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CLONASLEE FLOOD RELIEF SCHEME

Environmental Impact Assessment Report
Chapter 1: Introduction

MDW0867
27 February 2025
S5.P01

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GLOSSARY

Term	Meaning
Annual Exceedance Probability (AEP)	It is a means of describing how likely a flood is to occur in a given year. For example, a 1% AEP flood is a flood that has a 1% chance of occurring, or being exceeded, in any one year.
Clonaslee Flood Relief Scheme	The subject of this EIAR. The flood relief scheme aims to manage flooding associated with the Clodiagh River.
Environmental Impact Assessment	A statutory process by which certain planned projects must be assessed before a formal decision to proceed can be made. It involves the collection and consideration of environmental information, which fulfils the assessment requirements of the EIA Directive 2011/92/EU as amended by EIA Directive 2014/52/EU and European Union (Planning and Development) (Environmental Impact Assessment) Regulations 2018 (S.I. No. 296 of 2018), including the publication of an Environmental Impact Assessment Report (EIAR).
EIA Directive	An official order relating to the assessment of the effects of certain public and private projects on the environment.
Local Government Act 2001	Is a law that reforms local government in the Republic of Ireland where it outlines power structures, functions and duties of the local authority.
Planning and Development Regulations 2001	Legislative act which outlines the changes of use which are exempted development
Standard of Protection	Return period of a flood event against which the defence should be effective.
The Developer	Laois County Council
The Proposed Scheme	Clonaslee Flood Relief Scheme

ACRONYMS

Acronym	Meaning
AA	Appropriate Assessment
ACA	Architectural Conservation Area
AEP	Annual Exceedance Probability
AFA	Area for Further Assessment
CFRAM	Catchment Flood Risk Assessment and Management
DAP	Drainage Area Plan
DCO	Development Consent Order
EIA	Environmental Impact Assessment
EIAR	Environmental Impact Assessment Report
EPA	Environmental Protection Agency
FRS	Flood Relief Scheme
HIA	Health Impact Assessment
ICW	Integrated Constructed Wetlands
IPH	Institute of Public Health
LCC	Laois County Council
LVIA	Landscape Visual Impact Assessment
NIS	Natura Impact Statement
NTS	Non-Technical Summary
OPW	Office of Public Works
PPP	Public Private Partnership
PMI	Project Management Institute
SAC	Special Area of Conservation
SoP	Standard of Protection
SPA	Special Protection Area
TII	Transport Infrastructure Ireland
VRS	Vehicle Restraint Systems

1 INTRODUCTION

This Environmental Impact Assessment Report (EIAR) has been prepared by RPS on behalf of Laois County Council (LCC), as part of an application for planning permission for the construction of a flood relief scheme (the "Proposed Scheme"), located in the townlands of Brittas, Bunastick, Clonaslee, Ballynakill and Brockagh, in Clonaslee Village in Co. Laois.

The application for the Proposed Scheme is submitted directly to An Bord Pleanála in accordance with Section 175 and 177AE of the Planning and Development Act, 2000, as amended. The planning application is accompanied by this EIAR and a Natura Impact Statement (NIS).

The Proposed Scheme centres along the Clodiagh River that runs through Clonaslee, County Laois (refer Figure 1-1). Clonaslee is located upstream of the confluence where the River Clodiagh and Gorragh River converge.

The Proposed Scheme aims to prevent future flooding to the village of Clonaslee and requires interventions in three areas:

- **Area 1-** Brittas Woods;
- **Area 2-** Chapel Street; and
- **Area 3-** Tullamore Road and Uisce Éireann Integrated Constructed Wetland (ICW).

Each of these areas are adjacent to the Clodiagh River with no works considered necessary on the Gorragh River.

1.1 Site Location

Clonaslee Village is located in northwest Co. Laois. approx. 13km south of Tullamore, 13km west of Mountmellick and 19km northwest of Portlaoise. It lies within the upstream Brosna catchment. Two rivers pass through the Village; the Clodiagh River to the West and Gorragh River to the East. The Clodiagh River flows northwards through the Village, from its source on Knockachoora Mountain, in the Slieve Bloom Mountains. The Gorragh River passes to the east before its confluence with the Clodiagh River approximately 1.5 km north of the Village.

The Village has a population of approximately 608 persons. The village of Clonaslee has experienced growth since the last Census period and has potential to attract a population seeking to live in a rural environment.

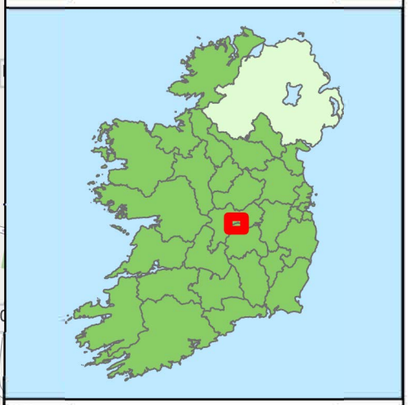
Clonaslee Village is designated as an Architectural Conservation Area (ACA) in the Laois County Development Plan 2021-2027. The urban form of the village has developed along two intersecting streets, the Main Street and Tullamore Road. The Main Street has the layout of an estate village, comprising a wide boulevard, with a continuous building line defining the boulevard on either side and creating a vista which terminates in the Visitor's Centre, formerly the Church of Ireland. The streetscape of the Tullamore Road runs parallel to the Clodiagh River. At the southern end, closer to the Village, two-storey buildings create a strong feeling of urban enclosure. Beyond the church gates, the building form changes, and one-storey buildings predominate. At the southern end of this road, the village is anchored by a trailhead to Slieve Bloom Mountains and walking loops around Brittas House and Lakes.

The surrounding landscape comprises the Slieve Bloom Mountains Special Area of Conservation (SAC) and Special Protection Area (SPA) to the south, and agricultural land, commercial forestry, cutover peatlands and one-off housing to the east, west and north.

The Clodiagh River is the main source of flooding in the village. The extent of predicted 1% Annual Exceedance Probability (AEP) flooding, and resultant properties as risk from flooding is shown on Figure 1-2

Legend

- Application Site
- Watercourses



Client

Laois County Council

Clonaslee FRS

Title

Figure 1-1 Clonaslee Proposed Scheme Area

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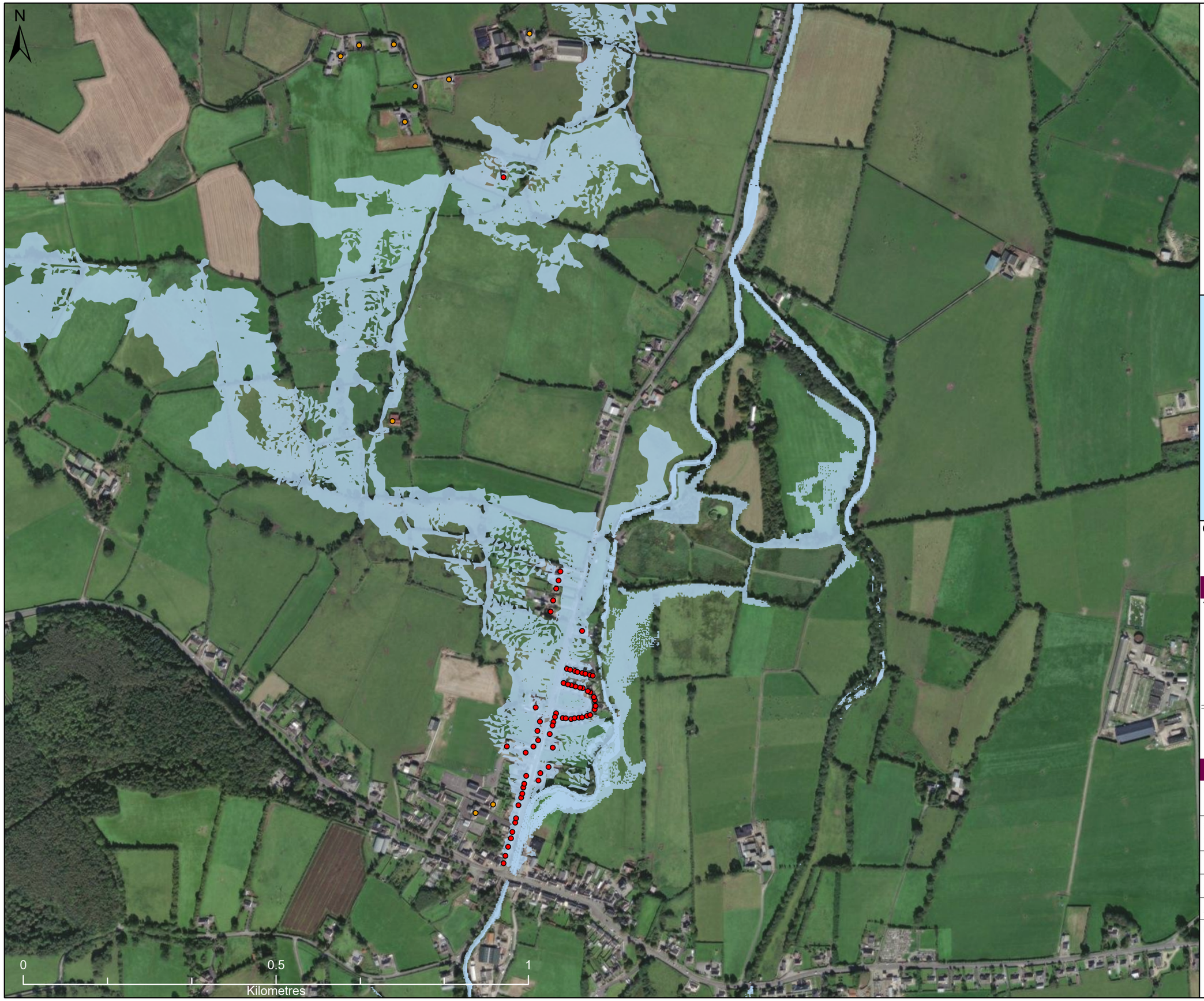

Legend

- Flood Risk Zone 1% AEP
- Properties Currently at Risk
- Properties Currently at Risk (No Road Access)

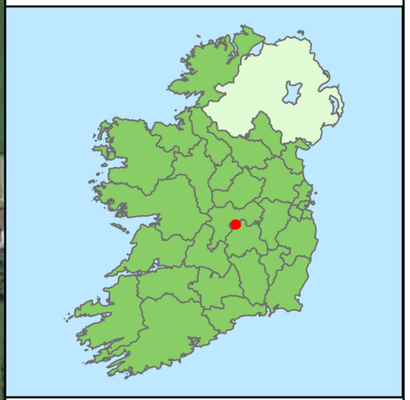

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Figure 1-2
Pre-Scheme Composite Flood Risk Zone 1% AEP

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1.2 Need for Proposed Scheme

1.2.1 Flood History at Clonaslee

Clonaslee Village has a history of fluvial flooding due to its location on the Clodiagh River, which flows through the village. The main source of flooding in Clonaslee is the high-water levels in the Clodiagh River which originate from the Slieve Bloom Mountains. Clonaslee Village is located at the base of the Slieve Bloom Mountains where the topography changes from steep slopes to a flat terrain, resulting in large amounts of surface water run off flowing into the Clodiagh River. This is quick to occur and quick to dissipate.

In November 2017, Chapel Street and the adjacent properties were subject to flooding. This coincided with a breach in the stone wall that separates the Clodiagh River from the street. Anecdotal evidence indicates water seeps through the wall and bubbles up through the road along Chapel Street in times of high-water levels. Further anecdotal reports highlight the risk of blockage to the bridge crossing the Clodiagh in the middle of the village. During storm events, woody debris from the catchment upstream has blocked the bridge causing the river to back up and flood out of bank.

Based on Clonaslee's current susceptibility to flooding in conjunction with forecasted increases in future flooding, there is a need to develop a Flood Relief Scheme (FRS) to protect Clonaslee's residents from serious flooding events and to preserve Clonaslee as an attractive village for tourism and development.

The Office of Public Works (OPW), working in partnership with Laois County Council (LCC) and other local authorities completed the Upper & Lower River Basin Shannon Catchment Flood Risk Assessment and Management (CFRAM) Study 2018 (UoM 25/26)[1]. The 2018 study identified 42 residential and 3 non-residential properties in Clonaslee as being at risk from 1% AEP fluvial flooding events. As such, the study included Clonaslee as an Area for Further Assessment (AFA) and concluded that a FRS would be viable and effective for the community.

Updated flood modelling undertaken by RPS predicts that flooding has the potential to affect 72 residential properties and 2 commercial properties if the Proposed Scheme was not implemented. Please see Figure 1-3 which illustrates the properties that are currently at risk of flooding which will benefit from the implementation of the Proposed Scheme.

[1] 2018 Flood Risk Management Plan for the Shannon Upper & Lower River Basin (UOM25-26). Available at: https://www.floodinfo.ie/publications/?t=22&a=644

N

0 0.5 1
Kilometres

Legend

- Benefitting Area
- 1% AEP Flood Extent
- Properties Currently at Risk (No Road Access)
- Properties Currently at Risk

Client

Laois County Council

Clonaslee FRS

Title

FIgure 1-3 Post-Scheme Flood Extent

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1.3 Proposed Scheme Objectives

The objective of the Proposed Scheme is to alleviate the risk of flooding in Clonaslee to a determined target Standard of Protection (SOP), to prevent flooding of properties and assets within the village of Clonalsee during flood events with a 1% Annual Exceedance Probability (AEP) for fluvial floods. RPS was appointed to identify, design and submit (for planning consent) a Flood Relief Scheme (FRS) that is technically, socially, environmentally, and economically acceptable.

The Proposed Scheme will deliver protection to the identified properties by constructing defences across three localised work areas: Brittas Wood; Chapel St; and Tullamore Rd and Integrated Constructed Wetland (ICW) as show on Figure 1-4 and listed in Table 1-1.

Table 1-1: Proposed Scheme Defences

Location	Proposed Defences
Area 1: Brittas Wood	• Debris trap with access slipway • Embankment • Culvert remediation
Area 2: Chapel Street	• Flood wall
Area 3: Tullamore Rd and Integrated Constructed Wetland (ICW)	• Flood wall • Embankment

Legend

- Properties Currently at Risk
- Properties Currently at Risk (No Road Access)
- Benefitting Area
- 1% AEP Flood Extent
- Works Area

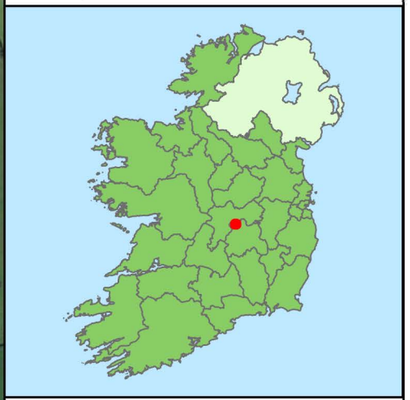

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FIgure 1-4
Proposed Scheme Defences in Area 1, 2 and 3

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1.4 The Applicant

Laois County Council (LCC) is the applicant for the Clonaslee FRS. LCC is the authority responsible for local government in County Laois. As a county council, it is governed by the Local Government Act 2001 and is responsible for several sectors across the county including:

- Housing and community;
- Roads and transportation;
- Urban planning and development;
- Amenity and culture; and
- Environment.

1.5 Requirement for EIAR

The requirement for an EIA for a project was initially set out in EU Directive (85/337/EEC) as amended by Directive 97/11/EC, 2003/35/EC and 2009/31/EC on the assessment of the effects of certain public and private projects on the environment. The amendments were codified by Directive 2011/92/EU (and as amended in turn by Directive 2014/52/EU). The Directives as amended being referred to as the 'EIA Directive'. The EIA Directive was transposed into Irish law through the European Union (Planning and Development) EIA Regulations 2018 (S.I. No. 296 of 2018).

The EIA Directive requires that certain developments be assessed for likely significant effects before planning permission can be granted. The prescribed classes of development and thresholds that trigger a mandatory EIA and the provision of an EIAR are set out in Schedule 5 of the Planning and Development Regulations, 2001, as amended.

The class under Schedule 5 that is relevant to the Scheme is listed below:

> *(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.*

For the Proposed Scheme the immediate contributing sub-catchment equates to the catchment area at the downstream point of the works (278.92 ha) minus the catchment area at most upstream point of the works (176.68 ha). This gives a catchment area of 102.24 ha for the Proposed Scheme, exceeding the limit of 100 ha stated above. As such, an EIA was required for this project.

An EIAR is required to be produced by the developer of a project under Articles 5(1) and 5(2), and with reference to Annex 1 and 2, of the EIA Directive and must contain the information specified in Annex IV. The information to be provided by the developer shall include at least:

a) A description of the project comprising information on the site, design, size and other relevant features of the project;

b) a description of the likely significant effects of the project on the environment;

c) a description of the features of the project and/or measures envisaged in order to avoid, prevent or reduce and, if possible, offset likely significant adverse effects on the environment;

d) a description of the reasonable alternatives studied by the developer, which are relevant to the project and its specific characteristics, and an indication of the main reasons for the option chosen, taking into account the effects of the project on the environment;

e) a non-technical summary of the information referred to in points (a) to (d); and

f) any additional information specified in Annex IV relevant to the specific characteristics of a particular project or type of project and to the environmental features likely to be affected.

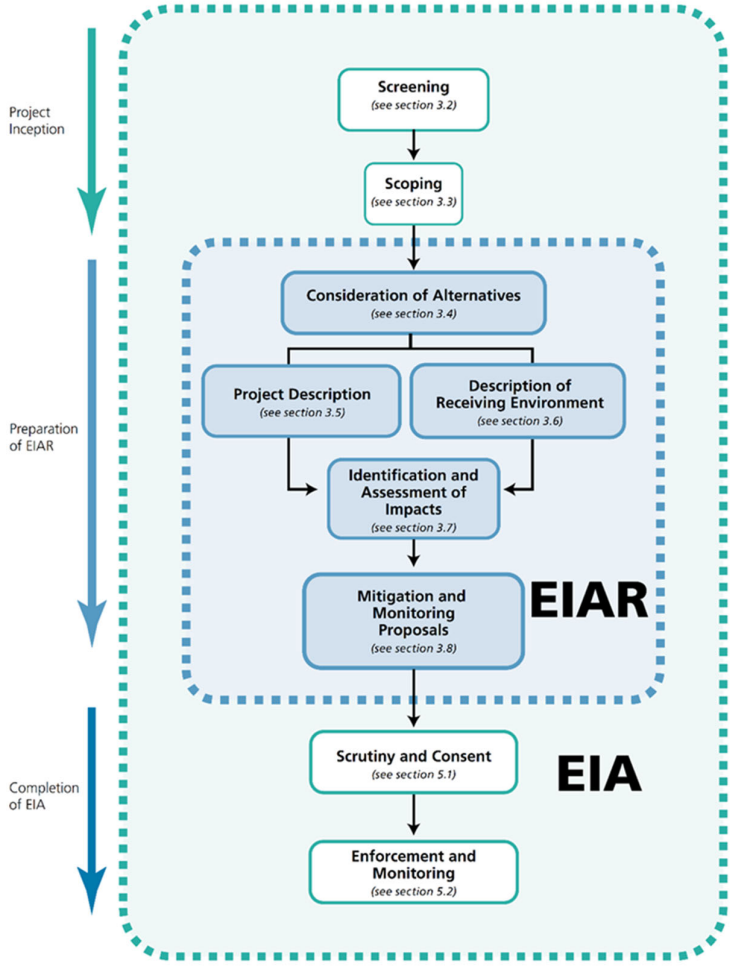
In addition, Article 94 of the Planning and Development Regulations 2001 (as amended) sets out the information to be contained in an EIAR, with which this EIAR complies.

The EIAR provides information on the receiving environment and assesses the likely significant effects of the Proposed Scheme on it and proposes mitigation measures to avoid or reduce these effects. The function of the EIAR is to provide information to allow the competent authority, in this case An Bord Pleanála, to conduct the Environmental Impact Assessment (EIA) of the Proposed Scheme and to facilitate an informed consent decision. All elements of the Proposed Scheme have been assessed as part of this EIAR.

The assessment rationale for the Proposed Scheme's requirement for an EIAR is further outlined in **Section 1.6.2**.

1.6 EIA Process

Figure 1-5 outlines the overall EIA process and the key activities undertaken for the Proposed Scheme during project inception, preparation and completion of the EIAR (EPA, 2022).



Source: Guidelines on the information to be contained in Environmental Impact Assessment Reports (EPA, 2022)

Figure 1-5: The EIA Process

1.6.1 Guidance

This EIA has been prepared in accordance with the requirements of the 2001 Act (as amended and substituted) and the EIA Directive. The preparation of documents associated with the EIA (EIA Screening, Scoping and EIAR) has been informed by relevant international and national EIA guidelines including the following:

- "*Guidelines on Information to be Contained in Environmental Impact Assessment Reports*" (EPA, 2022)

- "*Guidelines for Planning Authorities and An Bord Pleanála on Carrying out Environmental Impact Assessment*", (Department of Housing, Planning and Local Government, 2018)
- "*Environmental Impact Assessment of Projects-Guidance on Screening (Directive 2011/92/EU as amended by 2014/52/EU*" (European Commission, 2017a)
- "*Environmental Impact Assessment of Projects–Guidance on Scoping (Directive 2011/92/EU as amended by 2014/52/EU)*" (European Commission, 2017b)
- "*Environmental Impact Assessment of Projects – Guidance on the Preparation of the Environmental Impact Assessment Report*" (European Commssion, 2017c)
- "*Advice Notes on Current Practice in the Preparation of Environmental Impact Statements*" (EPA, 2003)

In addition to the applicable EIA legislation and guidance, relevant EU Directives, national legislation and guidance relating to the specialist areas have also been considered as part of the process and are addressed in each of the relevant assessment chapters contained in this EIAR.

1.6.2 Scoping

Scoping is an integral part of the EIA process, the aim of which is to identify matters that should be covered in the EIAR. It is defined in the EPA Guidelines (2022) as: "*identifying the significant issues which should be addressed by a particular Impact Assessment, as well as the means or methods of carrying out the assessment*".

EIA scoping seeks to identify the aspects of the environment where there is an interaction (either direct or indirect, positive or negative), with a proposal and the potential effects, which need to be assessed. The process is dynamic, reflecting the evolution of the Proposed Scheme design, comment from stakeholders and development of baseline information relevant to the receiving environment as a result of desktop and field surveys.

A scoping process to identify the issues that are likely to be most important during the EIA process was carried out by the applicant, design team and EIAR team. This collaboration informed the format of the EIAR. An informal EIA Scoping Report was sent to environmental stakeholders in December 2023 and again in June of 2024. The prescribed bodies and key stakeholders were invited to comment over a four-week period with both issues. The responses received have been considered in **Chapter 3: Consultation** and as part of the topic assessments of the EIAR in **Chapters 6 to 19.**

Taking into account the nature, size and location of the Proposed Scheme (see **Chapter 5: Project Description**), the topics listed in Table 1-2 are being identified as requiring consideration within this EIAR. The topics have been aligned to refer to the factors outlined by Article 3(1) and 3(2) of the EIA Directive and information specified under Section 80 (1) of the Planning and Development Regulations 2001, as amended.

Table 1-2: Factor to be Included in the EIAR

Information Required in the EIAR	Where Addressed in the EIAR
Article 3 EIA Directive – Environmental Factors	
1 (a): Population and human health	**Chapter 7: Population** **Chapter 8: Human Health**
1(b): Biodiversity, with particular attention to species and habitats protected under Directive 92/43/EEC and Directive 2009/147/EC	**Chapter 9: Biodiversity**
1(c): Land, soil, water, air and climate	**Chapter 10: Land, Soil, Geology & Hydrogeology** **Chapter 11: Water** **Chapter 12: Air Quality** **Chapter 13: Climate** **Chapter 14: Noise & Vibration**
1(d): Material assets, cultural heritage and the landscape	**Chapter 14: Material Assets: Waste & Utilities** **Chapter 16: Archaeology & Cultural Heritage** **Chapter 17: Landscape & Visual**
1(e): The interaction between the factors referred to in points (a) to (d)	**Chapter 18: Interactions & Cumulative Effects**

Information Required in the EIAR	Where Addressed in the EIAR
2: The effects referred to in paragraph 1 on the factors set out therein shall include the expected effects deriving from the vulnerability of the project to risks of major accidents and/or disasters that are relevant to the project concerned	**Chapter 19: Risk of Major Accidents or Disasters**
Section 80 (1) of the Planning and Development Regulations 2001, as amended	
Content of EIS 94: An EIS shall contain – (a) the information specified in paragraph 1 of Schedule 6,	
Schedule 6.1 (a) A description of the proposed development comprising information on the site, design and size of the proposed development.	**Chapter 5: Project Description**
Schedule 6.1 (b) A description of the measures envisaged to avoid, reduce and, if possible, remedy significant adverse effects.	**Chapters 6-19** and summarised in **Chapter 20: Schedule of Environmental Commitments**
Schedule 6.1 (c) The data required to identify and assess the main effects which the proposed development is likely to have on the environment.	**Chapter 5: Project Description**
Schedule 6.1 (d) An outline of the main alternatives studied by the developer and an indication of the main reasons for his or her choice, taking into account the effects on the environment.	**Chapter 4: Consideration of Alternatives**
Content of EIS 94: An EIS shall contain – (b) the information specified in paragraph 2 of Schedule 6 to the extent that- ***(i) such information is relevant to a given stage of the consent procedure and to the specific characteristics of the development or type of development concerned and of the environmental features likely to be affected, and*** ***(ii) the person or persons preparing the EIS may reasonably be required to compile such information having regard, among other things, to current knowledge and methods of assessment.***	
Section 6.2 (a) (i) a description of the physical characteristics of the whole proposed development and the land-use requirements during the construction and operational phases;	**Chapter 5: Project Description** **Chapter 10: Land, Soil, Geology & Hydrogeology**
Section 6.2 (a) (ii) a description of the main characteristics of the production processes, for instance, nature and quantity of the materials used;	**Chapter 5: Project Description**
Section 6.2 (a) (iii) an estimate, by type and quantity, of expected residues and emissions (including water, air and soil pollution, noise, vibration, light, heat and radiation) resulting from the operation of the proposed development;	**Chapter 10: Land, Soil, Geology & Hydrogeology** **Chapter 11: Water** **Chapter 12: Air Quality** **Chapter 14: Noise and Vibration** **Chapter 15: Material Assets: Waste & Utilities**
Section 6.2 (b) a description of the aspects of the environment likely to be significantly affected by the proposed development, including in particular: • Human beings, fauna and flora • Soil, water, air, climatic factors and the landscape • Material assets, including the architectural and archaeological heritage, and the cultural heritage • The inter-relationship between the above factors	**Chapters 6-19** and summarised in **Chapter 20: Schedule of Environmental Commitments**
Section 6.2(c) a description of the likely significant effects (including direct, indirect, secondary, cumulative, short, medium and long-term, permanent and temporary, positive and negative) of the proposed development on the environment resulting from: • The existence of the proposed development • The use of natural resources • The emission of pollutants, the creation of nuisances and the elimination of waste, and a description of the forecasting methods used to assess the effects on the environment	**Chapter 15: Material Assets: Waste and Utilities**
Section 6.2 (d) an indication of any difficulties (technical deficiencies or lack of know-how) encountered by the developer in compiling the required information.	Provided in **Chapters 5-18**

Information Required in the EIAR	Where Addressed in the EIAR
Content of EIS 94. An EIS shall contain – (c) a summary in non-technical language of the information required under paragraphs (a) and (b).	
(c) a summary in non-technical language of the information required under paragraphs (a) and (b).	**Volume I: Non-Technical Summary (NTS)**

1.6.3 Environmental Impact Assessment Report

The EIA process involves several steps which includes the production of an Environmental Impact Assessment Report (EIAR), although this is not the end in itself but rather an output to assist in a wider decision-making framework. The EPA (2022) define EIA as:

> "*The process of examining the anticipated environmental effects of proposed project - from consideration of environmental aspects at design stage, through consultation and preparation of an Environmental Impact Assessment Report, evaluation of the EIAR by a competent authority, the subsequent decision as to whether the project should be permitted to proceed, encompassing public response to that decision*".

An EIAR is a statement prepared by the developer, providing information on the significant effects on the environment based on current knowledge and methods of assessment. It is carried out by competent experts, with appropriate expertise to provide informed assessment on the environmental factors as required under the EIA Directive. The EIAR consists of a systematic analysis and assessment of the potential effects of a Proposed Scheme on the receiving environment. The EIAR specifically:

- Provides statutory and non-statutory consultees with technical information to enable an understanding of the Proposed Scheme;
- Provides a description of the reasonable alternatives considered for the Proposed Scheme and an indication of the main reasons for the options were selected including taking into account the effects of the Proposed Scheme on the environment;
- Presents the existing environmental baseline information established from desktop studies, site-specific surveys and/ or consultation;
- Indicates any limitations encountered during the compilation of the environmental information, including the acknowledgement of any data gaps or deficiencies and confidence in the information gathered;
- Describes the methodology used within the EIA process;
- Presents the potential environmental impacts arising from the Proposed Scheme. This will be based on the baseline information coupled with the analysis and impact assessments completed; and
- Proposes mitigation measures to avoid, prevent, reduce or, if possible, offset any identified significant adverse effects on the environment. Where mitigation measures have been identified, the residual significance of effects has also been identified.

1.7 Limitations

There were no **limitations** encountered during the preparation of this EIAR.

1.8 Structure of the EIAR

The EIAR is divided into four volumes:

- **Volume I:** Non-Technical Summary (NTS);
- **Volume II:** EIAR Main Body;
- **Volume III:** Technical Appendices; and
- **Volume IV:** Natura Impact Statement (NIS).

Table 1-3 provides a breakdown of the contents of the EIAR volumes and the organisations that have contributed to the EIAR.

Table 1-3: EIAR Structure, Content and Contributors

Volume	Ref	Chapter/ Report	Competent Expert
Volume I NTS		NTS	Paul Chadwick
Volume II, and associated appendices in Volume III	1	Introduction	Paul Chadwick
	2	Planning & Policy	Michael Higgins
	3	Consultation	Paul Chadwick
	4	Consideration of Alternatives	Barry Cahalin
	5	Project Description	Barry Cahalin
	6	Traffic & Transportation	Rowan O'Callaghan
	7	Population	Michael Higgins
	8	Human Health	Ryngan Pyper
	9	Biodiversity	Robert Rowlands
	10	Land, Soil, Geology and Hydrogeology	Noreta Daly
	11	Water	Barry Cahalin
	12	Air Quality	Paul Chadwick
	13	Climate	Paul Chadwick
	14	Noise & Vibrations	John Mahon
	15	Material Assets: Waste & Utilities	Barry Cahalin & Paul Chadwick
	16	Archaeology and Cultural Heritage	Joanne Hughes
	17	Landscape & Visual	Eimear O'Connor
	18	Interactions & Cumulative Effects	Paul Chadwick
	19	Risks of Major Accidents and/ or Disasters	Paul Chadwick
	20	Schedule of Environmental Commitments	Paul Chadwick
Volume IV		AA Screening Report and NIS	Robert Rowlands

1.9 Study Team

The list of the EIAR contributors outlining their competence and experience, including relevant qualifications is provided in Table 1-4

Table 1-4: Qualifications and Experience of EIAR Competent Experts

Expert	Qualifications	Relevant Experience
Barry Cahalin (RPS)	BE (Hons) Civil Engineering, University College Dublin (2005)	**Project Management & Water -** Barry is a Senior Associate Engineer and member of the RPS Water team. Barry is a Chartered Engineer with 19 years' experience in both Civil Engineering Contracting and Consultancy in Ireland and Australia. From a multi-disciplinary background Barry is the Project Management Lead for Flooding Schemes in the RPS Dublin Office, with current direct responsibility for the Morell FRS and the Clonaslee FRS. In additional, he is currently Managing technical Urban Drainage Area Plan (DAP) Studies for Irish Water, and for the same Client has extensive experience in delivering large scale Capital Projects from Project Planning stages through to Administration of Construction Contracts. Other notable experience in reinforced concrete, post-tensioning, slope stabilisation and underground structures/retaining walls.
Paul Chadwick (RPS)	Research Master's Degree in Atmospheric Chemistry, Dublin Institute of Technology (1998), Hons Bachelor's Degree in Chemistry, Trinity College, Dublin (1996)	**Air Quality, Climate & Environment –** Paul is a Technical Director with the Energy, Environment and Resources Sector and leads the team responsible for environmental, waste and resource management and assessment of infrastructural and industrial projects for RPS in Ireland. Paul specialises in the fields of air quality and climate. He has considerable experience, both academic and professional, in ambient air quality and a wide range of atmospheric pollutants from waste / wastewater, road traffic, air traffic, industrial and stationary sources. As a result of two years research in atmospheric chemistry, he has an in-depth knowledge of the chemical and physical transformations associated with local and regional air pollution and climate change. Paul is a trained and experienced expert witness and is supported by a team of multidisciplinary environmental experts across RPS in Ireland.
Rowan O'Callaghan (RPS)	BE (Hons) Civil Engineering: UCD, 1996 MengSc Civil Engineering: UCD, 1998 Certificate of Competence in Road Safety Audit: UCD, 2013 Leadership: ACEI 2016, Questas 2019 BIM Professional: AP/PIM/TIM, BRE, 2019	**Traffic & Transportation –** Rowan is a Chartered Engineer with over 24 years' experience in the design and project management of major infrastructural projects, from initial planning and preliminary design through to detailed design, procurement, construction, operation and maintenance. He is a vastly experienced project manager leading multidisciplinary design teams on current/recent projects including the Limerick Tunnel Public Private Partnership (PPP) Scheme, N16 Munakill Realignment Scheme, N51 Traffic Calming Scheme, Transport Infrastructure Ireland's (TII) National Road Network Delineation and Vehicle Restraint Systems (VRS) programmes, and the National Speed Limit Review.

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Expert	Qualifications	Relevant Experience
Michael Higgins (RPS)	Postgraduate Course Transportation Sciences, University Hasselt, Belgium in association with Universidad de Valencia, Spain, 2012-2017 Master of Regional and Urban Planning, University College Dublin (2007) Higher Diploma in Education, University College Galway (1997) BA (Hons) Economics and English, University College Galway (1995)	**Planning & Policy, Population–** Michael is an experienced Transport and Urban Planner working with the Planning Team in RPS. He has worked on a diverse portfolio of land use, transportation and development projects in both the public and private sectors in Ireland and the United Kingdom (UK) and has experience in the areas of Planning, Transport and Land Use Assessment, Mobility Management Plans, EIARs and Site Development Appraisals. He has experience of working within multi-disciplinary teams to provide a wide spectrum of 'cradle to grave' inputs. With a background in Economics Michael brings a rigorous, evidence based approach to his work.
Ryngan Pyper (RPS UK)	BA & MA (Hons) Biological Sciences, PGDip (distinction) Public Health, Gdip Law, PGDip (distinction) Legal Practice	**Human Health –** Ryngan is the Director of Health and Social Impact at RPS. Ryngan has over 15 years' experience as a professional consultant and works across the fields of public health, environmental science and impact assessment. Ryngan provides health input into EIA for major infrastructure schemes including road transport. He also advises Government and professional bodies on good practice. Ryngan has advised the World Health Organization on addressing health in EIA and in 2021 was involved in the updated Health Impact Assessment (HIA) Guidance for Ireland and Northern Ireland for the Institute of Public Health (IPH), incorporating the most recent developments and best practice in the field. Ryngan is the current chair of the health section of the International Association for Impact Assessment.
Senuri Mahamithawa (RPS UK)	Senuri Mahamithawa (MSc DIC BSc (hons) AIEMA)	**Health and Social Impact -** Senuri is a Senior Consultant (Health and Social Impact) at RPS with 7 years of professional experience within the health and environmental impact assessment sectors. Her qualifications include a MSc in Environmental Technology (specialising in Environmental Health and Epidemiology), and a BSc in Biology (Hons). Senuri has extensive experience in delivering bespoke Health Impact Assessments (HIA) and Population and Health ES chapters for a wide range of infrastructure projects including airports and aviation, road and rail, energy facilities (including nuclear), renewables (including solar and wind, and their grid connections), waste management, residential developments, and urban expansions. Senuri is an Associate member of the Institute of Environmental Management and Assessment (AIEMA). She has co-authored a WHO paper on circular economy and HIA and presented UK best practice on assessing health within EIA for the European Public Health Association.

Expert	Qualifications	Relevant Experience
Robert Rowlands (RPS)	PhD, University College Dublin, 2001 (sponsored by Bord na Mona) BSc Environmental Biology (First Class Honours), University of Wales (1997)	**Biodiversity –** Dr Rob Rowlands is a Technical Director in RPS. He has worked in private consultancy practice for 23 years; advising private and public sector clients with respect to the environmental planning policy and legislative requirements of their development projects. He is an experienced multi-disciplinary project manager; in particular, advising on strategy with respect to ecology, landscape, heritage/archaeology and arboriculture. This has also involved cross-disciplinary work with respect to air quality, hydrology and acoustics. He is a commercially minded and pragmatic consultant; particularly important when consulting and negotiating on behalf of a client and their projects. Rob is an experienced ecologist. Following the completion of his PhD research into the restoration of cutaway peatlands for Bord na Mona in 2001, he has been sought to advise on the ecological requirements of multiple, complex projects both with respect to habitats and species. His ecological work has included the completion of Ecological Impact Assessments (including for EIAR) and Appropriate Assessments (AA) with respect to the Habitats and Birds Directive. He is an experienced Expert Witness on ecological matters. He has expertise in the emerging area of Biodiversity Net Gain; drawing on his previous experience in the UK where it emerged as a consideration in policy c. 15 years ago.
Noreta Daly (RPS)	BSc (Hons) Earth Science, NUI, Galway. MSc Applied Environmental Geology, University of Wales, Cardiff. Certified Associate in Project Management, Project Management Institute (PMI) (2011)	**Land, Soil, Geology and Hydrogeology –** Noreta has 11 years' experience in hydrogeology / environment and six years' experience working as a hydrogeologist with RPS, specialising in geological and hydrogeological aspects of water supply schemes, transport, waste, contaminated land and commercial/ industrial projects as well as groundwater resource development. She is experienced in the delivery and coordination of environmental programs for groundwater protection, environmental risk assessment, EIA, Environmental Monitoring Programmes as well as project management for Irish Water's Treated Water Storage programme.
John Mahon (RPS)	PhD Acoustics and Vibration, Trinity College Dublin. BA BAI (Hons) Mechanical Engineering, Trinity College Dublin	**Noise & Vibrations –** John Mahon has 19 years' experience in environmental projects including planning applications and EIAs for a wide range of strategic infrastructure projects. He is a Chartered engineer with Engineers Ireland where his primary experience is in environmental noise. He has contributed to Irish Wind Energy Association (IWEA) planning group and provide expertise on the area of wind turbine noise. John also sits on the Irish and European Committees for Standardization CEN/TC226/WG 6 (Road traffic noise reducing devices).

Expert	Qualifications	Relevant Experience
Joanne Hughes (AMS)		**Archaeology and Cultural Heritage** Joanne has worked as a field archaeologist since 1996 and has directed excavations in Ireland since 2002. She completed a 1-year contract with Cork City Council (CCC) as Cork City Archaeologist in 2018 and subsequently undertook a project management role with CCC (MMIAH Project) before joining the AMS team in 2019. In the heritage and tourism fields Joanne has worked with organizations including Office of Public Works, South Tipperary Development (LEADER) Company and South Tipperary Tourism Company. In a voluntary capacity she works with local committees to deliver archaeology and heritage related projects with an acknowledged high education value. Joanne acts as EIA manager at AMS overseeing and undertaking Heritage impact assessments and authoring EIAR chapters.
Eimear O'Connor (RPS)	Bachelor of Agricultural Science in Horticulture (1989) Master of Landscape Architecture (1992) ILM Level 5 Certificate – Institute of leadership and management (2022)	**Landscape & Visual -** Eimear is a chartered landscape architect with over 34 years of experience in advising on landscape and visual assessment matters for a diverse range of projects in transport, waste, power, mining and minerals and mixed use development sectors. She has also provided advice in relation to the design of public parks including a future park on a former landfill site. She is highly experienced in all stages of the landscape and visual impact assessment process through to oral hearing. She has provided advice on projects at both options appraisal stage and detailed design stage for a wide range of transport schemes and other development types. Her recent experience includes delivery of Stage (II) Option selection, design and Landscape and Visual Impact Assessment (LVIA) for two road schemes in Ireland. Eimear has worked for two years on the North West Coast Connections powerline project in Cumbria for National grid UK for which she provided design and LVIA services as part of the Development Consent Order (DCO).

1.10 Chapter References

Department of Housing, Planning and Local Government. (2018). *Guidelines for Planning Authorities and An Bord Pleanála on Carrying out Environmental Impact Assessment".*

EPA. (2003). *Advice Notes on Current Practice in the Preparation of Environmental Impact Statements.*

EPA. (2022). *Guidelines on Information to be Contained in Environmental Impact Assessment Reports.*

EPA. (2022). *Guidelines on the information to be contained in Environmental Impact Assessment Reports.*

European Commission. (2017a). *Environmental Impact Assessment of Projects-Guidance on Screening (Directive 2011/92/EU as amended by 2014/52/EU.*

European Commission. (2017b). *Environmental Impact Assessment of Projects–Guidance on Scoping (Directive 2011/92/EU as amended by 2014/52/EU).*

European Commssion. (2017c). *Environmental Impact Assessment of Projects – Guidance on the Preparation of the Environmental Impact Assessment Report.*

Office of Public Works. (2018). *Shannon Upper and Lower: Flood Risk Management Plan.* Trim.

Irish Statute Book (2018). European Union (Planning and Development) (Environmental Impact Assessment) Regulations 2018 (S.I. No. 296 of 2018).

Irish Statute Book (2001). Planning and Development Regulations S.I. No. 296 of 2018. Stationery Office, Dublin.

Irish Statute Book (2000). Planning and Development Acts 2000 to 2019. Stationery Office, Dublin

Laois County Council (2021) Tipperary County Development Plan (2021-2027)