7] Article 16 Derogation

Under Article 16 of the Habitats Directive, Member States may derogate from the strict protection of certain species, provided there is no satisfactory alternative and the derogation is not detrimental to the maintenance of the populations of the species involved at a favourable conservation status. It is used to allow public works to proceed in areas where protected species live. Pre-construction surveys will be undertaken as outlined in Section 10.8, Bio_3 of the EIAR. This will identify any derogation requirements. However, as per the NIS, no significant effects are anticipated for the conservation objectives of Natura 2000 sites.

[1.8] Ecological Surveys

Habitat mapping undertaken as part of the scheme did not identify any alluvial woodland in the riparian zone impacted by the scheme. The habitat mapping is detailed in Figure 10-20 and Figure 10-21 of the EIAR. It is detailed in Table 6-3 of the NIS that the nearest known alluvial woodland is 7km upstream of the proposed scheme area.

[1.9] Water Framework Directive

The Water Framework Directive Assessment is outlined in Sections 8.6.16-8.6.20. Barrow_240 was not considered as it is more than 1km downstream from the nearest works, and as per the assessment, the impacts on the Barrow are slight short-term and imperceptible long-term.

[1.10]Hydromorphology

The Hydromorphology Report and Impact Assessment are included in Appendix 8-2 of the EIAR. Further, the Water Framework Directive Assessment outlined in Sections 8.6.16-8.6.20 of the EIAR references hydromorphological impacts. The Article 4(7) test of the WFD was considered in the Hydromorphology Report. It was concluded that "The River Barrow is a low energy river with minimal

geomorphological activity occurring under current conditions. The proposed scheme would not result in long term changes to the River Barrow… The post construction scenario will not have a long-term impact on the River Barrow as the majority of defences are set back from the river and any vegetation clearance will be replaced by native planting, where possible… The River Duiske is constrained by urban development with heavily modified river bank throughout much of the area where works can be expected. The proposed scheme would result in a change to the hydromorphology on the River Duiske upstream due to the construction of a hydraulic structure, and downstream where new walls will be constructed and a debris trap implemented. The impact would be to the localised erosion and deposition processes resulting from the reprofiling, with some possible loss of natural river bed features. Whilst such an outcome may temporarily pose a risk to WFD status by impacting on river bed morphology and ecology, medium to long term impacts on WFD status or objectives are very unlikely given the overall current status for both sections of the river is 'Moderate.' Therefore, an Article 4(7) Test is not required for the scheme."

Further, the submission states "proposed culverting may also have implications for hydromorphology, with consequent downstream impacts which could exacerbate flooding potential elsewhere." No culverting is included in the proposed scheme.

[1.11]Upstream Solutions

Same response as Section [1.1] above. An upstream storage solution has been proposed to slow the flow and velocity of water downstream.

[1.12]Tree Felling Impact

The Landscape Design has included for native trees and hedgerows to be included in the scheme where this is possible. Post-scheme monitoring for these trees is included for in Table 18-13 of Chapter 18 of the EIAR which states "Periodic visits will also be required for one year to ensure the successful establishment of the proposed planting and to recommend replacement planting where necessary".

[2] Cherri and Eugene Conlon

Ayesa has structured the response and responded to Cherri and Eugene Conlon's queries/issued raised under respective headings for clarity and organisation.

[2.1] Operational and Traffic Management

Chapter 7 of the EIAR highlights all impacts to Roads, Traffic and Transportation, Utilities and built services, and Waste Management. All pedestrian, vehicular, and highway infrastructure are to be properly implemented to best practise standards.

The proposed scheme has been designed in accordance with Design Manual for Urban Roads and Streets (DMURS), Traffic Sign Manuals, etc.

The proposed scheme will have no impact on swimmers. There is no proposal to include ladders in the scheme. The current situation with relation to swimmers will remain unaltered as a result of any of the proposed works.

A maintenance contract will be in place on completion of Construction Phase (Stage 5 of the scheme) to include the opening and closing of flood gates as required and will also include cleaning of the glass panels.

The alleged leachate from the municipal dump currently ending in the river will be investigated and addressed with guidance from Kilkenny County Councils Environmental Section and the EPA.

[3] DAU

Ayesa has structured the response and responded to DAU's queries/issued raised under respective headings for clarity and organisation.

[3.1] Archaeological Recommendations

[3.1.1] EIAR Mitigation

As detailed in the EIAR, and emphasised by DAU, all mitigation measures in the EIAR will be implemented in full.

[3.1.2] Site Investigation

All archaeological testing and site investigations will be carried out under license in compliance with the statutory requirements and with all other conditions recommended by the DAU. A final archaeological report describing the details of the geotechnical and archaeological works and any necessary post-excavation specialist analysis will be prepared. The contents of the report will be agreed with NMS.

[3.1.3] Archaeological Impact Assessment Final Detailed Design

A Final Detailed Design Archaeological Impact Assessment shall be prepared and submitted to NMS containing the information as detailed in the DAU submission.

[3.1.4] Archaeological Monitoring

Archaeological monitoring will be undertaken as detailed in the DAU submission, although we would anticipate that having archaeological dive teams available, rather than on standby would provide an equal but more cost-effective mitigation.

[3.1.5] Clapper Bridge

Clapper Bridge is not included in the scheme as there are no impacts on the feature. Section 9.8, CH_11 of the EIAR refers to archaeological instream inspection to recover displaced stones only. However, there is no proposal for the 'restoration, stabilization and future management' of this structure included in the EIAR.

Notwithstanding this, KCC can restore Clapper Bridge as part of the scheme following the recovery of displaced stones, but as part of this scheme do not propose to prepare a Conservation Management Plan for Clapper Bridge as part of this Scheme. The future management of this feature would need to be pursued by securing another source of funding.

[3.1.6] Construction Environmental Management Plan

The CEMP will be updated post planning and pre-development to a tender stage CEMP for the information of the tendering Contractor's. Once the development begins, the Contractor will be

charged with maintaining a CEMP as a live document. The tender stage CEMP will be updated to include the details of the final AIA.

[4] Edward Hughes

Ayesa has structured the response and responded to Edward Hughes' queries/issued raised under respective headings for clarity and organisation.

[4.1] Climate Change Effectiveness and Scheme Protection

Climate Change has been considered when designing the scheme. Chapter 14 of the EIAR deals specifically with climate change. Section 4.3.105 of Chapter 4 of the EIAR also states 'To allow for future climate change adaptability, the flood defences (flood defence walls, upstream storage and embankments) have been designed to facilitate future amendments (increases) in their heights without imposing a significant impact on environmental and landscape features. The upstream storage has been specifically chosen for factors such as climate change and adaptation having a lower impact socially and environmentally than the other alternatives considered.' A Climate Change Adaptation Plan has been developed for the scheme. The report is based off of climate change runs that were completed on the model in accordance with the SCCAP Technical Methodology. The SCCAP Methodology includes allowances for Mid-Range Future Scenarios (MRFS) and High-End Future Scenarios (HEFS). Tracking the impact of climate change on key indicators fluvial flows using the gauges installed for the purposes of the scheme will allow increasing confidence in the assessment of future increases in flood risk. The plan verifies that the scheme is adaptable to climate change and has assessed all adaptation pathways.

Climate assessment for the scheme has been thorough and in line with climate design processes and is deemed accurate not overoptimistic.

[4.2] Additional Measures of the Scheme

Dredging presents significant constraints in terms of environmental impacts. It results in habitat destruction, sediment resuspension and turbidity, as well as hydrological changes. Dredging within a river protected by the Habitats Directive, as the River Duiske and River Barrow are in the scheme area, is heavily regulated and requires strict assessment. Any works within the river must also be in compliance with the Water Framework Directive. The measures detailed as part of the proposed scheme are deemed to be less environmentally impactful and therefore are proposed.

Additionally, dredging is of little benefit, given the location of the weir which controls water levels. The proposed measures are deemed sufficient to alleviate flooding, including when accounting for climate change, as per Section [4.1] above.

[4.3] Acquisition related points of objection regarding plot 22

All queries related to the CPO process are addressed under the separate CPO application.

[5] Inland Fisheries Ireland

Ayesa has structured the response and responded to Inland Fisheries Ireland's queries/issued raised under respective headings for clarity and organisation.

[5.1] Fish Migration

It is noted in the EIAR Table 10-21 that fish habitats will be slightly altered during construction, and Table 10-23 notes that aquatic habitats will be reduced by the length of the flow control structure during the operational phase.

The storage area will extend some 1060m from the hydraulics structure upstream. The vast majority of this reach will be unaffected. The footprint of the works will impact on less than 60m of the river. Therefore, the suitable spawning upstream of the flow control structure will not be modified as a result of the proposed scheme.

Fish migration will not be impeded to the upstream of the flow control structure. During flood events, passage may not be possible, but such event is short lived and fish migration is generally limited to much smaller flows. Fish migration is typically reviewed against annual percentile exceedance flows (flow duration curves).

The EPA River Flow Estimate Hydrotool estimates the 1% annual percentile exceedance flow in the River Duiske at Priests Valley to be 1.388m^3/s. This is the flow that is statistical expected to be beaten just 1% of the time in an annual event. The hydrobrake permits 3m^3/s to pass forward at all times, only storing flows for larger (extreme), multi-annual events, such as the design standard 1% AEP event.

As such, the storage area will have no impact on flow rates that affect fish migration in the river Duiske.

It is unknown if the weir referred to by IFI in their submission, located circa 350m downstream of the proposed works area, plays a part in the operation of the UE water treatment plant near to it. The GTFRS will not impact low flows at this weir and as such, no works are necessary or proposed at this structure.

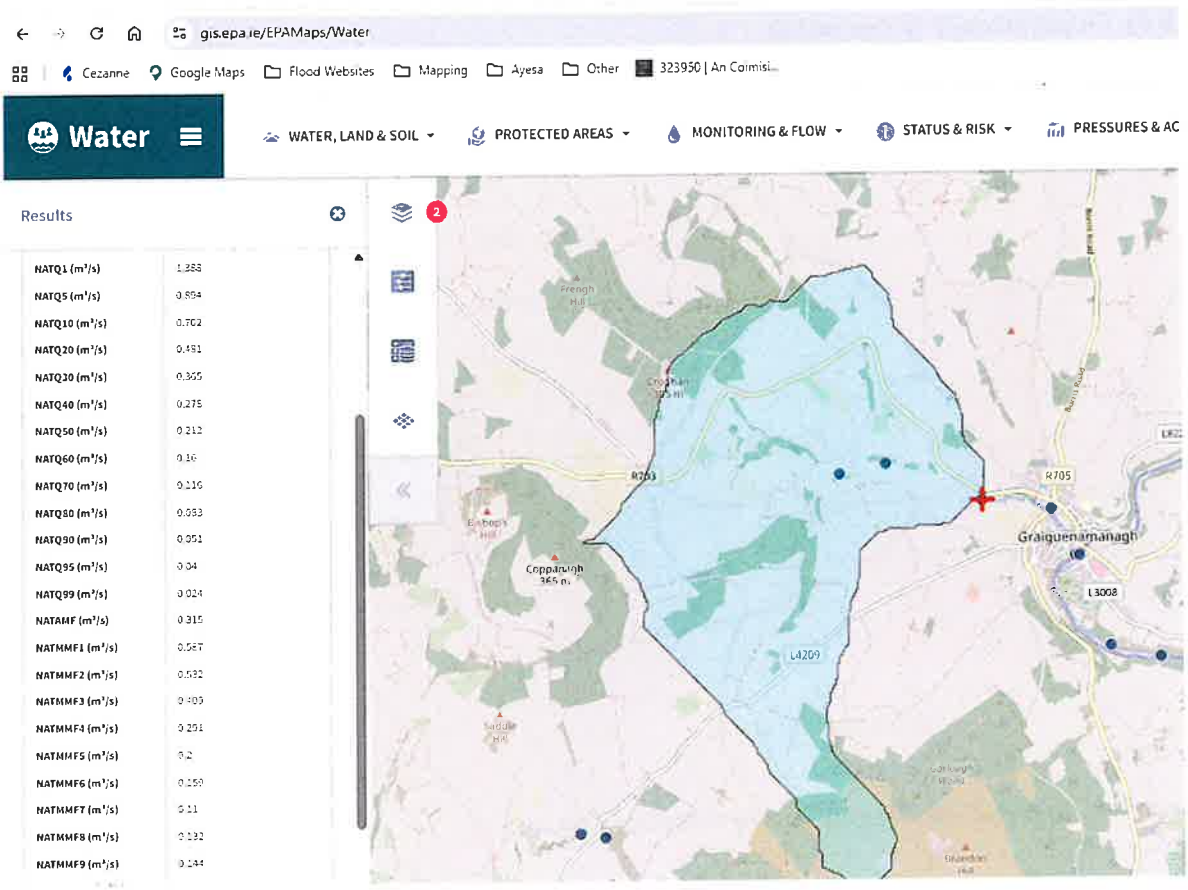


Figure 5-1. EPA Hydrotool Estimates of Annual percentile exceedance flows (https://gis.epa.ie/EPAMaps/Water)

[5.2] Duiske Characteristics

This was a typographical error. The Duiske River is c. 8.4km long. The figure of c.12km in Section 8.4.14 of the EIAR refers to the overall channel lengths within the Duiske catchment (including tributaries). The loss of aquatic habitat represents 0.7% of the length of the River Duiske, or less that 0.5% of the watercourses in the catchment. This, combined with the lower grade habitat lead to the assessment that the impact could be considered imperceptible. The impact is reduced due to the velocity control of the hydrobrake as per Section [5.4] below.

[5.3] Debris Trap at Storage Area

The exact design of the debris screen upstream of the hydrobrake has not yet been determined. This design can be discussed with IFI to ensure the most suitable design is implemented. It is anticipated that there will be a clear opening at the bottom of the screen to a typical normal water level. This can be agreed with IFI during detailed design.

[5.4] Flood storage in operation

The time taken to fill the storage area is expected to be circa 16 hours for the design event. The emptying time is circa 18 hours. The total duration is circa 34 hours, depending on flood retention period.

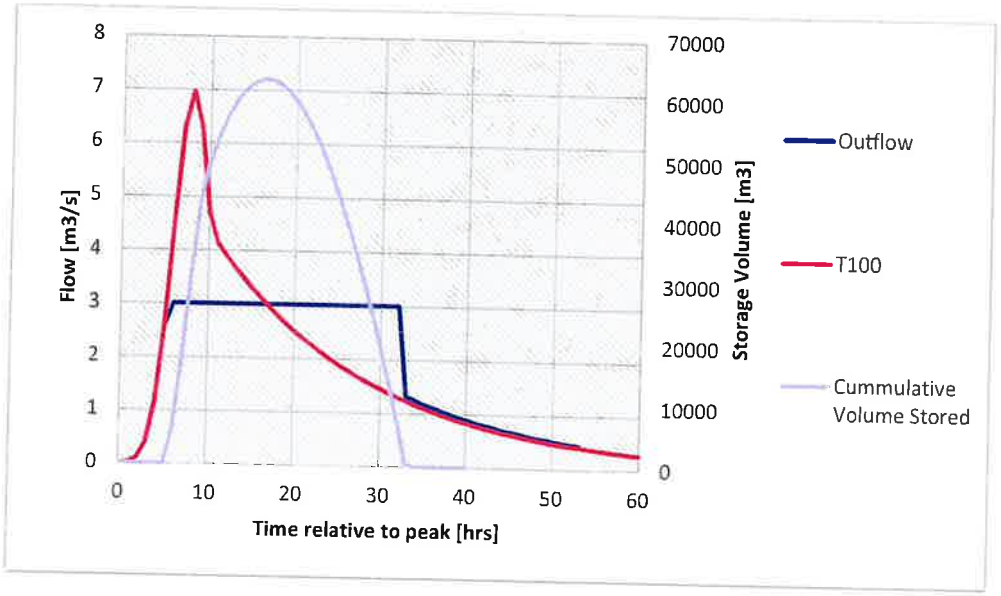


Figure 5-2. Estimated Inflow Versus Outflow of Storage Area

The storage area has a 1% chance in any given year of being used to the design standard. Flooding can occur at any time and is not more likely in winter. Typical river velocities will not be impacted. During large magnitude flood events, instream velocities downstream of the storage area will marginally reduce, whilst velocities upstream of the storage areas will also reduce. The reduced in-stream velocities may prevent excessive disturbance to eggs and alevins.

Velocities exiting the hydrobrake are not unusually high compared to typical floods, it is an advantage of the hydrobrake system. It is expected that flows will fully regulate within the footprint of 60m assessed for impact. Downstream effects beyond this point are not expected.

[5.5] Debris Trap upstream of Clapper Bridge

The exact location and detail for the debris traps are outlined on Drawings W3451-DWG-1419 and 1420. The construction methodology will likely be driven piles and the remainder of the bed will be unaffected by permanent works.

[6] Jim Butler and Martin Malone

Ayesa has structured the response and responded to Jim Butler and Martin Malone's queries/issued raised under respective headings for clarity and organisation.

[6.1] Development Plan

The scheme has been properly planned in a sustainable manner and supports local and national planning policy and objectives as outlined in Chapter 2 of the EIAR. The current County Development Plan Section 10.2.6.1 states 'It is Council policy to adopt a comprehensive risk-based planning approach to flood management to prevent or minimise future flood risk. In accordance with the Planning System and Flood Risk Management – Guidelines for Planning Authorities, the avoidance of development in areas where flood risk has been identified shall be the primary response. The Council will ensure that new developments do not reduce the effectiveness or integrity of any existing or new flood defence infrastructure, and will facilitate the provision of new, or the reinforcement of existing, flood defences and protection measures where necessary.'

Plot 19 has a designated '*Mixed Use Zoning*'. However, the site is also at risk of flooding for the 1% AEP event. In-fact, flooding of the site begins for the 20% AEP event (1in 5 year) and as such, the flood risk to the site is quite severe.

Figure 6-1: Flooding of Plot 19 in January 2019 – estimate to be a >10-year return period.

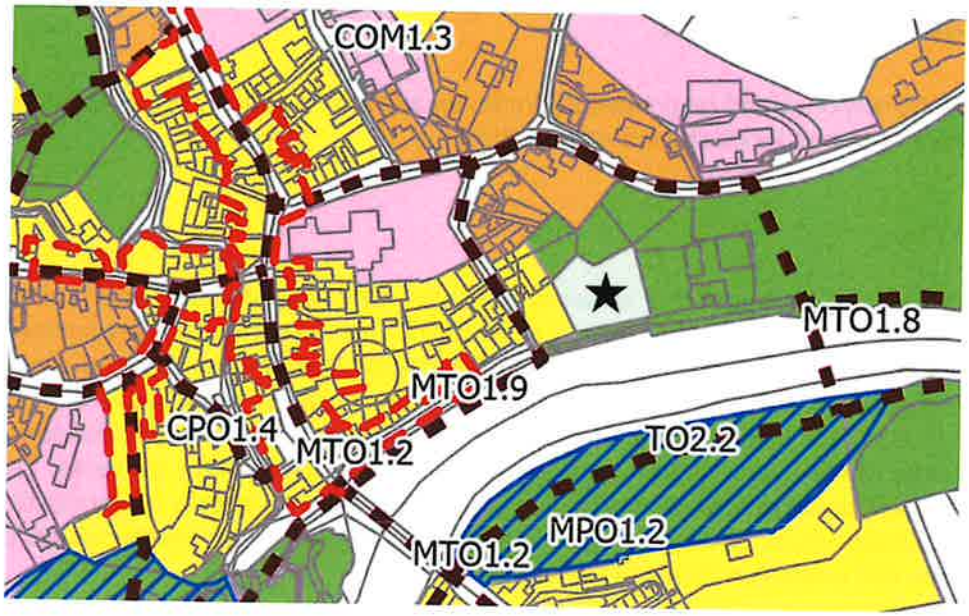


Figure 6-2: Extract of Graiguenamanagh/Tinnahinch Joint Local Area Plan 2021 Map1

The proposed flood scheme, whilst reducing the developable area of the site will not sterilise the reminder from future development. It will in fact, assist any proposer in addressing the flood risk management issues associated with the site.

[6.2] Land Acquisition

The permanent wayleave will be used infrequently by KCC to maintain and inspect the scheme. As such, that access can be treated as the area not being developable for structures, but can be used as open space/planting/parking etc. It is not considered that the remainder of the site is sterilised.

However, the permanent wayleave (P19.1W) could be curtailed and omitted along its shared edge with P19.3 on Barrow Lane. This wayleave serves for access only and could be amended to an access only wayleave. KCC are open to this.

Ultimately, any injurious effect to the land will be compensated through the CPO process.

Other solutions and alignments were considered in the development of the scheme, and the proposed alignment was considered to be in the best interest of the community taking all constraints and restrictions into account. It is noted that the landowner accepted permanent acquisitions 19.1P. 19.2P and P19.3, which is in effect an acceptance of the alignment of the defences. The permanent wayleave appears to be the key issue and is addressed above in Section [6.1].

[7] John and Siobhan Walsh and Family

Ayesa has structured the response and responded to John and Siobhan Walsh and Family's queries/issued raised under respective headings for clarity and organisation.

[7.1] Position of the Embankment

Mrs. Walsh (and/or Reps) attended a number of the public consultations and following the closing preferred option consultation (PCD3) on 23/01/2025 and outlined concerns of the alignment of the embankment nearest their family home. They requested that the embankment be moved further away from the house and that the embankment and access road be reversed. In response, KCC moved the embankment further from the home and switched the access road to the southern side of the embankment. The landowner was notified of this alignment update via email on 12/02/2025.

Figure 7-1: Extract of Public Consultation Day 3 scheme layout plan and photomontage (top) and revised layout and photomontages following the PCD taking into account landowner requests (bottom)

General policy for embankment is to place them such that existing floodplains are maintained. This also aligns to best practice regarding environmental considerations. Alternative locations of defences were robustly assessed at options selection and were not viable. Aligning the embankment 'closer to, or directly at, the river's edge' would reduce floodplain alleviation and significantly impact flows and properties downstream. Defence heights and alignments would require significant increase,

impacting environmental assessments, visual connectivity to the River Barrow, and access to the river for amenities. Any injurious effect will be compensated.

[7.2] Impediment to the Use of Private Property and Obstruction of Views

Any embankment for flood defence purpose must be constructed to include a freeboard allowance. This freeboard is a margin of error allowance on the engineering estimation of flood level. As such, whilst a flood level and/or extent appears well defined on a drawing or map, the uncertainty is not shown. Freeboard (extra height on an embankment) is allowed for to address this risk.

The proposed flood measures adjacent to the rear patio and garden of the subject property are quite low. At this particular point, and as the Walsh's have identified elsewhere, the 1% AEP flood level does not actually reach the location of the embankment. The embankment has been aligned to reach ground with sufficient freeboard to address the inherent and unavoidable uncertainties of flood level estimation. The freeboard for the scheme is 550mm and given the ground is slightly higher than the flood level, this means that the embankment ranges from 0m high to 500mm high in the vicinity of the Walsh's.

Whilst it is acknowledged that the views will be impacted, the scale of the impact is considered to be very limited impact on views from the property and patio.

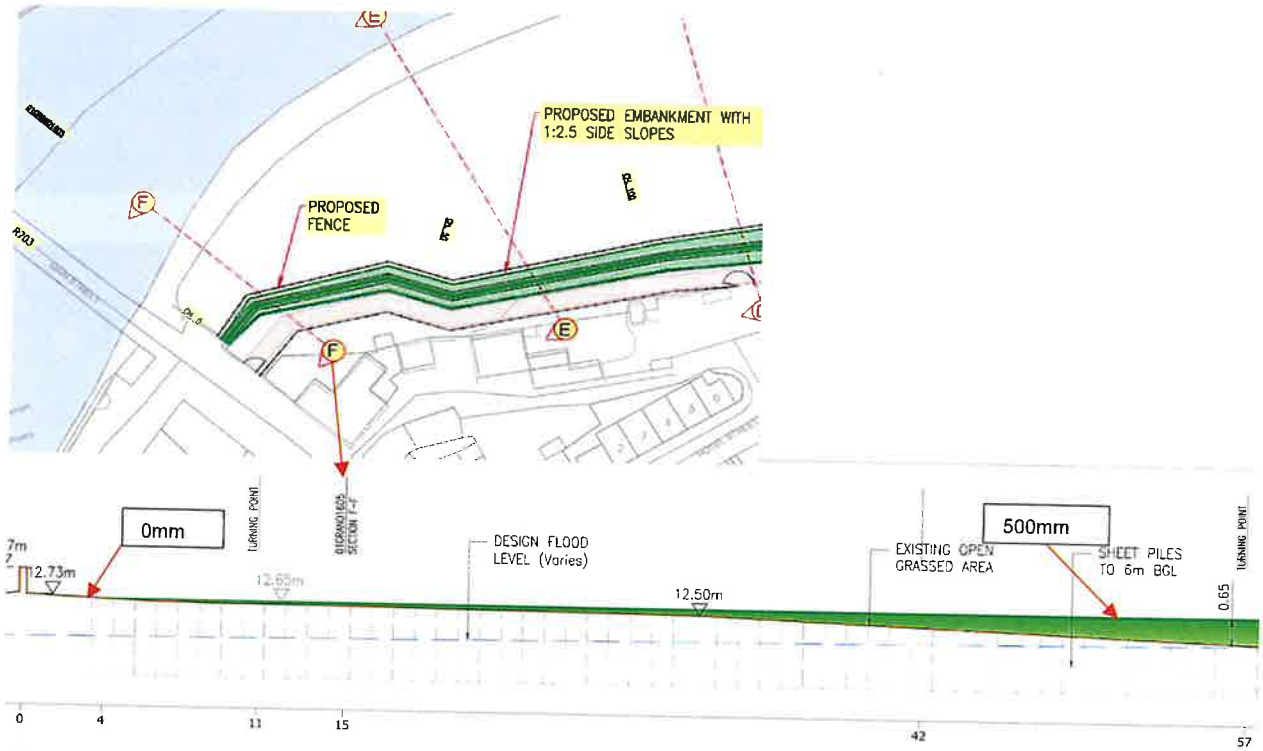


Figure 7-2: W3451-AYE-DWG-W-1404-02 from Appendix 4-1 of the EIAR

Figure 7-3: Blow-up of photomontage (in EIAR, Appendix 4.3) showing the defences to the rear of Walsh' property.

[7.3] Loss of Utility of Private Land as a Flood Relief Area

The proposed lands form part of the natural floodplain of the River Barrow and are already at risk of flooding. Any additional increase in the frequency of flooding, driven by the proposed solution is at the very minor scale. This was considered in the Hydraulics Report for the scheme[2] as shown in Figure 7-4: Extract from Figure 11-13 of the Hydraulics Report comparing current (blue line) and proposed flood extent (hatched clue) at Walsh's property.

Whilst Figure 7-4 outlines the 1% AEP flood extent, it is not correct to say that the lands beyond this extension are not floodplain. They lie within the 0.1% AEP event extent, or Flood Zone B in planning terminology.

In summary, the impact of the scheme to the lands is minimal, with most of the lands currently at risk of flooding.

[2]https://www.floodinfo.ie/frs/media/filer_public/55/5a/555aba24-7555-4ca6-9912-8e28c14d2ef6/m02136-[illegible]ev03.pdf)

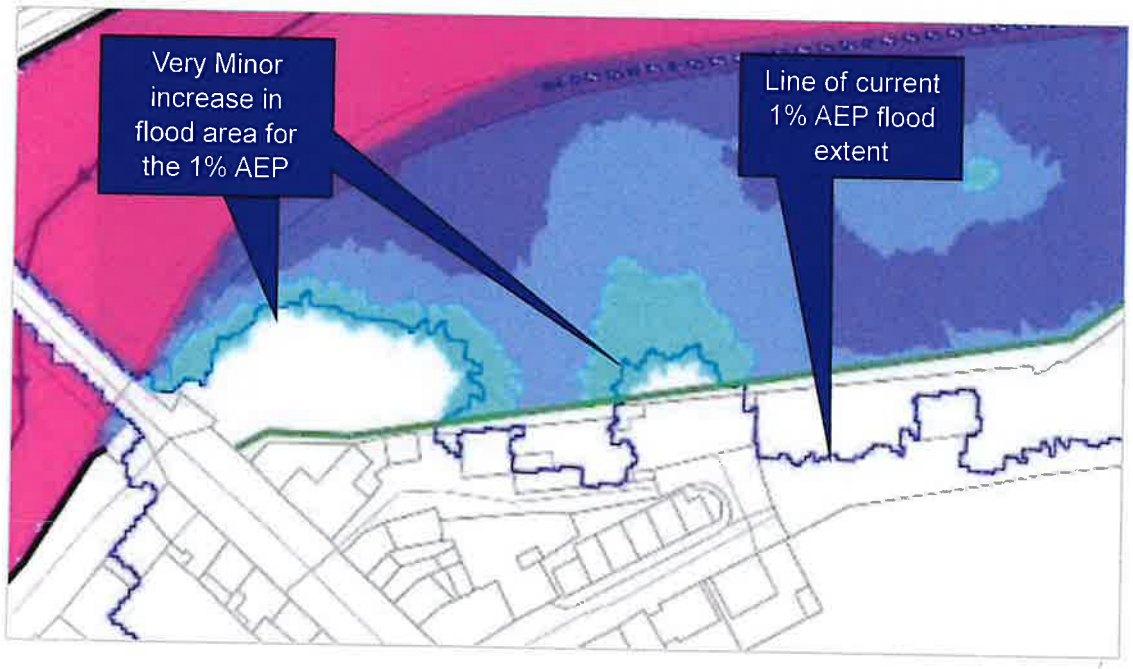


Figure 7-4: Extract from Figure 11-13 of the Hydraulics Report comparing current (blue line) and proposed flood extent (hatched clue) at Walsh's property.

[7.4] Access Concerns

KCC are aware of two main access routes for vehicles/machinery to the lands, both through other lands within the Walsh ownership. It is not proposed to affect these accesses, and provision has been made for access over the embankment at the eastern most access (Access 2) as per the planning drawings. This is for the Walsh's benefit. KCC are open to sharing Access A also if the landowners desires. Figure 7.5**Error! Reference source not found.** below outlines the layout plan whilst Figure 7.6 shows the current arrangements.

Any injurious effects identified will be assessed and compensated under the CPO process. Garden patio and outdoor area are to be retained in the ownership of the occupants of the house.

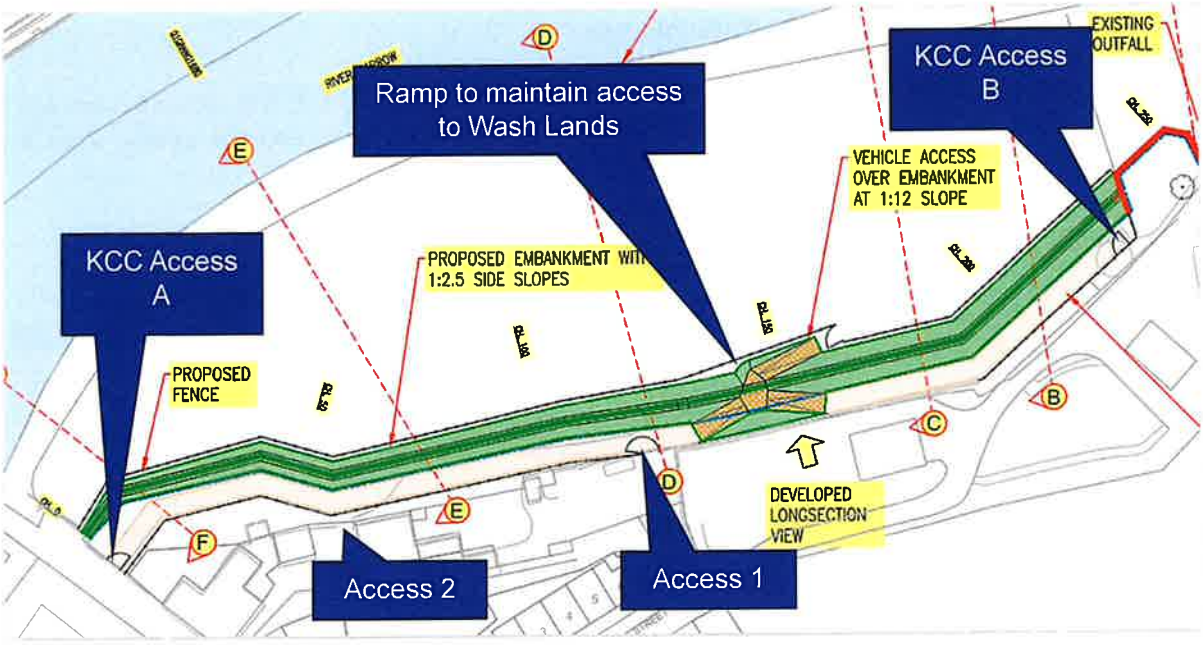


Figure 7-5: Extract from Engineering Drawings W3451-DWG-W-1404 illustrating accessways

Figure 7-6: Drone photo of current layout and access points

[7.5] Materials and Finish of the Embankment

As per Section 4.3.82 of the EIAR and Public Realm Drawing 1579_310, the embankment will be grass seeded. Planting for accommodation works can be done to screen the private area from embankment.

[7.6] Future Maintenance of the Embankment

A maintenance programme for all proposed works will be implemented. This is envisaged to be grass cutting a number of times a year.

[7.7] Alternative Locations for Flood Relief Works

As noted in Section [7.1], Alternative locations of defences were robustly assessed at options selection and were not viable.

[7.8] Intentional Flooding of Private Land and Long-Term Management Concerns

The land ownership on the wet side of the embankment will remain in the ownership of the Walsh's with no public access from the flood embankment. Potential future use for development will be required to comply with Planning and Development guidelines as it currently does. Land is currently in a flood zone and will remain so.

[7.9] Drainage Concerns

Drainage systems are proposed to the dry side of the embankment to mitigate pooling of water. No changes will be made to the drainage on the wet side.

[8] Mary and Pat Butler

Ayesa has structured the response and responded to Mary and Pat Butler's queries/issued raised under respective headings for clarity and organisation.

[8.1] Operational and Traffic Management

Chapter 7 of the EIAR highlights all impacts to Roads, Traffic and Transportation, Utilities and built services, and Waste Management. All pedestrian, vehicular, and highway infrastructure are to be properly implemented to best practise standards.

The proposed scheme has been designed in accordance with Design Manual for Urban Roads and Streets (DMURS), Traffic Sign Manuals, etc.

The proposed scheme will have no impact on swimmers. There is no proposal to include ladders in the scheme. The current situation with relation to swimmers will remain unaltered as a result of any of the proposed works

A maintenance contract will be in place on completion of Construction Phase (Stage 5 of the scheme) to include the opening and closing of flood gates as required and will also include cleaning of the glass panels.

The alleged leachate from the municipal dump currently ending in the river will be investigated and addressed with guidance from Kilkenny County Councils Environmental Section and the EPA.

[9] Thomas TJ and Martina O'Neil

Ayesa has structured the response and responded to Thomas and Martina's queries/issued raised under respective headings for clarity and organisation.

[9.1] Option Selection

The scheme is one of five options that were presented at the second public consultation. All options have been robustly considered and assessed in terms of their Social, Environmental, Economic, and Technical aspects. The selected option is the best fit for these criteria as outlined in the Final Options Report.

This option was chosen from the consultation process along with the rationale that a significant element of the work is concentrated outside of the town:

- A large portion of the works on the River Duiske are located outside the SAC.
- The works within the town are reduced in nature and scale to a reasonable extent.
- The option will not negatively impact on the water quality objectives under the WFD of the Barrow or the Duiske.
- The risk to the project budget due to construction price inflation is lower than for the other options.
- It is the least sensitive option to ground conditions, a major source of cost overruns on projects.
- The risk during construction of flooding is reduced as the volume of instream works in the River Duiske is reduced compared to Option 1.
- The extent of works instream in the SAC is reduced compared to Option 1.
- In consideration of the Climate Sectoral Adaptation Plan for Flood Risk Management (2019 - 2024) this approach allows for an integrated assessment of flood management at the catchment scale.

[9.2] Correspondence

Public consultations (3 in total) were heavily advertised in advance within local newspapers, scheme website, flyers, and social media. The Kilkenny County Council Consultation Portal specifically, noted the Public Consultation of Options (No.2) and referenced the importance of this event into advancing the development of 'an appropriate option for the project' and 'As part of this process, the Project Team are seeking feedback from the public on the potential options that have been developed'.

The occupants were met by two members of the consultant team at their residence to notify them of the scheme on 18/07/2024, prior to Consultation No.3 on 23/01/2025. KCC held a call with the O'Neil's on 02/08/2024 with a corresponding email on the same date highlighting all storage area design specifications. KCC met with the occupants at their property on 13/08/2024 to further discuss the flood relief scheme and the potential impacts on the land. Following this meeting, TJ and Martina O'Neil issued an extensive email of queries on the proposed scheme to KCC on 20/08/2024. A response was issued by KCC to the occupants on 04/09/2024.

The occupants were also contacted and notified multiple times for surveys which were conducted on the land such as ground investigations, geophysical surveys and ecological surveys.

Kilkenny County Council and the consultant have aligned to all professional procedures.

[9.3] Location of Upstream Storage

The flood storage embankment has been cited at a location identified in the hydraulic modelling as being suitable for storage. The line of the embankment was then selected in an area upstream of an existing residence to ensure that once the crest level was determined, there would be no interference with said residence. It is located upstream of the town so that it will not impact on existing residences, which would otherwise require relocation. Due to the proximity of the R703 and Priest Valley Road, the site was chosen for less impact access during construction and maintenance. The Hydrobrake has to be located within the River Duiske in order to operate.

[9.4] Maintenance of Embankment and Visual Amenity

A maintenance contract will be in place on completion of Construction Phase (Stage 5 of the scheme). This will include the maintenance of all the embankment of the storage area.

The Landscape and Visual Impact Assessment has assessed the storage area in Chapter 11. The report has concluded that the embankment will not hinder the valley's visual amenity. Photomontages are available in Appendix 4-3 of the EIAR.

[9.5] Extent of Land Take and Operation of Farm

It is agreed that there is an impact on the operation of the farm and it is considered that this will be addressed in the compensation aspect of the CPO.

The CPO is for the minimum area of land to enable the landowner to continue to enjoy the benefit of the storage area. The storage area will continue to be available in terms of stocking numbers etc. The storage area will only be used during rare large floods. Any reduction in dairy herd will only be associated with the 0.5971ha permanent acquisition and can be addressed in the compensation.

The current drainage arrangement will not be impacted to the effect that drainage will disimprove. The lands will continue to drain to the Duiske River as they do now.

Flooding of lands is generally considered to add nutrients to soils rather than remove them unless the lands is over fertilised. Long duration flooding of land (>1 week) can strip growth/grasses of nutrients, but the storage areas is expected only to be operational for some 34 hours depending on flood duration.

In is not clear which plot no. is considered to be unusable after the temporary land take, but KCC are agreeable to engaging with the landowner to make this land accessible.

[9.6] Development Potential of Farm

There could be no development within potential flood areas, other than flood compatible development. Any development will have to follow the necessary planning routes.

[9.7] ESB Poles

Alternative location to the ESB Networks Poles can be determined with ESB to minimise impact for farming activity. If no alternative locations are available, this can be addressed as part of the compensation.

[9.8] Devaluation of Property

The matter of potential devaluation of the property can be assessed as part of the compensation under the CPO.

[9.9] Construction Methods and Indemnification

There may have been some confusion as Kilkenny County Council would not have made the statement that 'Should issues arise, KCC has indicated they will in no way address or seek to help resolve any unforeseen effects caused by the flood relief scheme on my lands' as it is a requirement of the scheme to ensure that there are no issues and if any occur, the council will seek to address these concerns to ensure the Flood Relief Scheme operates as designed.

[9.10] Impact on SAC

A NIS has been submitted with the planning application in compliance with the Habitats Directive. Maintenance will be ongoing as part of the scheme. The use of storage areas to reduce flood risk in commonplace. Large storage areas have been built as part of flood schemes in the recent past to include the Clonakilty FRS and very recently at Listowel. Whilst relatively uncommon in Ireland, they are not complex and have a proven track record internationally.

KCC will be responsible for the scheme operation post construction and will be responsible for correcting any issues that may arise. As per Section 10.9.2 of the EIAR, post-construction monitoring will take place to ensure the usage of the Biodiversity Enhancement Measures. This will also entail monitoring of measures in the storage area, during which any issues in this area will be noted, and can be adapted, as necessary. The NIS states that maintenance of the scheme will entail the clearance of the debris trap, and infrequent vegetation measures, for which mitigation measures are outlined, in Section 10 of the NIS. No further impacts will stem from the operational and maintenance activities. The NIS is considered robust for assessing impacts post-construction.

[9.11] Timing of Works

The programme of works will be discussed and agreed with the landowners to ensure minimum impact on the farming operations. Access to the site will be via the R703 and not through the access lane used for farming.

[10] Thomas O'Shea

Ayesa has structured the response and responded to Thomas O'Shea's queries/issued raised under respective headings for clarity and organisation.

[10.1] Farm Enterprise/Valuation

The submission raises concern about impact of the scheme on the "farm enterprise / farm valuation"

KCC are of the view that compensation for landowners whose land will be affected by flooding can be negotiated.

[10.2] Animal Welfare

KCC are open to discuss any minor accommodation works such as fencing to safeguard animal welfare can be agreed and can commit to implementing same subject to approval of the scheme.

[11] Uisce Eireann

KCC have liaised with Uisce Eireann in the development of the proposed scheme. This communication is ongoing and will continue with UE in relation to the proposed scheme so agreements can be reached.