

## **Appendix 2.1**

### Memorandum of Understanding

## **MEMORANDUM OF UNDERSTANDING**

Between

**Irish Water**

and

**Office of Public Works/Wicklow County Council**

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This Memorandum of Understanding (MOU) sets out the terms and understanding between Irish Water and the OPW/WCC to facilitate the construction of the shared works elements of the Arklow Sewerage Scheme and the Arklow Flood Relief Scheme. Upon agreement of these terms it is intended to develop a formal agreement.

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### **1. Background**

As the Arklow Sewerage Scheme (“ASS”) design developed consideration was given to the cumulative impacts of the project and other planned projects in Arklow. The Arklow Flood Relief Scheme (“AFRS”) was identified as a project which would generate significant cumulative impacts due to the proposed flood defence walls on the South Quay running parallel to the proposed interceptor sewer. Consideration was then given as to how the cumulative impacts could be minimised.

The shared works elements required for completion of each projects were identified. For prudent planning reasons, both public authorities have liaised in respect of their independent projects to ensure that one project facilitates the other in terms of the design, to the extent practicable

## 2. Purpose

This MOU will set out the terms for a formal agreement between both parties. The goal is to ensure that where possible that both schemes accommodate each other's design. It is acknowledged that the design of the ASS, as permitted in the planning permission, has had regard to the shared works elements to the extent possible. The details of the shared works elements will be reviewed in the context of the development of the final detailed design of the ASS and the design of the AFRS.

## 3. Requirements

- 3.1. The below stated requirements are subject to compliance with planning permission granted for ASS.
- 3.2. ASS will include for the construction of the permanent sheet piling along the line of the interceptor sewer which are designed to accommodate the flood defence walls proposed as part of the forthcoming AFRS. The exact scope is defined on [Planning Drawings, associated with planning permission](#).
  - 3.2.1. In the absence of an agreed final design the permanent sheet piling will be constructed to existing ground level.
  - 3.2.2. The finish of the wall below ground level is to be agreed with the AFRS.
- 3.3. ASS will allow AFRS access across the South Quay causeway for underpinning works in Arches 3, 4, 5 etc. AFRS will create its own causeway beyond the access point. Access will be agreed and will not be detrimental to the progress of either AFRS or ASS.
- 3.4. Should the final public realm design not be completed, ASS to include for grass seeding.
- 3.5. Subject to final design, and if required in the absence of the completion of the full flood relief scheme, ASS will include for mitigation works to minimise increased flood levels due to the construction of the interceptor sewer. This is currently expected to include:
  - 3.5.1. Dredging and underpinning of the second arche of the bridge
  - 3.5.2. Exact detail to be agreed with AFRS
- 3.6. The design of AFRS will allow for the construction of the interceptor sewer along the line of the flood defence wall
  - 3.6.1. The size, alignment and level of the sewer to be as per [Planning Drawings, associated with planning permission](#). ASS will advise if these change at contractor's design stage.
- 3.7. In the event AFRS begins construction before ASS, AFRS will accommodate ASS allowing access to Arches 1 and 2.

- 3.8. ASS included the shared works elements as agreed between AFRS and ASS in the ASS works package issued to tendering contractors (the “ASS Contract”)
- 3.9. ASS and AFRS will be mutually required to liaise with each other for all issues that would or could impact the respective ASS and AFRS.
- 3.10. AFRS and ASS will implement environmental monitoring and management, in line with the EIAR and NIS submitted and the planning conditions imposed in respect of the ASS and the AFRS, that will facilitate both schemes being constructed in parallel. It is agreed that one combined schedule of:
- (1) Mitigation measures;
  - (2) Environmental monitoring and management measures; and
  - (3) Planning Conditions,

imposed in respect of the ASS and the AFRS will be compiled.

The combined schedule will be reviewed by the technical teams to confirm:

- (1) Whether there is any conflict between the conditions;
- (2) If there is, where the same environmental element is the subject of two different conditions, with one being more onerous than the other, both projects must comply with the more onerous condition;
- (3) If there is a ‘gap’ insofar as an environmental element is conditioned in one planning consent but not in the other, the technical teams will liaise to determine whether both projects need to comply with that particular condition, to ensure that the project with the express planning condition can be built out in compliance with its planning consent;
- (4) If, because the AFRS is being submitted to the planning process in Q1 2021 and ASS was consented in Q3 2019, additional mitigation measures are proposed and / or conditions are imposed, the technical teams will liaise to determine whether both projects need to comply with that particular condition, to ensure that the project with the express planning condition can be built out in compliance with its planning consent.

Once the review of the combined schedule has been completed and the confirmations listed at (1) – (4) above obtained, a final combined schedule will be agreed and prepared and given to both sets of contractors to implement as a requirement of their respective contracts.

- 3.11. AFRS and ASS will implement all mitigation measures proposed, in line with the EIAR and NIS in respect of the ASS and the AFRS, that will facilitate both schemes being constructed in parallel.
- 3.12. AFRS and ASS will comply with all planning conditions imposed in respect of the ASS and the AFRS, that will facilitate both schemes being constructed in parallel.

- 3.13. Both parties agree to allow access to lands acquired through statutory processes. Access will be agreed and will not be detrimental to the progress of either AFRS or ASS.
- 3.14. The existing sea revetment located in vicinity of proposed WwTP, constructed by WCC (originally funded by OPW) is currently maintained by WCC. The revetment will be upgraded by IW as part of ASS and IW will be provided with all required access and will have no ongoing liability or responsibility in respect of the upgrade works. Post upgrade completion, the ongoing maintenance of the revetment to its as designed standard, will remain the responsibility of WCC where funding for said maintenance will be provided by OPW through agreed service level agreement.

#### **4. Reporting**

- 4.1. During the construction phase, ASS and AFRS will each provide monthly progress updates
- 4.2. A designated point of contact from IW and WCC/OPW will be appointed to deal with all matters that arise outside the monthly progress update
- 4.3. A designated point of contact from IW and OPW will be appointed to deal with any emergencies arising during the construction phase.

#### **5. Funding**

- 5.1. The Arklow Sewerage Scheme is included on the Irish Water Capital Investment Plan 20-24. The scheme is being progressed as a priority project.
- 5.2. The Arklow Flood Relief Scheme is included in the Capital Investment Plan 2016-2021.
- 5.3. The shared works elements have been clearly defined. Since this scope is required for each project regardless of whether the other project is progressing or not, there is no need for the cost of these works to be shared. However, both ASS and AFRS commit to sharing the costs of any other shared works elements, including any associated design fees, that may arise in future

#### **6. Duration**

- 6.1. The overall expected construction duration of the ASS is 46 months.
- 6.2. The overall expected construction duration of the AFRS is 24 months.
- 6.3. ASS was granted planning permission in August 2019.
- 6.4. The AFRS intend to submit an application in Quarter 1 2021.

This MOU is not a legal undertaking. The parties will abide by the terms to reach the objective stated in the MoU. It is the intention to develop a formal agreement based on the acceptance by both parties of the terms included in this MOU.

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On behalf of IRISH WATER

23/4/2021  
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Date

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On behalf of OFFICE OF PUBLIC WORKS

23/4/2021  
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On behalf of WICKLOW COUNTY COUNCIL

27/4/2021  
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Date

## Appendix

### **Relevant Extracts from the EIAR and NIS for ASS regarding interaction between ASS and AFRS**

1. ASS will include for the construction of the flood defence walls along the line of the interceptor sewer. The exact scope is defined in DWG:XXXXX (This drawing should show the extents of the sheet piling required. – to Ch 450m d/s and Ch 215m u/s)

#### **“Chapter 1 Introduction Section 1.5.3.5:**

Wicklow County Council and Office of Public Works

In addition to the above, meetings were held with Wicklow County Council and the Office of Public Works in relation to the proposed Arklow Flood Relief Scheme. As described in detail in Section 2.6.7 of Chapter 2, Wicklow County Council, funded by the Office of Public Works, proposes to develop a Flood Relief Scheme that will physically overlap with the proposed development (refer to Section 2.6 of Chapter 2 and Chapter 20 for further detail). The proponents of both projects recognised at an early stage, the importance of liaising throughout the design development. Iterative consultation and numerous meetings occurred throughout 2016, 2017 and 2018 between the proponents and their design teams to optimise the design, minimise nuisance for local residents, consider any health and safety issues and where practicable, to maximise cost efficiencies associated with specific ‘plug-in’ elements to facilitate the proposed Arklow Flood Relief Scheme (such as installing sheet piling to construct the interceptor sewer that was designed to support the flood defence wall).

#### **Chapter 4 Proposed Development Section 4.3.3.2 River Walk/South Quay Design Details:**

Sheet piling will be installed outside the area of reclaimed land and the sewer will be laid within the section of reclaimed land. This permanent sheet piling will be capable of accommodating the flood defence walls proposed as part of the forthcoming Arklow Flood Relief Scheme (Refer to Section 2.6.7 of Chapter 2 for further detail)”

2. Subject to final design, and if required in the absence of the completion of the full flood relief scheme, ASS will include for mitigation works to minimise increased flood levels due to the construction of the interceptor sewer. This is currently expected to include:
  - i. Dredging and underpinning of at least the second and third arches of the bridge
  - ii. Exact detail to be agreed with ARFS

#### **“Chapter 4 Proposed Development:**

Summary of key design aspects of the proposed development are... Underpinning works on the two southernmost arches of Arklow Bridge;

#### 4.3.3.1 Interceptor Sewers – Overview

The scope of works for this portion of the proposed development includes: • Underpinning works to abutments and adjacent bridge pier at South Quay end of Arklow Bridge (a protected structure: RPS A26) to facilitate interceptor sewer construction through southernmost bridge arch

## Chapter 15 Water

### 15.5.1.1 Mitigation during Construction Flood Risk – Interceptor Sewers

Interceptor sewers In order to mitigate and minimise the potential flood risk caused by the construction of the temporary causeway and the interceptor sewers in the Avoca river channel, the following sequence of works is proposed prior to construction of the temporary causeway:

- Proposed underpinning of the first 2 arches and lowering of the 2nd Arch by c. 1m at the bridge is completed.
- Proposed in-stream works at and upstream of the bridge is fully completed (i.e. the upstream interceptor sewer manhole and the laying of the interceptor sewer beneath the bed of Bridge Arch 1).
- The temporary works should proceed from downstream to upstream (i.e. from east to west direction).
- Following completion of construction of the interceptor sewer in the Avoca River (i.e. when the causeway is no longer required), the causeway would be removed in a similar sequential manner.
- Timely removal of sections of the causeway should be a priority once works have been completed

### 15.6.2.3 – Flood Risk Residual effects

15.6.2.3 Flood Risk Two arches of the Arklow Bridge will be underpinned and the second arch lowered by 1m which will mitigate against any rise in flood levels upstream of the Arklow Bridge due to the existence of the interceptor sewer and the manhole in the river channel. Therefore, there will be an overall reduction in the existing flood extent following construction of the proposed development which will be a short-term slight positive effect. It should be noted that the sheet pile wall constructed as part of the proposed development would also serve as advance works for the flood walls to be built as part of the proposed Arklow Flood Relief Scheme. It is recognised that once constructed, the proposed Arklow Flood Relief Scheme would further reduce any residual flood risk during the operation of the proposed development and thus bring about further positive, cumulative effects on flood risk.”

3. Subject to planning approval being obtained by AFRS, the ASS will include the integration scope tender documentation to construct the works

### “Chapter 1 Introduction Section 1.5.3.5

In addition to the above, meetings were held with Wicklow County Council and the Office of Public Works in relation to the proposed Arklow Flood Relief Scheme. As described in detail in Section 2.6.7 of Chapter 2, Wicklow County Council, funded by the Office of Public Works, proposes to develop a

Flood Relief Scheme that will physically overlap with the proposed development (refer to Section 2.6 of Chapter 2 and Chapter 20 for further detail). The proponents of both projects recognised at an early stage, the importance of liaising throughout the design development. Iterative consultation and numerous meetings occurred throughout 2016, 2017 and 2018 between the proponents and their design teams to optimise the design, minimise nuisance for local residents, consider any health and safety issues and where practicable, to maximise cost efficiencies associated with specific ‘plug-in’ elements to facilitate the proposed Arklow Flood Relief Scheme (such as installing sheet piling to construct the interceptor sewer that was designed to support the flood defence wall).

#### **“Chapter 2.6.7**

The following potential future receptors of relevance to the proposed development have been identified: • Proposed Arklow Flood Relief Scheme;

##### **2.6.7.1 Proposed Arklow Flood Relief Scheme -Overview**

Wicklow County Council funded by The Office of Public Works intends to undertake engineering works along the Avoca River to mitigate the risk of flooding in the Arklow and Ferrybank area in County Wicklow. The application for consent of the proposed Arklow Flood Relief Scheme is anticipated to be lodged to An Bord Pleanála at a later date. There is the potential for physical and temporal overlap between the proposed development and the proposed Arklow Flood Relief Scheme.

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#### **Scheme Integration**

Scheme Integration It was apparent from the early stages of the design development that there was also a proposal for a flood relief scheme in the local area as flooding has been identified as a long-standing issue in Arklow town. The proponents of each of these schemes, have therefore considered the other proposals during their respective design development. The proposed development and the proposed Arklow Flood Relief Scheme have therefore been designed having regard to the existence of the other scheme and the potential for interaction. During the design development, it became evident that there will be a physical overlap between the schemes. It was therefore recognised that a number of efficiencies and/or benefits could be achieved from delivering the design and construction of the overlapping elements of each of the schemes in an integrated manner in so far as possible.

On the basis of the above, a number of meetings were held between the design teams and proponents of both schemes to optimise the design development (as described in Section 1.5.3.4). This particularly focused around Arklow Bridge and South Quay where there will be a physical overlap between both schemes”

#### **“Chapter 20 Cumulative Effects during Construction paragraph 20.4.2**

Whilst a planning application has not yet been submitted, the proposed Arklow Flood Relief Scheme is anticipated in the near future and this may give rise to cumulative effects should the construction of the proposed development and the proposed Arklow Flood Relief Scheme overlap temporally and/or spatially. As outlined in Section 1.5.3.5 of Chapter 1 and Section 2.6.7 of Chapter 2, efforts

have been made to consider both proposals and the design team have had regard to the existence of the other scheme and potential for interaction to the extent that this is possible and appropriate given the fact that the proposed Arklow Flood Relief Scheme remains in design stage as at the time of submission of this application. During the design development, it was recognised that a number of efficiencies and/or benefits could be achieved from each project having regard to the other's design proposals and construction of the overlapping elements of each of the schemes in an integrated manner in so far as possible. On this basis, a number of meetings were held between the design teams and proponents of both schemes to optimise the design development (as described in Section 1.5.3.5 of Chapter 1). This particularly focused around Arklow Bridge and South Quay where there will be a physical overlap between both schemes."

4. ARFS and ASS will implement environmental monitoring and management, in line with the EIAR [and NIS] submitted and the planning conditions imposed in respect of the ASS and the AFRS, that will facilitate both schemes [being constructed?] in parallel.

**"Paragraph 5.4.4 page 42 – Coastal processes affected by the upgraded revetment – Operational Phase – Mitigation and Monitoring**

The revetment and its toe will be monitored to ensure its performance. The revetment will be monitored by Irish Water as part of the overall maintenance of the works. Revetment maintenance would include visual inspection either by divers or robotics and would be performed every year and after significant storm events. The inspection crew would check the revetment for damage to the toe, rock stability, lowering of nearshore bed levels or other damage. Suitable remediation works will be undertaken as required.

**Paragraph 5.6.5 page 46 – Coastal processes affected by the long sea outfall –Operational phase-Mitigation and Monitoring**

As for all such infrastructure, the scour protection shall be monitored to ensure its performance and avoid any potential risk derived from the potential future exposure of the pipe. Scour protection will be monitored by Irish Water as part of the overall long outfall maintenance. Outfall monitoring would include visual inspection either by divers or robotics and would be performed every 5 years and after significant storm events as part of the overall operational management regime. The inspection crew would check the pipeline for scour protection damage, slide, anchor, or other damage. Scour protection shall be reinstated and/ or repaired if any damage is observed."

**Natura Impact Assessment - Description of in combination effects of AA and AFRS**

"Paragraph 7.2 Page 20

Potential in combination and cumulative effects on European sites

The proposed Arklow Flood Relief Scheme design is being developed currently by the OPW and hydrological investigations are in progress to inform the final design. This is the only project that has been identified as having a potential to give rise to in combination effects. The proposed Arklow Flood Relief Scheme will likely comprise the construction of direct flood defences, including flood

defence walls, embankments and gates within Arklow town to improve resilience to flooding, as well as conveyance improvements in the Avoca River:

- Arklow Bridge would be underpinned (at the bridge piers and abutments) and re-pointed to improve structural integrity and the floor of the bridge would be lowered by one metre; • Scour protection would be provided at Arklow Bridge to prevent any impacts on the riverbed due to the force of water;
- The downstream river channel would be widened by the slipway on South Quay to improve sediment transport and reduce the need for maintenance dredging;
- Dredging of the river channel would be undertaken upstream and downstream of Arklow Bridge to improve conveyance in the river channel;
- Construction of a debris trap in an accessible location upstream of Arklow Bridge to reduce the risk of blockage of the bridge during flood events; and
- Construction of a gravel trap in an accessible location upstream of Arklow Bridge to reduce the requirement for maintenance dredging.

As currently envisaged, dredging will take place within the estuary (Transitional waterbody) in Arklow, both upstream and downstream of Arklow Bridge, and may extend into the Surface waters of the Avoca River also. The debris trap and gravel trap are likely to be constructed in the Avoca River, subject to the final design details. It is not envisaged that any works would be proposed in coastal waters. With reference to Table 5 of this report, Otter Lutra is listed as a Qualifying Interest for Wicklow Mountains SAC (Site Code 002122). Otters will utilise freshwater habitats from estuary to headwaters. No aquatic habitat severance will arise to Otters moving between the upper Avoca River catchment and coastal waters, since water will continue to flow through the river and estuary during construction works undertaken for the proposed development, and approximately 83% of the width of the river estuary will remain unobstructed at the narrowest point during construction. The operation of plant and machinery, and the presence of workers on the site, will result in some level of disturbance to Otters using the area. Otters are predominantly nocturnal and therefore would not overlap greatly with construction activities. Otters are also quite tolerant of human disturbance and are often recorded in urban areas, so this impact is unlikely to be significant. No ex situ effects are expected to arise, therefore likely cumulative effects on Otter from the carrying out of the proposed development in combination with the proposed Arklow Flood Relief Scheme (even if they are carried out concurrently) are assessed as neutral. On the basis of the information currently available, it is not considered likely that the proposed Arklow Flood Relief Scheme would interact with the proposed development as regards potential impacts on European sites: • Buckroney – Brittas Dunes and Fen SAC (Site Code 000729) • Kilpatrick Sandhills SAC (Site Code 001742) • Magharabeg Dunes SAC (Site Code 001766). Potential cumulative effects are therefore assessed as neutral. Habitats Directive Annex II listed fish species Atlantic Salmon *Salmo salar*, River Lamprey *Lampetra fluviatilis*, and Sea Lamprey (*Petromyzon marinus*) occur in the Avoca River catchment and estuary. The estuary area has been highly modified by human activity through the construction of estuarine retaining walls, harbour breakwaters, and a stretch of coastal rock armour revetment, with the river impacted by acid mine drainage from the Avoca Mines upstream and the estuary also influenced by the input of untreated wastewater. While the estuarine habitats of the study area are of depressed species richness and low ecological value, the estuary does continue to support a fish community and provides a corridor for fish including the following Habitats Directive Annex II listed species: Atlantic Salmon *Salmo salar*, River Lamprey *Lampetra fluviatilis*, and Sea Lamprey (*Petromyzon*

marinus). Since these species are not listed as Qualifying Interests for any upstream Natura 2000 sites, no cumulative ex situ effects arise.

However, with reference to the Opinion of Advocate General Kokott of 7 August 2018, mitigation measures to protect water quality and fish species in estuarine and river waters during construction, for the protection of these and other typical species, will be required for each project. Mitigation measures for aquatic biodiversity including fish area included in Chapter 11 of the EIAR. Habitats Directive Annex IV listed bat species have been recorded within the proposed development and the proposed FRS combined works areas, and individual Bat Derogation Licences will be required for each project in respect of works at Arklow Bridge. A Derogation Licence No. DER/BAT 2018 – 73 has been issued in respect of the proposed Arklow WwTP development.