1 Introduction

1.1 Introduction

Wicklow County Council (WCC), funded by the Office of Public Works (OPW), proposes to undertake engineering works along the Avoca River and surrounds to mitigate the risk of flooding in the Arklow town area in County Wicklow.

The proposed development is collectively referred to as the *Arklow Flood Relief Scheme* ('the proposed scheme') in this chapter and throughout the Environmental Impact Assessment Report (EIAR). The terms *proposed development* and *proposed scheme* are used interchangeably in this EIAR.

The proposed flood relief scheme (FRS) is being undertaken for the purpose of preventing the periodic flooding of lands and properties in the Arklow area. The proposed scheme will involve the construction of flood defence walls and an embankment, as well as conveyance improvements in the Avoca River; including deepening of the river channel, the introduction of new debris and gravel traps and improvement works to Arklow Bridge. Public realm improvements will be carried out along River Walk and South Quay on the south bank of the river. Future maintenance of the Arklow Flood Relief Scheme will also be carried out.

The Avoca River is tidal in the Arklow area. Therefore, some of the proposed scheme will be located in the foreshore.

The location of the proposed scheme is illustrated in Arklow town as illustrated in **Figure 1.1**.

This chapter describes the methodology used to prepare this EIAR and summarises the applicable planning procedure. This chapter also describes the consultation process that has been carried out to date and provides details on competent experts.

1.2 Overview of the Proposed Development

The town of Arklow has, for many years, experienced recurring flooding problems that have caused widespread damage to public and private property. The largest flood event recorded was in August 1986 resulting from extreme meteorological conditions commonly referred to as "Hurricane Charlie." Further recent flooding events occurred in December 1989, November 2000, February 2002 and in October 2004, October 2005, January 2010, January 2013 and December 2015. Refer to **Chapter 2**, *Background and Need for the Scheme* for further information on the history of flooding in Arklow.

The proposed development is being undertaken for the purpose of preventing this periodical localised flooding of lands and properties in the Arklow town area.

The flood scheme has been designed to withstand a 1 in 100-year flood event from the Avoca River (fluvial) as well as 1 in 200-year tidal flood event.

The proposed development will comprise of the following elements:

- Arklow Bridge Works: Bridge underpinning of pier, remedial works and scour protection including lowering the floor of Arklow Bridge by approximately 1m;
- River Dredging Works: Channel capacity improvement works comprising dredging of the river channel for 320m upstream of Arklow Bridge and 520m downstream of Arklow Bridge;
- Debris and Gravel Traps: Construction of debris and gravel traps to accommodate the collection and regular removal of large floating debris and sediments at a single controlled location.
- Flood Defences – South Bank: Flood defence walls and drainage along South Bank including local alterations to the river channel along River Walk (upstream of Arklow Bridge) and South Quay (downstream of Arklow Bridge), including:
    - Flood defence reinforced concrete/sheet-piled wall to be constructed upstream of Arklow Bridge on the south bank (River Walk);
    - Flood defence reinforced concrete/sheet-piled wall to be constructed downstream of Arklow Bridge on the south bank (South Quay / the Dock); and
    - Installation of demountable flood barriers at two locations around the Dock on the south bank.
    - Public realm improvements and landscaping along River Walk and South Quay
- Flood defences – North Bank: Flood defence earthen embankment and sheet-piled wall with concrete cap to be constructed upstream of Arklow Bridge on the north bank (east of Arklow Town Marsh)

An overview of the proposed development is illustrated in **Figure 1.2**.

Reference should be had to the full set of planning drawings accompanying the application for approval. A summary set of drawings in A3 format are included in **Appendix 4.1** and **Appendix 4.2**

Refer to **Chapter 4**, *Description of the Proposed Scheme* for a detailed description of the proposed flood defence works.

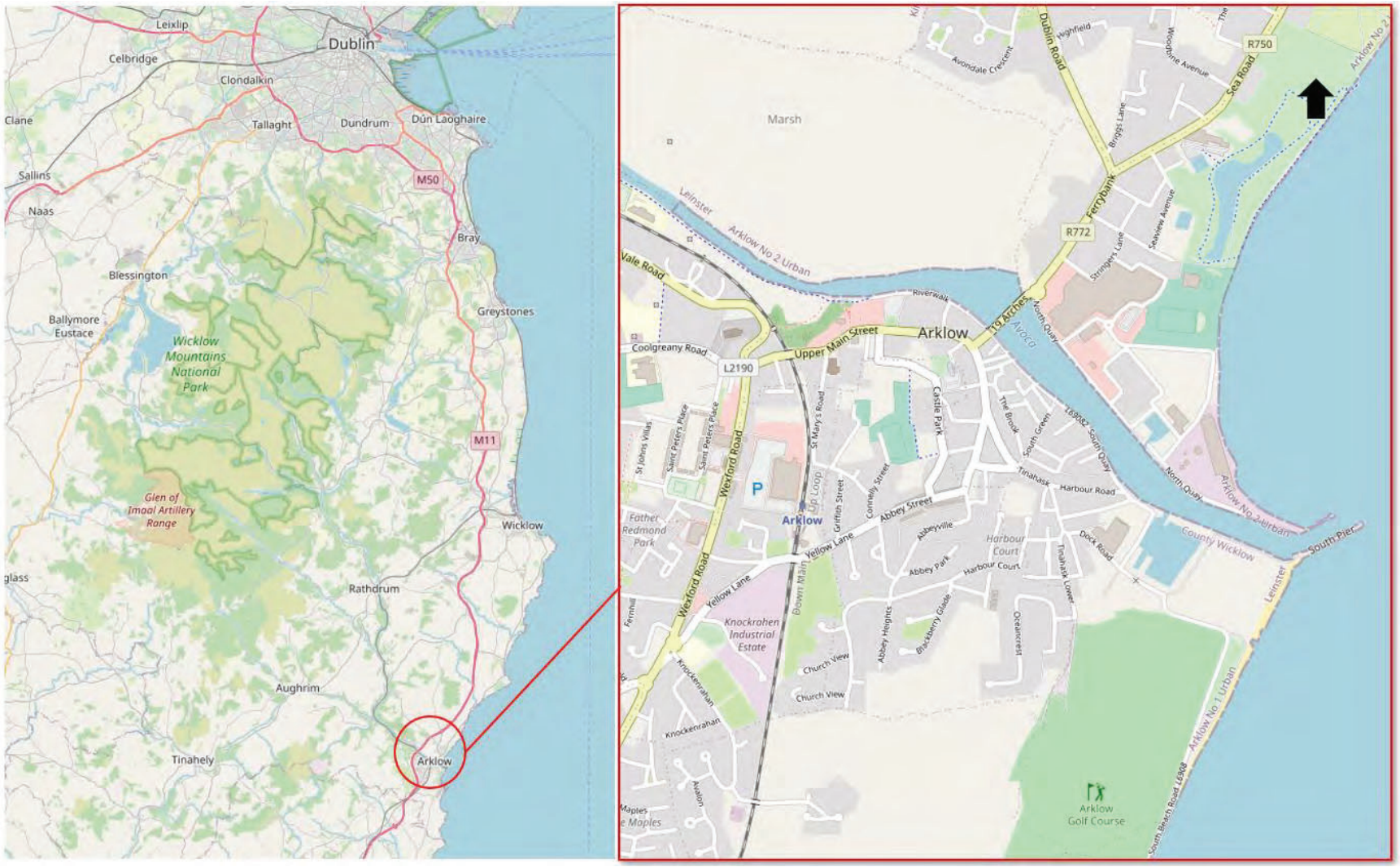

Figure 1.1: Location of the Proposed Scheme (Not to scale. Source: Open Street Map)

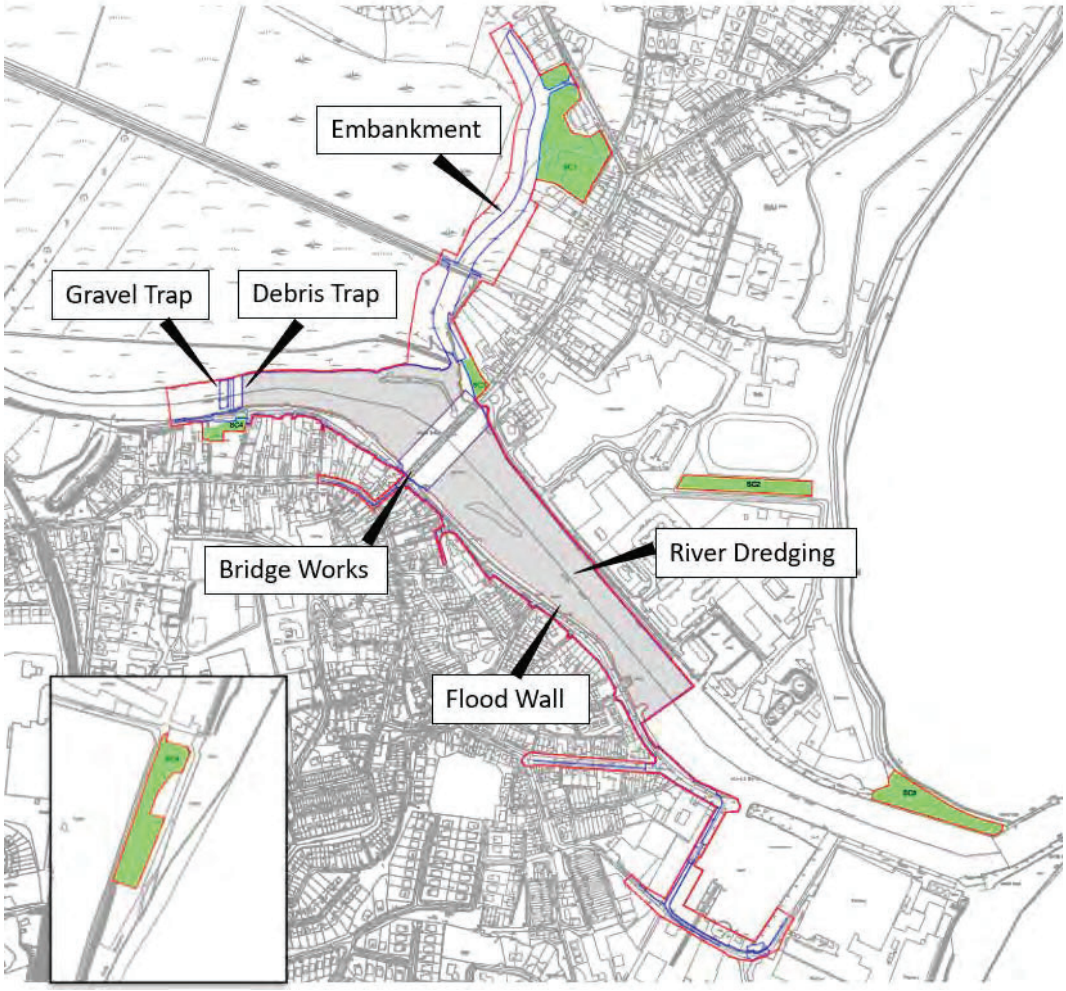

Figure 1.2: Overview of the Proposed Scheme (Extracted from Drawing No 1065 as presented in Appendix 4.1)

1.3 EIA Guidance, Legislation and EIAR Structure

1.3.1 EIA Guidance

In preparing the EIAR, regard has been had to the following overarching EIA related guidance:

- Department of Housing, Planning and Local Government (2018) Circular PL 05/2018 -Transposition into Planning Law of Directive 2014/52/EU amending Directive 2011/92/EU on the effects of certain public and private projects on the environment (the EIA Directive) And Revised Guidelines for Planning Authorities and An Bord Pleanála on carrying out Environmental Impact Assessment;
- Department of Housing, Planning, Community and Local Government (2017) Key Issues Consultation Paper on the Transposition of 2014 EIA Directive (2014/52/EU) in the Land Use Planning and EPA Licencing Systems;
- Department of Housing, Planning, Community and Local Government (2017) Circular PL 1/2017 - Implementation of Directive 2014/52/EU on the effects

of certain public and private projects on the environment (EIA Directive): Advice on the Administrative Provisions in Advance of Transposition;

- Environmental Protection Agency (2017) Draft Guidelines on the Information to be contained in Environmental Impact Assessment Reports (Draft August 2017);
- Environmental Protection Agency (2003) Advice Notes on Current Practice in the preparation of EIS;
- European Commission (2017) Environmental Impact Assessment of Projects: Guidance on the preparation of the Environmental Impact Assessment Report;
- European Commission (2012) Interpretation suggested by the Commission as regards the application of the EIA Directive to ancillary/associated works;
- European Commission (1999) Guidelines for the Assessment of Indirect and Cumulative Impacts as well as Impact Interactions;
- European Union (2013) Guidance on Integrating Climate Change and Biodiversity into Environmental Impact Assessment;
- Government of Ireland (2018) Guidelines for Planning Authorities and An Bord Pleanála on carrying out Environmental Impact Assessment (August 2018).

Additional topic-specific guidance used to undertake assessments is identified in **Chapters 7 - 20** as appropriate.

1.3.2 EIA Legislation

A European Directive for Environmental Impact Assessment (EIA) has been in force since 1985 since the adoption of Council Directive 85/337/EEC on the assessment of the effects of certain public and private projects on the environment.

The EIA Directive of 1985 has been amended three times by Council Directives 97/11/EC, 2003/35/EC and 2009/31/EC. It was repealed by Council Directive 2011/92/EU on 13 December 2011. Directive 2011/92/EU has now been amended in 2014 by Directive 2014/52/EU.

In Ireland, the requirements for EIA in relation to planning consents are specified in Part X of the Planning and Development Act, 2000, as amended and in Part 10 of the Planning and Development Regulations, 2001, as amended. The European Union (Planning and Development) (Environmental Impact Assessment) Regulations 2018 (S.I. No. 296 of 2018) transpose the requirements of the 2014 EIA Directive into existing planning consent procedures.

The definition of EIA provides for a clear distinction between the process of environmental impact assessment to be carried out by the competent authority (in this case An Bord Pleanála) and the preparation by the developer (in this case Wicklow County Council) of an Environmental Impact Assessment Report (EIAR). This EIAR accompanies the application for approval of the proposed

development which has been submitted to An Bord Pleanála. The EIA of the proposed development will be undertaken by An Bord Pleanála.

1.3.3 Statutory Requirement for EIA

The prescribed classes of development and thresholds that trigger a mandatory Environmental Impact Assessment (EIA) are set out in Schedule 5 of the Planning and Development Regulations, 2001, as amended.

A review of the classes of development (requiring EIA) was carried out to determine whether the proposed development falls into any of the development classes contained therein. The most relevant criterion is Class 10 of Part 2 of Schedule 5 which states:

10. Infrastructure projects

(f) (ii) *Canalisation and flood relief works, where the immediate contributing sub-catchment of the proposed works (i.e. the difference between the contributing catchments at the upper and lower extent of the works) would exceed 100 hectares or where more than 2 hectares of wetland would be affected or where the length of river channel on which works are proposed would be greater than 2 kilometres.*

In the case of the proposed scheme, the length of river channel on which works are proposed is under 2 kilometres and the contributing sub-catchment of the proposed works is less than 100 hectares. A section of Arklow Town Marsh will be impacted by the proposed scheme. Habitats have been classified in accordance with Fossit[1](Refer to **Chapter 10** *Biodiversity*). Approximately 1.34 hectares of wetland at Arklow Town Marsh will be affected by the proposed scheme.

The proposed scheme is therefore below the thresholds for mandatory EIA. An examination was carried out to determine whether the proposed scheme would or would not, individually and in combination with other developments, be likely to have significant effects on the environment. Having regard to:

- the criteria set out in Schedule 7 of the Planning and Development Regulations 2001, as amended,
- the nature and scale of the development,
- the location of the development in the Avoca River and in Arklow Town Marsh pNHA,
- the works required to protected structure (RPS A26), Arklow Bridge (listed on the National Inventory of Architectural Heritage – Reference: 16322046).
- the potential for significant effects on the environment;

it was considered that the proposed development was likely to have significant effects on the environment and that the preparation and submission of an Environmental Impact Assessment Report (EIAR) was required.

[1] Fossitt, Julie A (2000). A Guide to Habitats in Ireland. The Heritage Council.

The need for an EIAR was confirmed by An Bord Pleanála on 1 May 2018 when formal direction was provided to Wicklow County Council regarding the same. In its letter, An Bord Pleanála instructed Wicklow County Council to prepare an EIAR on the basis that the proposed scheme has the potential for significant effects on the environment.

1.3.4 Structure of the Environmental Impact Assessment Report

This EIAR has been prepared to provide information on the likely significant effects of the proposed development (proposed scheme) on the environment as per Schedule 6 of the Planning and Development Regulations 2001, as amended and as per Annex IV of the EIA Directive (2014/52/EU). **Table 1.1** below presents the information required in Annex IV.

This EIAR has been prepared on behalf of WCC by a multi-disciplinary consultancy team of competent experts led by Arup with input from specialist sub-consultants. The format used in the EIAR is the grouped format, in which each topic is addressed in a separate section. This is designed to allow readers to access the issues of interest to them as easily as possible. However, there is overlap of some topics.

For example, effects on water are addressed in **Chapter 13**, *Land and Soils* (under the heading of Hydrogeology) and **Chapter 14**, *Water* (Hydrology).

Effects on human beings are addressed in several chapters including **Chapter 16**, *Population and Human Health*, **Chapter 12**, *Landscape and Visual*, **Chapter 8**, *Air Quality and Odour*, **Chapter 9**, *Noise and Vibration,* **Chapter 19**, *Climate* whilst effects on water quality and supply are addressed in **Chapter 13**, *Land and Soils* and **Chapter 14**, *Water***.**

Effects on land are addressed in **Chapter 12**, *Landscape and Visual*, **Chapter 17**, *Material Assets* (Land take/land use) and **Chapter 13,** *Land and Soils* (Soils and Geology). The effects on the environment from the vulnerability of the proposed development to risks of major accidents and/or disasters are presented in **Chapter 18**, *Major Accidents and Disasters***.**

Waste management is addressed in **Chapter 15**, *Resource and Waste Management* and in **Appendix 5.1** *Construction Environment Management Plan.*

Issues not directly addressed in individual chapters and interactions between environmental factors are described in **Chapter 20**, *Cumulative and Interactive Effects*. Each of the environmental assessment chapters (**Chapters 7-19**), consider the potential for cumulative effects. **Chapter 20** contains an overall concluding summary as to the potential for cumulative effects from the proposed development acting in combination with other planned and permitted developments.

The Arklow Wastewater Treatment Plant project (which received planning consent in 2019) is of particular relevance in relation to the potential for cumulative effects with the flood relief scheme given that there are common areas where works for both proposed developments will be undertaken. The project is

discussed further in **Section 2.6** of **Chapter 2**, *Background and Need for the Scheme*.

Each of the environmental assessment chapters includes an introduction, methodology, baseline description, potential effects (including do-nothing and cumulative), mitigation and monitoring, residual effects and references.

The Do-Nothing scenario is defined as "*The situation or environment which would exist if a proposed, development, project or process were not carried out*" (EPA 2017)[2]. A description of the "Do-Nothing scenario is provided in each of the assessment chapters relevant to that particular environmental topic. Refer to **Chapters 7-20** for further details.

The Do-Nothing scenario in the context of a "*Do-Nothing Alternative*" is discussed in **Chapter 3**, *Alternatives*.

[2] Draft Guidelines on the information to be contained in Environmental Impact Assessment Reports (EPA, 2017)

Table 1.1 Annex IV – EIA Directive 2014/52/EU – Information for the EIAR

1. Description of the project, including in particular:
(a) a description of the location of the project;
(b)a description of the physical characteristics of the whole project, including, where relevant, requisite demolition works, and the land-use requirements during the construction and operational phases;
(c) a description of the main characteristics of the operational phase of the project (in particular any production process), for instance, energy demand and energy used, nature and quantity of the materials and natural resources (including water, land, soil and biodiversity) used;
(d) an estimate, by type and quantity, of expected residues and emissions (such as water, air, soil and subsoil pollution, noise, vibration, light, heat, radiation) and quantities and types of waste produced during the construction and operation phases.

2. A description of the reasonable alternatives (for example in terms of project design, technology, location, size and scale) studied by the developer, which are relevant to the proposed project and its specific characteristics, and an indication of the main reasons for selecting the chosen option, including a comparison of the environmental effects.

3. A description of the relevant aspects of the current state of the environment (baseline scenario) and an outline of the likely evolution thereof without implementation of the project as far as natural changes from the baseline scenario can be assessed with reasonable effort on the basis of the availability of environmental information and scientific knowledge.

4. A description of the factors specified in Article 3(1) likely to be significantly affected by the project: population, human health, biodiversity (for example fauna and flora), land (for example land take), soil (for example organic matter, erosion, compaction, sealing), water (for example hydromorphological changes, quantity and quality), air, climate (for example greenhouse gas emissions, impacts relevant to adaptation), material assets, cultural heritage, including architectural and archaeological aspects, and landscape.

5. A description of the likely significant effects of the project on the environment resulting from, inter alia: (a) the construction and existence of the project, including, where relevant, demolition works; (b) the use of natural resources, in particular land, soil, water and biodiversity, considering as far as possible the sustainable availability of these resources; (c) the emission of pollutants, noise, vibration, light, heat and radiation, the creation of nuisances, and the disposal and recovery of waste; (d) the risks to human health, cultural heritage or the environment (for example due to accidents or disasters); (e) the cumulation of effects with other existing and/or approved projects, taking into account any existing environmental problems relating to areas of particular environmental importance likely to be affected or the use of natural resources; (f) the impact of the project on climate (for example the nature and magnitude of greenhouse gas emissions) and the vulnerability of the project to climate change; (g) the technologies and the substances used. The description of the likely significant effects on the factors specified in Article 3(1) should cover the direct effects and any indirect, secondary, cumulative, transboundary, short-term, medium-term and long-term, permanent and temporary, positive and negative effects of the project. This description should take into account the environmental protection objectives established at Union or Member State level which are relevant to the project.

6. A description of the forecasting methods or evidence, used to identify and assess the significant effects on the environment, including details of difficulties (for example technical deficiencies or lack of knowledge) encountered compiling the required information and the main uncertainties involved.

7. A description of the measures envisaged to avoid, prevent, reduce or, if possible, offset any identified significant adverse effects on the environment and, where appropriate, of any proposed monitoring arrangements (for example the preparation of a post-project analysis). That description should explain the extent, to which significant adverse effects on the environment are avoided, prevented, reduced or offset, and should cover both the construction and operational phases.

8. A description of the expected significant adverse effects of the project on the environment deriving from the vulnerability of the project to risks of major accidents and/or disasters which are relevant to the project concerned. Relevant information available and obtained through risk assessments pursuant to Union legislation such as Directive 2012/18/EU of the European Parliament and of the Council (*) or Council Directive 2009/71/Euratom (**) or relevant assessments carried out pursuant to national legislation may be used for this purpose provided that the requirements of this Directive are met. Where appropriate, this description should include measures envisaged to prevent or mitigate the significant adverse effects of such events on the environment and details of the preparedness for and proposed response to such emergencies.

9. A non-technical summary of the information provided under points 1 to 8.

10. A reference list detailing the sources used for the descriptions and assessments included in the report.

This EIAR has three volumes as follows:

- **Volume 1** provides the non-technical summary. This summarises the findings of the EIAR in a clear, accessible format that uses non-technical language and supporting graphics. The non-technical summary describes the proposed development, existing environment, effects and mitigation measures and relevant aspects of the EIAR in a manner that can be easily understood by the general public.
- **Volume 2** encompasses the main EIAR including introductory chapters in addition to 'assessment' chapters for each environmental aspect in accordance with Article IV of the EIA Directive. The front-end chapters (**Chapters 1 – 6**) describe the project context, the assessment chapters (**Chapters 7 -19**) provide a description of the relevant environmental aspects and likely significant effects and the findings of the assessments are summarised in the final chapters (**Chapters 20** and **21)**; Figures are included within the body of each chapter or are cross referenced to the relevant Appendix.
- **Volume 3** provides the technical appendices and figures that support and are cross-referenced with Volume 2. Volume 3 consists of three books and includes relevant drawings, modelling outputs, background reports and/or supporting documents. Refer to the List of Appendices at the beginning of this report for details.

Reference should also be had to the full set of planning drawings accompanying the application for approval. A summary set of drawings in A3 format are included as an appendix to **Chapter 4**, *Description of the Proposed Scheme*, presented in **Appendix 4.1** *(Flood Defence drawings)* and **Appendix 4.2** (*Landscape Design and Public Realm drawings).*

In addition, an Appropriate Assessment Screening Report (AA) and a Natura Impact Statement (NIS) have been prepared by Aquafact on behalf of WCC and submitted as part of this application to An Bord Pleanála.

1.3.5 Description of Effects

Table 1.1 below presents the description of effects as published in the EPA Guidelines[3]. Clarity of method, language and meaning are vital to accurately explaining the full range of effects. The relevant terms listed in **Table 1.2** below are used throughout this EIAR to consistently describe specific effects.

Each effect is described in terms of its quality, significance, extent, duration and frequency and type, where possible. Residual effects are also presented following any effect for which mitigation measures are prescribed.

Throughout this document, where reference is made to 'impact', it should also be understood to mean 'effect'.

[3] Draft Guidelines on the information to be contained in Environmental Impact Assessment Reports (EPA, 2017)

Table 1.1: Description of Effects - Terminology

Quality of Effects	**Positive Effects** A change which improves the quality of the environment (for example, by increasing species diversity; or the improving reproductive capacity of an ecosystem, or by removing nuisances or improving amenities).
	Neutral Effects No effects or effects that are imperceptible, within normal bounds of variation or within the margin of forecasting error.
	Negative/adverse Effects A change which reduces the quality of the environment (for example, lessening species diversity or diminishing the reproductive capacity of an ecosystem; or damaging health or property or by causing nuisance).
Significance of Effects In the absence of specific definitions for different topics the following definitions are used (also see *Determining Significance* below.).	**Imperceptible** An effect capable of measurement but without significant consequences.
	Not significant An effect which causes noticeable changes in the character of the environment but without significant consequences.
	Slight Effects An effect which causes noticeable changes in the character of the environment without affecting its sensitivities.
	Moderate Effects An effect that alters the character of the environment in a manner that is consistent with existing and emerging baseline trends.
	Significant Effects An effect which, by its character, magnitude, duration or intensity alters a sensitive aspect of the environment.
	Very Significant An effect which, by its character, magnitude, duration or intensity significantly alters most of a sensitive aspect of the environment.
	Profound Effects An effect which obliterates sensitive characteristics
Extent and Context of Effects	**Extent** Describe the size of the area, the number of sites, and the proportion of a population affected by an effect.
	Context Describe whether the extent, duration, or frequency will conform or contrast with established (baseline) conditions (is it the biggest, longest effect ever?)
Probability of Effects	**Likely Effects** The effects that can reasonably be expected to occur because of the planned project if all mitigation measures are properly implemented.
	Unlikely Effects The effects that can reasonably be expected not to occur because of the planned project if all mitigation measures are properly implemented.
Duration and Frequency of Effects 'Duration' is a concept that can	**Momentary Effects** Effects lasting from seconds to minutes
	Brief Effects Effects lasting less than a day
	Temporary Effects

have different meanings for different topics – in the absence of specific definitions for different topics the following definitions is used.	Effects lasting less than a year
	Short-term Effects Effects lasting one to seven years.
	Medium-term Effects Effects lasting seven to fifteen years.
	Long-term Effects Effects lasting fifteen to sixty years.
	Permanent Effects Effects lasting over sixty years
	Reversible Effects Effects that can be undone, for example through remediation or restoration
	Frequency of Effects Describe how often the effect will occur. (once, rarely, occasionally, frequently, constantly – or hourly, daily, weekly, monthly, annually)
Types of Effects	**Indirect Effects (a.k.a. Secondary Effects)** Impacts on the environment, which are not a direct result of the project, often produced away from the project site or because of a complex pathway.
	Cumulative Effects The addition of many minor or significant effects, including effects of other projects, to create larger, more significant effects.
	'Do-Nothing Effects' The environment as it would be in the future should the subject project not be carried out.
	`Worst case' Effects The effects arising from a project in the case where mitigation measures substantially fail.
	Indeterminable Effects When the full consequences of a change in the environment cannot be described.
	Irreversible Effects When the character, distinctiveness, diversity or reproductive capacity of an environment is permanently lost.
	Residual Effects The degree of environmental change that will occur after the proposed mitigation measures have taken effect.
	Synergistic Effects Where the resultant effect is of greater significance than the sum of its constituents, (e.g. combination of SOx and NOx to produce smog).

1.4 Details of Competent Experts

1.4.1 EIA team

This EIAR has been prepared on behalf of WCC and the OPW by a multi-disciplinary consultancy team of competent experts led by Arup with input from specialist sub-consultants.

All technical leads qualified and competent experts in their fields in accordance with Article 5(3) of the EIA Directive because of their academic qualifications,

professional affiliations and professional experience on other EIAs for major infrastructure projects. Refer to **Appendix 1.1** for further detail on the competent experts that have prepared this EIAR.

1.4.2 Design Team

The design has been developed on behalf of WCC and the OPW by a multi-disciplinary design team led by Byrne Looby and their sub-consultants. Brady Shipman Martin led the design of the public realm.

1.5 Overview of the Approval Process and EIA

1.5.1 Planning Approval

In accordance with Section 226 of the Planning and Development Act, 2000, as amended, given that the proposed development (proposed scheme) will be carried out partly on the foreshore by a local authority, Wicklow County Council has made an application to An Bord Pleanála for approval of the proposed development. An Bord Pleanála will carry out an EIA of the proposed development as required under the Planning and Development legislation.

1.5.2 Foreshore Consent

The Foreshore Act 1933, as amended, requires that a lease or licence must be obtained from the Minister for the Housing, Planning and Local Government (currently the Minister for Housing, Local Government and Heritage) for the carrying out of works or placing structures or material on, or for the occupation of or removal of material from the bed and shore, below the line of high water of ordinary or medium tides, of the sea and of every tidal river and tidal estuary and of every channel, creek, and bay of the sea or of any such river or estuary (i.e. the foreshore).

A lease is generally issued for a development that requires exclusive occupation of the foreshore whilst a licence is generally issued for a development that does not require exclusive occupation of the foreshore.

Given that part of the proposed development is located on the foreshore, foreshore consent is required from the Minister.

Foreshore consent application(s) for the proposed development are being submitted to the Department of Housing, Local Government and Heritage in parallel to the application for consent that is being submitted to An Bord Pleanála. A pre-application consultation meeting was held with the Foreshore Unit in the Department of Housing, Local Government and Heritage on 20 June 2018. The Minister will carry out an EIA of the proposed development as required under the Foreshore legislation.

1.6 Consultation Undertaken

1.6.1 Overview

Extensive consultation has been undertaken with a range of stakeholders during the development of the EIAR and statutory consent application in order to:

- Provide information on the proposed scheme;
- Ascertain and understand the views of stakeholders; and
- Seek input from stakeholders on the design, construction and assessment aspects of the proposed scheme.

It should be noted that this section describes the general project consultation that has been undertaken. Where appropriate, **Chapters 7 – 20** identify specific consultation that has been undertaken to support individual assessments and assessment chapters.

1.6.2 Pre-Application Consultation

A consultation letter was submitted to the Development Application Unit of the Department of Housing, Local Government and Heritage on 13th February 2018 to provide information on the proposed development (and the Arklow Wastewater Treatment Plant project (Planning Reference Number: SI201801) which, as mentioned previously, interfaces with the proposed development. The letter contained a request for a meeting with the National Parks and Wildlife Service (NPWS). A meeting with the NPWS took place on 27th June 2018. The proposed scheme was presented and the concerns of the NPWS were discussed.

A consultation letter was also issued to Inland Fisheries Ireland (IFI) on 13th February 2018 and a consultation meeting took place on 16th March 2018.

A consultation letter was issued to the Department of Culture, Heritage and the Gaeltacht (now the Department of Housing, Local Government and Heritage) on 1 December 2017. Consultation meetings were subsequently held on 16 January 2018 and 19 June 2018 with representatives of the Underwater Archaeological Unit, the National Monuments Service and the Architectural Heritage Advisory Unit.

However, in the intervening period, the design of the proposed scheme evolved to incorporate some minor design changes. The scope of the integrated works shared by this scheme with the Arklow Wastewater Treatment Plant project had also reduced since the 2018 consultation. Consequently, some additional consultation was carried out with the above authorities in 2020 in order to afford them the opportunity to review the most up-to-date proposal for the scheme.

A second consultation meeting was held with the NPWS on 5th November 2020 where the proposed scheme was presented, changes to the scheme since the last consultation were outlined, and the concerns of the NPWS were discussed. Similarly, additional consultation meetings were held with IFI on 18th November

2020 and with the Department of Housing, Local Government and Heritage on 28th August 2020.

In 2020, engagement was also carried out with Arklow Rowing Club and Arklow Shipping, regarding access arrangements to Arklow Harbour, as well as with Arklow Marina and Arklow Sailing Club again regarding access to the river.

1.6.2.1 Elected Members Engagement

Wicklow County Council consulted local TDs, Ministers, Councillors and elected representatives in the Arklow and wider Wicklow area throughout the design development. Project updates were issued to elected representatives throughout, with specific briefings provided to elected representatives on the following dates:

- 9th September 2020
- 4th November 2020
- 11th March 2020

1.6.2.2 Wicklow County Council

A number of specific meetings and discussions took place between members of the project team and the technical staff of Wicklow County Council to discuss specific issues during the design development. In particular, the Planning and Roads Department, Forward Planning Department and District Engineer were consulted by the project team to discuss the design development. These meetings led to high level agreements in relation to specific design elements including the selection of routes for construction traffic and diversions for general traffic around working areas during construction, as well as procedural elements of the proposed scheme, including the site notices and compliance with the provisions of the County Development Plan and Local Area Plan.

1.6.3 Wicklow County Council, OPW and Irish Water

In addition to the above, meetings were held with Irish Water in relation to the Arklow Wastewater Treatment Project. As described in detail in **Section 2.6** of **Chapter 2**, *Background and Need for the Scheme*, Irish Water, received planning consent for the Arklow Wastewater Treatment Plant (WwTP) in 2019.

The Wicklow County Council project team and Irish Water recognised at an early stage, the importance of liaising throughout the design development. Iterative consultation and numerous meetings occurred throughout 2016, 2017 and 2018, 2019 and 2020 between the Wicklow County Council and Irish Water and their design teams to optimise the design, minimise nuisance for local residents and consider any health and safety issues. Where practicable, to maximise cost efficiencies and avoid duplication, elements with a dual purpose were identified. For example, the sheet piling, required to construct the interceptor sewer, was designed to support the flood defence wall. Refer to **Section 2.6** of **Chapter 2**, *Background and Need for the Scheme* for further details on the WwTP.

1.6.4 Public Information Days

A series of public information days relating to the Arklow Flood Relief scheme were held since 2007. During the public information days, members of the public were presented information on various stages of progress of the proposed scheme and invited to submit their suggestions and feedback on the same.

The first public information day for the proposed scheme was held in the Courthouse at Arklow Town Hall on Tuesday 13th of March 2007.

The local community members who attended the public information day were supportive of the implementation of a flood relief scheme.

The key issues raised by the local community were:

- Dredging upstream and downstream of Arklow Bridge to ease flooding in the town. It was also stated that river-borne debris during a flood could easily become blocked by the concrete sill under the bridge and removing this would increase the hydraulic flow capacity of the bridge.
- Town Marsh and its potential to provide storage for flood waters during floods.
- Current inadequacy of the local drainage network in severe flooding.
- Potential flood relief options suggested by the public included provision of physical flood barriers and an embankment aligned between Ferrybank and the Marsh.
- A flood warning system upstream of Arklow linked to radio and television announcements was also mentioned by local residents as being a valuable tool to minimise flood damage to the town.
- Local residents reported that there was a lack of adequate sand bagging facilities during storm events.

The outcome of the public information day was reported to the OPW, PH McCarthy Byrne Looby and Arklow Town Council for consideration as part of the environmental constraints study. This reporting outlined the issues raised by the local community and interested parties about the proposed flood relief scheme and included all the recommendations made by the local community for incorporated into the design of the scheme.

A further public information day was held by Wicklow County Council in August 2016 to inform interested parties about the status of the project and to brief them on the progress of the proposed scheme. This briefing was held in the Wicklow County Council Municipal Offices at Arklow on 8th August 2016.

The key issues raised were as follows:

- Concerns regarding the storm and foul system including mis-connections at Ferrybank, the sewers in Briggs Lane, backflow during floods
- Long term plan for road across the river
- Design of the embankment, its location and the consideration of a wall instead

- Query about Bridge
- Town Marsh issues including drying out, plans for long terms access, protection of wildlife
- General concerns and experiences regarding flooding
- Dredge proposal, its maintenance and concern regarding riverbed levels/ silting up
- North Beach sea wall
- Concern about additional paved areas
- Design of public spaces, parking and amenity spaces
- Scheme progress
- Effect of river widening.

Wicklow County Council communicated these issues to the design team and raised them for consideration at the Multi-Criteria Assessment workshop held in late August 2016, as described **Chapter 3***, Alternatives*. While a significant number of the issues raised were included in the ongoing consideration of the design and environmental studies, to respond to the queries, additional design studies were initiated into the form and alignment of the embankment in the Marsh.

Following design development, a further public information day was held to exhibit the Emerging Preferred Scheme on 16th and 17th November 2016 in Arklow Municipal District Offices in Arklow.

A total of seven core issues were identified from all 29 submissions received as follows:

- South Quay road realignment, river realignment, removal of green Areas and slipway and removal of the pinch point
- Marsh embankment and its location
- Flood walls, their visual impact, effects on adjacent structures, whether of adequate height, parking and the public realm
- Piling and its negative effects on adjacent properties
- Dredging and the need for regular maintenance
- Marsh area, preservation of its storage capacity, both the potential for further recreational development and the avoidance of impacts were raised
- Modifications to Arklow Bridge and the protection of the its history and the potential for traffic disruption during works at the bridge.

Following this public consultation, Wicklow County Council considered again the scheme design and initiated a number of studies to respond to the issues raised. A Hydro-Geomorphology Study was undertaken by Gavin & Doherty Geosolutions (GDG) with a view to considering in more detail the removal of the pinch-point in the river realignment proposed at South Green. The study subsequently reported

that the benefits of the pinch-point removal were localised and imperceptible. The findings of this study, considered in the context of the adverse effects generated by the pinch-point removal, led to this river realignment not being adopted in the proposed scheme.

This Hydro-geomorphology Study also considered proposals for a gravel and debris trap and its maintenance. The study confirmed the benefit associated with the provision of a gravel and debris trap and their maintenance.

Responding to issues raised in the public consultation, further work was undertaken to advance the design of the flood walls and the public realm south of the river, both upstream and downstream of Arklow Bridge. The flood walls are described both the **Section 3.5** of **Chapter 3**, *Alternatives* and in **Section 4.3** of **Chapter 4**, *Description of the Proposed Scheme*.

Further consideration was given to the relative levels of the walls and adjacent footpaths, the detailing of amenity provision and the finishes, verges and footpaths south of the River in response to the representations made.

Following the 2016 public consultation, the design team also considered a number of alignment alternatives and a wall as an alternative to the embankment in Arklow Town Marsh. These considerations led to the final design included in the proposed scheme.

Other issues raised, which related to the potential environmental impacts of the proposed scheme, were communicated to the various specialist involved in the preparation this EIAR and have been considered in their studies.

A final public information session was carried out for a two week period from the 12th of March to the 26th of March 2021. The purpose of this information session was to keep the public informed of how the scheme will proceed and to give the public the chance to ask questions about the scheme.

Due to the Covid-19 pandemic and associated restrictions, a virtual public information session was held, whereby Wicklow County Council hosted a range of information materials on its website, which the public could view. This included a presentation on the proposed scheme and a Frequently Asked Questions board. The public information session was advertised on social media and in the local newspaper.

The key issues raised were as follows:

- Loss of amenity areas
- Provision of glass walls
- River access
- Appearance of debris trap.

1.6.5 EIA Scoping Consultation

An informal (non-statutory) EIA scoping consultation took place in June 2018 in relation to the Arklow Flood Relief Scheme, as it was then proposed (Refer to **Appendix 1.2** for scoping responses received at that time). However, in the intervening period, the design of the proposed scheme evolved to incorporate some minor design changes. The scope of the integrated works shared by this scheme with the Arklow Wastewater Treatment Plant project had also reduced since the 2018 consultation.

A second informal EIA scoping consultation was therefore carried out in June 2020, to ensure that consultees were afforded the opportunity to review the most up-to-date proposal for the scheme. A Scoping Report was prepared which described the key elements of the proposed development and outlined the level of detail and information to be included in the EIAR.

Feedback was sought from the following stakeholders to inform the content and scope of the EIAR:

- Department of Housing, Planning and Local Government;
- Department of Communications, Climate Action and Environment;
- Department of Transport, Tourism and Sport;
- Department of Culture, Heritage and the Gaeltacht (including the Development Applications Unit, National Parks and Wildlife Service and the National Monuments Service);
- Department of Agriculture, Food and the Marine;
- Health and Safety Authority;
- Health and Safety Executive;
- Transport Infrastructure Ireland (TII);
- National Transport Authority;
- Eastern and Midland Regional Authority;
- An Chomhairle Ealaíon (The Arts Council);
- Fáilte Ireland;
- An Taisce;
- The Heritage Council;
- Inland Fisheries Ireland;
- Irish Water;
- Wicklow County Council;
- Office of Public Works; and
- Arklow Harbour Master.

Submissions were received in response to the Scoping Report from a number of stakeholders. The issues raised and associated action taken by the EIA team during the June 2020 consultation are also described in **Appendix 1.2**.

1.6.6 EIA Portal

Information relating to the proposed development is also available on the Department of Housing, Planning and Local Government's EIA Portal.

The EIA Portal provides information on applications for development consent subject to EIA and submitted to relevant competent authorities since 16th May 2017. The EIA Portal identifies, on a map, the location of each application for development consent accompanied by an EIAR. It also lists the name of the applicant, the type of development proposed and the competent authority to which the application is made.

A copy of the confirmation notice from the EIA Portal, including the relevant Portal ID Number is included in the planning application documentation

The portal can be accessed at:
https://housinggovie.maps.arcgis.com/apps/webappviewer/index.html?id=d7d5a3d48f104ecbb206e7e5f84b71f1

1.7 Difficulties Encountered During the Assessment

This EIAR was prepared in the time of the Covid-19 Pandemic and associated government restrictions. The traffic surveys carried out to determine the baseline traffic scenario in Arklow town were therefore potentially not fully representative of the baseline traffic scenario under normal conditions. However, in order to factor in this potential variation in baseline traffic numbers, the recorded counts were increased to compensate for the Covid-19 restrictions in place during the counts and a verification of the counts was carried using recorded TII data from their network of traffic counts. This ensured that the traffic counts used in the baseline assessment are as robust as possible.

Due to the Covid-19 pandemic and associated restrictions, some difficulty was also had in the hosting of the public information day including timings and communication medium. However, as discussed in **Section 1.6.5**, a virtual public information session was held in February 2021.

For the reasons outlined above, none of the difficulties encountered during the preparation of this EIAR were considered to have a material impact on this EIAR.

1.8 References

Department of Housing, Planning and Local Government (2018) Circular PL 05/2018 -Transposition into Planning Law of Directive 2014/52/EU amending Directive 2011/92/EU on the effects of certain public and private projects on the environment (the EIA Directive) And Revised Guidelines for Planning

Authorities and An Bord Pleanála on carrying out Environmental Impact Assessment;

Department of Housing, Planning, Community and Local Government (2017) Key Issues Consultation Paper on the Transposition of 2014 EIA Directive (2014/52/EU) in the Land Use Planning and EPA Licencing Systems;

Department of Housing, Planning, Community and Local Government (2017) Circular PL 1/2017 - Implementation of Directive 2014/52/EU on the effects of certain public and private projects on the environment (EIA Directive): Advice on the Administrative Provisions in Advance of Transposition;

Department of the Environment, Community and Local Government (2013) Guidelines for Planning Authorities and An Bord Pleanála on carrying out Environmental Impact Assessment;

Environmental Protection Agency (2017) Draft Guidelines on the Information to be contained in Environmental Impact Assessment Reports (Draft August 2017);

Environmental Protection Agency (2003) Advice Notes on Current Practice in the preparation of EIS;

European Commission (2017) Environmental Impact Assessment of Projects: Guidance on the preparation of the Environmental Impact Assessment Report;

European Commission (2012) Interpretation suggested by the Commission as regards the application of the EIA Directive to ancillary/associated works;

European Commission (1999) Guidelines for the Assessment of Indirect and Cumulative Impacts as well as Impact Interactions;

European Union (2013) Guidance on Integrating Climate Change and Biodiversity into Environmental Impact Assessment;

Government of Ireland (2018) Guidelines for Planning Authorities and An Bord Pleanála on carrying out Environmental Impact Assessment (August 2018).

GDG (2019) Arklow Flood Relief Scheme – Hydrogeomorphology Study – Hydraulic modelling of the Avoca River.