

**Review of
Environmental Impact Assessment
Report for the River Bride (Blackpool)
Drainage Scheme
- including recommendations -**

(Scheme Reference: DPE63-18-2018)

**by
CAAS Ltd
for the
Department of Public Expenditure and
Reform**



**An Roinn Caiteachais
Phoiblí agus Athchóirithe**
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Contents

EXECUTIVE SUMMARY	3
INTRODUCTION	4
INFORMATION MADE AVAILABLE TO CAAS FOR REVIEW	5
SCHEME OVERVIEW	5
REVIEW OF THE ENVIRONMENTAL IMPACT ASSESSMENT REPORT	7
NOTES ON APPROACH TAKEN IN REVIEW	7
1. PRELIMINARIES	8
2. REVIEW AGAINST SPECIFIC REQUIREMENTS OF THE REGULATIONS	9
3. COMMENTS ON INDIVIDUAL SECTIONS OF EIAR	19
<i>1 Introduction.....</i>	<i>19</i>
<i>2 Background to the Proposed Development.....</i>	<i>19</i>
<i>3 Description of the Proposed Development.....</i>	<i>23</i>
<i>4 Population and Human Health.....</i>	<i>26</i>
<i>5 Biodiversity, Flora and Fauna.....</i>	<i>26</i>
<i>6 Land Use, Geology and Soils in the Existing Environment.....</i>	<i>30</i>
<i>7 Water – Hydrology & Hydrogeology</i>	<i>30</i>
<i>8 Air Quality & Climate / Noise & Vibration.....</i>	<i>31</i>
<i>9 Landscape</i>	<i>32</i>
<i>10 Cultural Heritage.....</i>	<i>33</i>
<i>11 Material Assets Impact Assessment.....</i>	<i>34</i>
<i>12 Interaction of the Foregoing</i>	<i>35</i>
<i>Non-Technical Summary</i>	<i>36</i>
CONCLUSIONS	36
RECOMMENDATIONS	36
APPENDIX 1 - REFERENCE DOCUMENTS	39
APPENDIX 2 - RECOMMENDATIONS MADE FOLLOWING INITIAL EIAR REVIEW	40
APPENDIX 3 - COMPETENCY OF REVIEW TEAM	43

Executive Summary

The Environmental Impact Assessment Report (EIAR) has been reviewed to ascertain whether or not it meets the requirements of the relevant Regulations, as required to support the EIA aspects of the Confirmation Order process.

The assessment carried out for the original EIAR was inadequate and did not clearly show whether or not the impacts on some environmental factors were acceptable. There were a number of other significant gaps and deficiencies particularly in relation to comparison of environmental effects of alternatives, levels of detail given in description of works including construction plans, also in relation to adequacy of mitigation and monitoring measures.

Following that review, a request for further information was issued to the Commissioners. Supplementary information was submitted opt DPER in October. That information included an extensive addendum to the original EIAR.

This review has considered the original EIAR and the Addendum as a whole. It finds that the environmental impacts that are predicted appear to generally be commensurate with impacts that would be expected for a typical flood relief scheme of this scale. It finds that the information as presented in the EIAR and Addendum is considered, together, to be generally compliant.

In the event that it is decided to grant a Confirmation Order for the scheme a number of conditions are recommended to be attached to the order to ensure full compliance of the consent process with the requirements of the EIA Directive.

Introduction

CAAS Ltd have been commissioned by the Department of Public Expenditure and Reform to carry out a review of the EIAR and associated documentation on the proposed Flood Relief Scheme for the River Bride (Blackpool).

CAAS have been contracted by the EPA for the preparation of every edition of the statutory guidelines on the preparation of EIARs. Our team has been involved in both preparation of environmental assessments and their reviews on behalf of consent authorities since the introduction on the 1985 EIA Directive. Competencies of review team members are provided at the end of this document.

This review is to inform the Minister for Public Expenditure and Reform in carrying out an Environmental Impact Assessment (EIA) of the scheme in accordance with the requirements of the Arterial Drainage Act 1945 (No. 3 of 1945) as amended by S.I. 472 of 2019, the European Union (Environmental Impact Assessment) (Arterial Drainage) Regulations 2019. These regulations were introduced in 2019 to transpose the requirements of the EIA Directive 2011/92/EU as amended by Directive 2014/52/ EU.

The EIAR for the scheme was originally prepared in 2018, a year before the introduction of S.I. 472. It is stated in the original EIAR that it was prepared in compliance with the legislation including the provisions of Directive 2011/92/EU (as amended) and in accordance with the requirements of the *Guidelines on the information to be contained in Environmental Impact Assessment Reports, 2017* (draft), EPA (referred to as the EPA Guidelines hereafter). This statement shows that the authors sought to pre-empt the requirements of the transposing regulations.

Supplementary information submitted to DPER in November 2020 contained an Addendum to the EIAR. This provided additional detail and clarity on various details of the scheme and its assessment, as sought in the further information request, and as required to support the environmental assessment purposes. It did not comprise any significant variation to the proposed scheme itself.

This report contains a review of the whole EIAR primarily against the requirements of S.I. 472 of 2019. It also takes account of overarching requirements of the EIA Directive 2011/92/EU (as amended) and the *Guidelines on the information to be contained in Environmental Impact Assessment Reports, 2017* (draft), EPA (referred to as the EPA Guidelines hereafter), where applicable.

This report sets out, in the following sequence:

- the approach taken in this review
- the information reviewed
- an overview of the proposed scheme
- a review of the EIAR and associated documentation
 - This is done in two parts, initially by reference to the specific requirements of the Regulations. The parts of the EIAR and other documents that address each requirement are identified and comments are provided on the adequacy of the information in terms of compliance with the statutory requirements.
 - The second part comprises a section by section review of the EIAR in the context of the statutory requirements and guidelines.

- conclusions
 - Compliance of the EJAR
 - Acceptability of predicted impacts
 - Adequacy of mitigation
- recommendations to the Minister
 - These are presented as a list of items which the Minister may request from the Commissioners to ensure robust compliance with the applicable requirements.

This review does not cover the scheme Natura Impact Statement (NIS). The NIS is included as Volume 3 of the EJAR. The NIS is part of the Appropriate Assessment (Habitats Directive - 92/43/EEC) process, not part of the Environmental Impact Assessment process. It is reviewed separately.

This review does not cover compliance of the scheme with the Floods Directive (2007/60/EC).

Information made available to CAAS for review

This information comprised the EJAR and associated documents per the list of reference documents which is provided in Appendix 1 to this report.

Scheme overview

The key elements of the proposed works involve:

- Site investigation;
- Construction of new culverts;
- Replacement of existing bridges/ culverts;
- Construction of new flood walls/ earthen embankments;
- Constructing bridge parapets;
- Local channel widening of the River Bride (referred to as a 'Winter Channel' on the scheme drawings in Appendix 3A);
- Construction of a sedimentation trap on the left bank of the River Bride;
- Removal of approximately 70m of existing culvert and restoration of open channel (River Bride) at this location;
- Construction of a new trash screen and roughing screens, and removal of existing trash screens on the River Bride, and the Glen and Glenamought Rivers;
- Modifications to the existing foul and surface water collection networks in the vicinity of the proposed works, including construction of pumping stations, in order to prevent flooding;
- Removal of an existing sluice structure in the channel of the River Bride to the rear of the Dulux factory;

- Localised regrading of ground levels, erection of fencing and access gates, to facilitate pedestrian/ vehicular access to and around flood defences, or to redirect overland surface water flow paths;
- Filling in a part of an existing open watercourse;
- Introduction of a flow control structure on the entrance to the Brewery culvert on the River Bride and the Spring Lane culverted branch of the River Glen;
- Regular maintenance of the river channel and pumping stations;
- Local stonework repairs within an existing masonry arch culvert (Brewery Branch culvert); and
- Utility diversions.

The scheme extends over approximately 2.5 km of the River Bride, stretches of its tributaries including 1 km of the Glenamought and .7 km of the Glen River and works to the lower reaches which extend over 1 km and are mainly culverted.

Review of the Environmental Impact Assessment Report

Notes on approach taken in review

The review is provided in three parts.

1. Preliminaries

The first is a brief tabular review of coverage of screening, scoping and consultation. These are fundamental parts of the EIA process. The regulations include specific requirements about how these are to be addressed in the EIA process. As they do not set out specific requirements regarding how these aspects are to be addressed in an EIAR, these elements are addressed as a separate *preliminary* group.

2. Review against specific requirements of the Regulations

The second part examines compliance with the requirements of the Regulations which specifically set out the information that is to be included in an EIAR. The parts of the EIAR and supporting documents that address each requirement are identified and comments are provided on the adequacy of the information in terms of compliance with the statutory requirements. This is set out in a tabular format which corresponds to the arrangement the requirements in the Regulations.

3. Comments on individual sections of EIAR

The third part comprises a section by section review of the EIAR in the context of both the statutory requirements and the EPA Guidelines.

General Note

This review generally avoids detailed commentary on issues encountered during the review which hinder accessibility, and / or may not be in keeping with the EPA Guidelines but are not specific compliance issues. These issues include repetition of material. For example, the same project description details and information on other projects in the vicinity is repeated in the majority of sections. A considerable amount of superfluous material is also included. These faults generally reflect a lack of attention to the scoping and adherence to the Guidelines. Where they are considered particularly significant and relevant, they are discussed briefly.

1. Preliminaries

EIA related processes	Key documentation ¹	Comment
Screening	s1.4.1	This material is considered to be generally compliant.
Scoping and Consultation	s1.4, s2.8, <i>Public Exhibition – Report on Observations</i>	This material summarises scoping responses from authorities and NGOs. Feedback from the public is also summarised. The extent to which feedback received during these consultations informed the evolution of the design or EIA processes is generally described in the EIAR and Addendum.

¹ All references are to the EIAR (Volume 2 – Main Text) unless stated otherwise

2. Review against specific requirements of the Regulations

Requirements of the Regulations ²		Key coverage in		Comments
		main EIAR document	appendices / other Reports	
(2)	An environmental impact assessment report shall include, at a minimum, the following information:			
(a)	a description of the proposed arterial drainage works concerned, comprising information on the site, design, size and other relevant features of those works;	S3 <i>Description of the Proposed Development</i>	<i>Confirmation Drawings and Schedules</i> <i>Addendum to s3</i> <i>Addendum Appendices 3B-F: Pump Station Kiosk Details, Maintenance Plan, Construction Programme and Construction Environmental Management Plan (CEMP)</i>	S3 describes the features and design of the proposed scheme by reference to each major scheme element. Significant gaps in the original documents have been adequately addressed in the supplementary information. This material is considered compliant. See review of section 3 of the EIAR <i>Description of the Proposed Development</i> below for more on this.
(b)	a description of the likely significant effects of the proposed arterial drainage works on the environment;	S3 Description of the Proposed Development S4 to S11	Addenda to s3, 4, 5, 7, 8, 9, 10 and 11 Addendum Appendices 3B-F (<i>listed above</i>) Addendum Appendix 11B <i>Traffic Impact Assessment</i>	Impacts of the proposed scheme are assessed in the relevant specialist sections including the supplementary information This material is considered to be generally compliant.

² Arterial Drainage Act 1945 (No. 3 of 1945) as amended (ref. Article 4E of S.I No. 472/2019 – European Union (Environmental Impact Assessment) (Arterial Drainage) Regulations 2019)

Requirements of the Regulations ²		Key coverage in		Comments
		main EIAR document	appendices / other Reports	
(c)	A description of- (i) the features of the proposed arterial drainage works, if any, and (ii) the measures, if any, envisaged in order to avoid, prevent or reduce and, if possible, offset likely significant adverse effects on the environment;	S4 to S11	Addenda to s3, 4, 5, 7, 8, 9, 10 and 11 Addendum Chapter 13 <i>Schedule of Mitigation Measures</i> Addendum Appendix 11B <i>Traffic Impact Assessment</i>	Measures to mitigate adverse impacts are provided in relevant sections of the EIAR and in the CEMP, including the information provided in the supplementary information. These are generally set out clearly and in a manner that demonstrates compliance with the requirements.
(d)	a description of the reasonable alternatives studied by the Commissioners, which are relevant to the proposed arterial drainage works and its specific characteristics, and an indication of the main reasons for the option chosen, taking into account the effects of the works on the environment;	S2.6 <i>Consideration of Alternatives</i>	Addendum to Chapter 2 <i>Background to the Proposed Development</i>	S2 provides a description of a hierarchy of alternatives from non-structural strategies to specific local interventions. It refers to and provides a link to a detailed Flood Risk Management Options Report which was prepared in 2016. The supplementary information generally shows how environmental considerations were taken into account during consideration of reasonable alternatives.
(e)	a non-technical summary of the information referred to in paragraphs (a) to (d);		<i>Non-Technical Summary and Addendum to same</i>	The Non-Technical Summary provided in the supplementary information is considered to be generally compliant.
(f)	any additional information specified in Annex IV to the directive relevant to the specific characteristics of the proposed arterial drainage works and to the environmental features likely to be affected.	all sections of EIAR	Appendices to EIAR <i>Confirmation Drawings and Schedules</i>	Annex IV to the Directive contains a detailed list of information which is required to be contained in an EIAR. Compliance with this requirement is reviewed in detail by reference to each category of information specified in Annex IV (see below).

Requirements of the Regulations ²		Key coverage in		Comments
		main EIAR document	appendices / other Reports	
(3)	Where the Minister issues an opinion under section 4F [a scoping opinion], the environmental impact assessment report for the drainage works concerned shall be based on that opinion, and include the information that may reasonably be required for reaching a reasoned conclusion on the significant effects of the project on the environment, taking into account current knowledge and methods of assessment.	<i>S2.8 Consultation</i>	<i>Appendices 2B and 2H Scoping Document Responses Public Exhibition – Report on Observations</i>	The EIAR was prepared by consultants for the Office of Public Works on behalf of the Minister. No formal scoping opinion was obtained from the Minister. The preparation of the EIAR predated the Regulations which contain section 4F. Extensive consultation, including consultation with other Government Departments, bodies and the public was carried out as documented in s2.8. of the EIAR and in the Public Exhibition Report. The extent to which the consultation informed the scope of the EIAR is reviewed briefly under the heading of Preliminaries above and in more detail in the review of s2 below.
(4)	The Commissioners shall, in preparing the environmental impact assessment report, take into account the available results of other relevant assessments under the law of the State, the European Union or Member States with a view to avoiding duplication of assessments.	<i>Natura Impact Statement</i>		A Natura Impact Statement (NIS) prepared pursuant to the requirements of Article 6(3) of the Habitats Directive is included as Volume 3 of the EIAR. A separate review of the NIS has been carried out by CAAS for the DPER. The findings of that review are presented in a separate report.
(5)	The Commissioners shall ensure that an environmental impact assessment report is prepared on their behalf by competent experts.	<i>S1.6 Project Team</i>	Addendum to Chapter 1	The information presented provides the names of companies and personnel responsible for completion of the EIAR. Their inputs are listed in Table 1.3. Details of their qualifications, experience and competency, are provided in compliant format in the Addendum.

Requirements of the Regulations ²		Key coverage in		Comments
		main EIAR document	appendices / other Reports	
Annex IV of Directive – as referred to in article 2(f) of the Regulations (see above)				
1	<p>Description of the project, including in particular:</p> <p>(a) a description of the location of the project;</p> <p>(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;</p> <p>(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;</p> <p>(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.</p>	<p><i>S3 Description of the Proposed Development</i></p>	<p><i>Confirmation Drawings and Schedules</i></p> <p>Addenda to s3</p> <p>Addendum Chapter 13 <i>Schedule of Mitigation Measures</i></p> <p>Addendum Appendix 11B <i>Traffic Impact Assessment</i></p>	<p>Significant gaps in the original scheme information have been addressed by the supplementary information. The overall set of material is considered to be generally compliant.</p> <p>Also see comments on article 2(a) above and review of s3 below.</p>

Requirements of the Regulations ²		Key coverage in		Comments
		main EIAR document	appendices / other Reports	
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.	<i>S2.6 Consideration of Alternatives</i>	<i>Flood Risk Management Options Supplementary Report (January 2018)</i> <i>Public Exhibition – Report on Observations (May 2018)</i> <i>Addendum to Chapter 2 Background to Proposed Development</i>	Environmental considerations are compared at main stages in the hierarchy of alternatives considered. See also comments on article 2(d) above and review of s2 below.
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.	S4-s11	Appendices 5 (various biodiversity), 6 (various geology), 8 (noise), 10 (cultural heritage) and 11 (material assets) Addenda to s4, 5, 7, 8, 9, 10 and 11 Addendum Appendices 5F and 5G (Invasive Species Management Plan and Bat Survey), 10 (Cultural Heritage) and 11 (Traffic)	Significant gaps in the original scheme information have been addressed by the supplementary information. The combined material is considered to be generally compliant.

Requirements of the Regulations ²		Key coverage in		Comments
		main EIAR document	appendices / other Reports	
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.	S4-s11	<p>Appendices 5 (various biodiversity), 6 (various geology), 8 (noise), 10 (cultural heritage) and 11 (material assets)</p> <p>Addenda to s4, 5, 7, 8, 9, 10 and 11</p> <p>Addendum Appendices 5F and %G (Invasive Species Management Plan and Bat Survey), 10 (Cultural Heritage) and 11 (Traffic)</p>	Significant gaps in the original scheme information have been addressed by the supplementary information. The combined material is considered to be generally compliant.

<p>5.</p>	<p>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.</p>	<p>S4-s11</p>	<p>Addenda to s 4, 5, 7, 8, 9, 10 and 11 Addendum Appendices 5F (Invasive Species Management Plan), 11 (Traffic)</p>	<p>Impacts on all relevant factors are assessed in the specialist sections of the EIAR. The focus is on the construction stage, which poses the greatest likelihood of causing significant effects. Gaps in the original assessment have generally been addressed by the supplementary information. See reviews of specialist sections 4 to 11 below for detailed comments on assessment of impacts.</p>
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Requirements of the Regulations ²		Key coverage in		Comments
		main EIAR document	appendices / other Reports	
	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.	S4-11		Impacts on all relevant factors are assessed in the specialist sections of the EIAR. The focus is on the construction stage, which poses the greatest likelihood of causing significant effects. This material, including supplementary information provided in the Addendum, is considered to be generally compliant.

Requirements of the Regulations ²		Key coverage in		Comments
		main EIAR document	appendices / other Reports	
7.	<p>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).</p> <p>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.</p>	S4-s11	<p>Addenda to s4, 5, 7, 8, 9, 10 and 11</p> <p>Addendum Chapter 13 <i>Schedule of Mitigation Measures</i></p> <p>Addendum Appendices 3F (CEMP), 5F (Invasive Species Management Plan), 11 (Traffic)</p>	<p>Design features to avoid impacts and measures to mitigate impacts are generally discussed in each of the specialist sections of the EIAR. Gaps in clarity in the original information regarding their implementation and demonstration of their effectiveness have generally been addressed in the supplementary information. Frequency of auditing and format of compliance reporting during construction are addressed in recommended conditions.</p>

Requirements of the Regulations ²		Key coverage in		Comments
		main EIA document	appendices / other Reports	
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.	none	Addendum Appendix 3F (CEMP)	The <i>Emergency Incident Response Plan</i> (s5 of the CEMP provided as supplementary information) generally addresses this requirement.
9.	A non-technical summary of the information provided under points 1 to 8.	<i>Non-Technical Summary</i>		This material is considered to be generally compliant.
10.	A reference list detailing the sources used for the descriptions and assessments included in the report.	various	Addendum <i>References</i>	A list of source references is provided in the addendum.

3. Comments on individual sections of EIAR

General comments are provided on all sections of the EIAR. More detailed comments are provided where there are specific issues to highlight, as relevant in the context of this review.

Comments on this the supplementary information (where relevant) are provided after the comments on the original EIAR section.

1 Introduction

This section provides an overview of the scheme and of previous studies which led to the design of the subject scheme. It outlines the applicable legislation at time of the preparation of the EIAR. S1.4 provides two short paragraphs on the *Purpose and Scope* of the EIAR. The coverage of the fundamental scoping stage here is very short, with no specific details of any of the issues identified as important for the EIA process or how any impacts would be assessed. It is however noted that a later section of the EIAR, s2.8 covers scoping in more detail. This is reviewed in the following section of this report.

S1.6 provides the names of companies and personnel responsible for completion of the EIAR. Their inputs are listed in Table 1.3. However, no details of their qualifications, experience or any other relevant credentials are provided. This fails to facilitate an assessment of their competency, and does not meet the requirement of the EPA Guidelines (ref s2.5). Recommendations were made to request supplementary information in relation to this gap.

Addendum to Chapter 1

The addendum contains a clear and concise overview of the competency of the EIAR team.

EIA Compliance Conclusion on Chapter 1

The information as presented in the EIAR and Addendum is considered, together, to be generally compliant.

2 Background to the Proposed Development

This section provides a general overview of the scheme area and a brief outline of the need for the scheme.

S2.4 outlines the steps involved in the scheme design process. The steps listed include constraints study and environmental impact assessment. It is stated that these steps are discussed in the relevant parts of the EIAR.

S2.5 *Constraints Study* outlines general constraints. Much of the information presented here is in fact a discussion of scoping of the EIAR. For example, it refers to sensitive receptors under the topic of *Human Beings* as including angling amenity areas, however, it does give any details of these areas or state if such details are provided anywhere in the document. Under the topic of *Ecology* it refers to the need for specific baseline surveys. Regarding fisheries, it states that consultation with IFI and NPWS will be necessary to establish the baseline and to inform the scheme design. It also says that seasonal restrictions may apply, for example, regarding timing of baseline surveys and of in-stream

works in spawning areas. It further states ‘Given that the river is not an important angling or nursery area, it is unlikely that further constraints will need to be considered’. As this statement appears to precede baseline fisheries surveys, its basis is unclear.

The discussion of constraints is generally high-level with little indication of specific constraints for the subject scheme.

2.6 *Consideration of Alternatives* provides a summary of a 2016 Flood Risk Management Options report (which is available via a provided URL). S2.6.2 lists seven possible flood risk management methods and lists 5 criteria as having been used in the screening of these options, one of which is given as *environmental*. However, no information is provided to show if, or how, environmental considerations were actually taken into account during consideration of the listed flood risk management methods. The Flood Risk Management Options report indicates that non-structural measures were ruled out in absence of any environmental considerations.

Some information on how environmental considerations were taken into account at other levels in the hierarchy of alternatives is provided but this is generally unclear. For example, in the Options report it is stated at s4.9 that pumping of excess flow away from the main river channel during flood events would *inter alia* ‘also likely have significant negative environmental and social impacts.’ However, no detail is given of what environmental impacts were considered.

S2.6.2 of the EIA contains brief environmental commentaries on five flood relief options. The grounds given for ruling out upstream storage (at Ballincroig) are given as including creation of ‘a new hazard (in event of breaching or overtopping)’ and ‘frequent flooding of valuable land’. No further examination of the environmental effects of this option is provided and the effects are not compared to those of any other options. No information is included to show if consideration was given to implementing this option in combination with other options and how this may have affected the environmental effects. For example, no consideration appears to have been given to use of upstream storage in tandem with direct defences downstream and the extent to which this approach may have affected the extent of direct defences required, for example reductions in required flood defence wall heights.

Regarding Option 3, which included high walls at Orchard Court, it is stated in the EIA that:-

‘This option took into account the feedback received from Inland Fisheries Ireland, who expressed a strong desire to maintain the Bride in Orchard Court as an open channel. However, hydraulic modelling indicated that very high defence walls would be required to contain flood waters. Feedback from the public on this option demonstrated that this option would be publicly unacceptable.’

No other information is provided in the EIA on this. Examination of the Options report (s10.3) reveals that high walls at Orchard Court were a feature of an emerging preferred option presented to the public in 2014 and that this aspect was subject to significant public concerns including concerns about visual and amenity impacts and ongoing littering problems. It is stated that:-

‘This feedback together with the competing and opposing desire of Inland Fisheries was considered by the Steering Group and was appropriately and transparently scored in the

MCA analysis. The MCA analysis indicated that when considering all constraints (including the above) in a holistic way, the culverted option scored marginally more favourably.'

S9 of the Options report shows that the Multi Criteria Analysis (MCA) assigns weightings to various technical, economic, social and environmental criteria. Two types of weightings are used; *global* and *local*.

The global weightings are reported to be fixed by the OPW at a national level. The appropriateness of these weightings in the context of EIA requirements is not explained. It is unclear why, for example: the categories of *Fisheries* and *Flora & Fauna* are assigned a weighting of 5 while *Landscape* is assigned a weighting of 10; or why higher weightings are assigned to *Economic Return* and *Adaptability* than to environmental objectives. The suitability of the MCA, including these global weightings, for purposes of comparison of environmental effects of alternatives in an EIA is not explained.

The local weightings are stated to be 'specific to the importance of each objective in the location where the option was being considered' and assignment of these for the scheme is explained as having been agreed by a forum of key stakeholders. Table 15 of the Options report lists these local weightings and shows that ratings ranged from 5 for *Major / International importance* to 0 for *Not relevant*. The actual assignment of weightings to specific environmental criteria is not explained. For example, the weighting assigned to the fisheries impact of culverting of 350 m of the river channel and its appropriateness for EIA purposes is neither stated nor explained.

The Flood Risk Management Options Supplementary Report (January 2018) (also available via a provided URL) reports further on the consideration of Orchard Court options taking account of public feedback on the option as exhibited in 2014. This reports that the exhibition was attended by 180 people. 7 Comments, all in opposition to the walls, are presented and concerns regarding litter, potential blockages, (anti-)social issues and visual amenity are set out. These concerns are all significant however, no information is provided on any other feedback or the degree to which the 7 selected comments could be considered to reflect general public/stakeholder concerns. The Supplementary Report refers back to the MCA set out in the 2016 Options report and concludes that the culvert remains the most favourable option.

In the case of the high walls and culverting option at Orchard Court, the reasons that concerns about public acceptability of high walls were decided to outweigh the concerns of a statutory body are not clear. The culverted option is reported to have scored *marginally* more favourably than the high walls option. Given that the environmental effects of both options are clearly both significant but different in nature and the explanation of how that these effects were taken into account in the decision to select the culverting option is unclear, the lack of explanation of the basis for the MCA scoring is considered to be a significant gap in the EIA process.

While the consideration of alternatives appears to have been comprehensive and detailed, the extent to which it has taken account of environmental considerations is not clear. This applies to all levels in the hierarchy of alternatives from catchment level down to alternatives to specific interventions.

The information presented in the EIAR does not include a clear comparison of the environmental effects of the reasonable alternatives as is required by the legislation. This reflects on the lack of attention to scoping of the EIAR.

As significant environmental impacts do arise from the selected scheme, clearer information comparing the environmental effects of options, including potential combinations of options, would have provided a clearer understanding of the reasons for the choice of the selected scheme.

S2.8 describes the consultation carried out in relation to the scheme mainly through two public information days and a public exhibition. It also summarises scoping responses from authorities and NGOs. Information on feedback from the public lists various specific comments (in s2.8.2.2 and 2.8.2.3) but does not provide any overall analysis of the feedback to indicate, for example, the number of respondents who raised the listed issues or the degree to which these issues can be considered representative of general public concerns. It is stated that feedback from the public information days were considered in the scheme design and during the preparation of the EIAR and that scoping feedback informed the EIA process and the contents of the EIAR. There is little reference through the later sections of the EIAR to the feedback received during these consultations or how they specifically informed the evolution of the design or EIA processes.

It is noted that the separate Public Exhibition – Report on Observations does provide a detailed discussion of comments received. It sets out the main issues raised by each respondent and the extent to which the scheme design and EIAR took account of each issue or where it was not deemed appropriate or practicable to address issues this is explained in the report. The report generally provides a clear description of the extent to which consultation feedback informed the scheme design and the EIAR. Inclusion of the findings of this report within the EIAR and/or inclusion of cross references from the EIAR to this report would improve the discussion of consultation within the EIAR and demonstrate better alignment with the requirements of the EPA Guidelines. It is noted however that the information has been made available and is accessible through the same website as the EIAR.

While some of the recommendations arising from the Public Exhibition – Report on Observations appear to have been incorporated in the design and EIAR, for example incorporation of mammal ledges in culverts, the status of others is unclear. For example, s2.3.3 states under a *Draft Response* heading states in relation to a submission made by residents of 1 Golden Villas (Lot no AP11111)

The height of the proposed wall will be increased to 2.2m above ground level.

s2.3.4 under the heading of Possible Actions/Changes to the Scheme includes

Possible measures for consideration include the following:

- Increase the height of the proposed wall.

The Confirmation Schedules specify (on p63) a

New 2m high blockwork wall to be constructed along rear boundary of property.

It is unclear what the status of these details are.

S2.8.3 EIA Scoping discusses responses to scoping requests issued to relevant authorities and NGOs. While this gives some information on some of the issues raised it does not generally provide clarity on whether issues raised were incorporated in the EIAR or the extent to which the scope of the assessment took them into account. For example, the information contained on the IFI submissions (which are contained in the Appendices) is limited to two brief statements:

Requested further information on specific features of the development. Made comments on several aspects of the proposed works.

and

Requested further information on specific features of the development.

This fails to establish the range of issues to be addressed in the EIAR or how they are to be assessed. Omission of a clear and project specific scoping stage tends to reduce the focus of an EIAR, resulting in unnecessary detail in some parts of the EIAR and lack of important detail in other parts.

While consultation and scoping are, as set out in the EPA Guidelines, fundamental parts of the EIA process, there is no specific requirement in the legislation regarding how they should be documented in an EIAR. The issues regarding the information presented in s2.8 are not compliance issues but they indicate deficiencies in the scoping process including how consultation feedback has been incorporated in it.

The issues identified regarding s2 of the EIAR were addressed in recommendations to request supplementary information.

Addendum to Chapter 2

Some aspects of the explanation of how environmental effects were taken into account remain unclear, for example the suitability of the fixed OPW MCA scoring system for purposes of comparison of environmental effects of alternatives in an EIA. However, the degree to which environmental considerations informed the design of the scheme has been adequately set out.

EIA Compliance Conclusion on Chapter 2

The information as presented in the EIAR and Addendum is considered, together, to be generally compliant.

3 Description of the Proposed Development

This section provides a description of the proposed works, as summarised in the Scheme Overview section, earlier in this report. It is understood that for a scheme of this nature, all details may not have been fully established prior to consent stage. It is nonetheless important that for characteristics which are likely to give rise to significant environmental impacts, these elements should generally be described in sufficient detail to enable assessment of the worst-case effects so that the outermost envelope of environmental effects can be established.

Details of the proposed scheme including culverts and defence walls, bridge parapet works, winter channel, sediment traps, culvert removal and installation of trash screens, collector drains and localised regrading of impermeable areas are generally adequate.

Eight pumping stations are proposed. These are stated to ‘incorporate a surface mounted kiosk in close proximity to the underground substructure’. Some of these are in prominent town centre locations. No design details such as heights, floor areas or finishes are provided for these within the EiAR or in the Confirmation Drawings.

As noted in the review of s2 above, some details of the scheme are not clear in the scheme documents. This undermines the reliability of details given in s3 and particularly whether they are reliable as a basis for assessment of the likely significant worst-case environmental effects of the scheme.

s3.1.11 *Maintenance Regime* indicates that maintenance will be carried out over most of the of the river channels within the scheme area, including open reaches and culverted sections. It is stated that this will include removal of fallen trees, excessive vegetation build-up, overgrown trees, illegal dumping, accumulation of granular deposits, etc. Information such as maximum extents of silt and gravel excavation in river bed and maximum extents of any channel widening is not provided. It is unclear what maintenance works will be carried out during the main initial construction phase.

S3.2 *Anticipated Construction Methods* generally outlines construction works and methods. It does not generally describe how environmental impacts will be managed or monitored during construction. It does state generally that seasonal restrictions will be adhered to with regard to sensitive seasons for salmonids and nesting birds and that works will close for approximately one month around the Christmas period. The restriction re. salmonids is generic and unclear. It states ‘instream works (include preparatory work) on all watercourses supporting salmonids shall be undertaken from May to October (inclusive) and in consultation with Inland Fisheries Ireland to avoid accidental damage or siltation of spawning beds.’ It does not state what parts of the scheme area are taken as supporting salmonids and the period given does not align with the working months of November to March given in s5.

‘Fisheries Enhancement Proposals’ are contained in the 2016 report by Prof. Martin O’Grady which is included as Appendix 5E (but not referenced as such anywhere in the EiAR text). These are proposals using words like ‘should’ rather than as definite commitments with confirmed specifications. It is noted that it is stated in s5.4.5.1 of the EiAR that these measures will be carried out in consultation with IFI. Confirmation Drawing RB-206 states in relation to the stretch at chainage 980 to 1418: ‘Proposed reconstructed open channel bed to incorporate natural river features including pools and riffles.’ It does not refer to Appendix 5E or to any specification for the features. It is considered that a more detailed confirmation of the specification for these elements of the proposal should be provided to avoid any ambiguity in the EIA process and to ensure full clarity at construction stage. It is also unclear how it is proposed to implement these proposals in conjunction with other proposed scheme elements including the proposed sediment trap (ref s3.1.7).

The selection of site compounds is left open, to be decided by the contractor and ‘bound by the mitigation measures identified within this EiAR’. No information is provided on how likely needs such as storage of materials and fuels and wheelwashes can be accommodated.

No Construction Environmental Management Plan is provided. It is noted that there is mention of an Environmental Management Plan in some later chapters however there is no clear description provided for the scope of this plan or what assessment or approval processes it will be subject to.

There is significant and relevant case law on the level of detail that is required to be provided prior to consent (including *People Over Wind v An Bord Pleanála* (2015), IEHC 271). The deferral of material details which may alter the severity or likelihood of significant environmental effects occurring precludes the required standard of public consultation. These details may include information on the characteristics of the scheme and on the mitigation measures.

If, due to the nature of the work and available information at this stage of design, it is not feasible to provide all of this information, then the outermost, not-to-exceed, extent of these works may be provided in lieu. This is contingent on this information providing sufficient basis for robust assessment of the worst case likely significant effects on the relevant environmental factors, also that this information is taken into account in the assessment of likely significant effects and that, where required, appropriate mitigation measures are set out to clearly demonstrate how effects will be managed to ensure that they do not exceed the envelope of environmental effects as may be permitted by this consent process.

Recommendations to request supplementary information addressed issues identified in the review of s3.

Addendum to Chapter 3

The information contained in the addendum and its appendices, including the maintenance plan, site compound layout, construction programme and Construction Environmental Management Plan are generally considered to adequately address the gaps and deficiencies identified in the original EiAR. However, given the high potential for environmental impacts throughout construction and the need for constant attention to implementation of mitigation measures, several of aspects of the Compliance and Review section of the CEMP (Addendum Appendix 3F) are considered to be inadequate:

Frequency of environmental audits

These are proposed to be undertaken on a monthly basis. This interval may need to be reduced during parts of the works programme to ensure adequate monitoring and implementation of all required environmental controls.

Responsibility for and reviews of environmental audits

It is stated in the CEMP that the environmental audits will be carried out by the contractor or external personnel, documented by the Ecological Clerk of Works (EcOW), provided to the project management team and made available to Cork City Council and other statutory bodies on request. This is not considered adequate to ensure full transparency and ensure that construction environmental management is effective and takes account of emerging issues throughout the construction period.

CEMP reviews

It is stated in the CEMP that it will be reviewed prior to commencement of construction, and also every six months thereafter during the construction phase of the project, as well as on foot of the

triggers outlined in Section 1. The compliance and transparency of this proposal is considered inadequate to support a robust process at this consent stage.

EIA Compliance Conclusion on Chapter 3

The information as presented in the EIAR and Addendum is considered, together, to be generally compliant. However, the event that it is decided to issue a Commencement Order for the scheme, conditions are recommended to be attached to the order to address the issues noted in relation to environmental audits and CEMP reviews.

4 Population and Human Health

The purpose of the detailed statistical socio-economic information which makes up most of s4.2 and s4.3 and is not generally referred to anywhere in the assessment of impacts is unclear. Its inclusion reflects on the lack of attention to scoping, as indicated earlier in this report. Inclusion of this material compromises the accessibility of the EIAR however this is not a compliance issue.

Information on the numbers and types of properties which will benefit from the scheme is not presented. It is expected that such information was used in the MCA referred to in the review of s. 2 above and should have been available to the authors of this section.

Quantified information on the benefits of the scheme were included in recommendations to request supplementary information.

Addendum to Chapter 4

The information contained in the addendum, including the information on the benefits of the scheme, are considered to adequately address the gaps and deficiencies identified in the original EIAR.

EIA Compliance Conclusion on Chapter 4

The information as presented in the EIAR and Addendum is considered, together, to be generally compliant.

5 Biodiversity, Flora and Fauna

A detailed description of the ecological baseline is generally provided. Assessment of habitat suitability and condition for each of the ecological resources are generally thorough and compliant. Major, moderate and minor potential impacts on biodiversity are identified in the absence of mitigation measures. The EIAR provides information in relation to the construction and operational phases of the scheme; however, there is significant information absent from the scheme description such as the scale, extent and location of in-stream site maintenance works.

Plate 9.49 shows a building with high bat roost suitability, with clear connections to the waterway which could be used as a commuting corridor for bats away from the potential roost. The report states:

“There are no potential bats roosts in existing bridge or culvert structure along the Bride (North) and Glenamought River. There is no bat roosting potential along the existing flood protection walls in Blackpool”.

However, there is insufficient evidence presented in the report to support this statement. No bat roost surveys were undertaken to identify if the structure in Plate 9.49 was an active roost. Therefore, bat roost surveys in accordance with the BCT guidelines³ should be conducted in advance of the works by a suitably qualified bat specialist and commitments to appropriate derogation measures should be included if required. Mitigation measures to address construction works should be revised to ensure they are clear and enforceable, for example regarding works at dawn/sunset during winter months and including specific and appropriate lighting specifications.

This section does not appear to take any account of the findings of the assessment of effects on hydromorphology provided in s6 or of effects on water quality provided in s7, as required for a compliant assessment of interactions between effects on different environmental factors as required by the legislation (ref Article 2(3) of SI 472/2019).

Due to the nature of the proposals it is reasonable that some aspects of mitigation are to be worked out at time of the proposed works when full details of the location and extent of in stream works, will be known, in relation to the sensitive habitats identified. However, the mitigation measures do not address the absence of specific scheme details but focus only on impacts arising from the elements of the scheme which are described.

The channel maintenance programme that is proposed does not identify the extent or methods of maintenance with broad statements such as:

“The channel maintenance programme will pay particular attention to locations where silt, gravel and debris are likely to accumulate, such as at structures, sharp bends, culvert inlets, etc.”

Sediment mobilisation is a key factor in the assessment of ecological impacts for the proposed scheme which is recognised in the report. For example, the report identifies that:

“Sediment management and sediment control will be an ongoing issue and will form a fundamental part of the scheme. Sediment removal and sediment controls upstream of Sunbeam Industrial Estate will be carried out in consultation with Inland Fisheries Ireland, so as to minimise the volumes of sediment removed and the resultant impact on the morphological diversity upstream of the sediment trap at Sunbeam, while not compromising on the function of sediment control as a fundamental element of the proposed scheme”.

Leaving detailed sediment control measures and method statements to be drafted and implemented after licensing classifies as a post consent condition. There is insufficient evidence presented in the existing EIAR to identify the full scope of potential impacts arising from the works. It is noted that, Fisheries Enhancement Proposals are given in Appendix 5E. These proposals include details of scheme design and maintenance to facilitate sediment control while minimising impacts on fisheries. As noted in the review of s3 above the level of specification and commitment to these proposals lacks clarity.

Numerous mitigation measures are proposed to avoid or prevent impacts to habitats and species and the full detail of some of these measures are to be devised during the works. However, information is required to identify how the programme of works will minimise and/or avoid potential impacts. The targets and/or thresholds for compliance are not outlined in detail. Issues such as sediment condition or direct habitat interaction from the works are not adequately assessed. Measures such as ‘Light

³ Collins, J. (ed.) (2016) Bat Surveys for Professional Ecologists: Good Practice Guidelines (3rd edn). The Bat Conservation Trust London.

wells will be provided within the culvert at intervals’ (s5.4.4.2) are unclear. In this example the specification or frequency of light wells is not given and there appears to be no mention of how this will be determined. It is stated that ‘A project ecologist will be appointed for the duration of the works.’ It is not stated however who the ecologist will report to or what their remit will be. It is unclear how measures such as ‘Upon completion of the works channel vegetation will be allowed to recolonise naturally’ and ‘Introduce spawning gravels at morphologically/hydraulically appropriate locations i.e. where removal of culvert is proposed’ align with maintenance needs of the scheme.

Measures described in s5.4.5.1 *Fisheries Mitigation*, include:

All works will be carried out in consultation with Inland Fisheries Ireland, in particular the design of a sediment trap upstream of Commons Inn Hotel (if required) will be designed in consultation with IFI.

It is unclear why there is a lack of certainty regarding the inclusion of a sediment trap upstream of Commons Inn Hotel and leaving it to be designed post consent is not compliant with requirements.

- In-channel working during the salmonid spawning season will not be permitted (November to March inclusive).

This is inconsistent with s3 where it is stated that works will be restricted to the months of May to October.

Avoid working in areas identified as being suitable for fish spawning, where practicable.

This is a vague commitment which would be difficult to apply and, as written, is unlikely to be enforceable.

It is clear from information presented in s5 and in Appendix 5C River Lee Invasive Plant Survey that invasive species, particularly Japanese Knotweed and Himalayan Balsam are widespread along the river corridor. It is stated in s5.2.3 that an ‘Invasive Species Management Plan was been put in place by the OPW for the Rivers Bride and Glenamought’. The information provides on invasive species is mainly Appendix 5C which is an invasive species survey for the Lower Lee and is not focussed on this scheme. A short list of mitigation measures reading invasive species is provided in s5.4.3.2. This includes that ‘an Invasive Species Management Plan will be put in place prior to commencement of construction’. The measures are vague and generally insufficient to adequately demonstrate, for purposes of this consent process, that invasive species will be adequately managed.

Further detail is required to ensure clear metrics, thresholds and processes are outlined which must be complied with throughout construction and maintenance of the scheme. These measures should include a detailed programme any future ecological assessments, reporting and consultation protocols, where required to mitigate and/or monitor potential significant impacts. In addition, a set of environmental metrics – such as water quality thresholds, sediment condition requirements, habitat alteration parameter limits etc. – with trigger levels and actions, should be developed in advance of any grant of consent, to ensure the scheme can be compliant with the EIA directive.

This section is considered to have significant gaps which render it non-compliant with the legislative requirements. Recommendations were made to request additional material as supplementary information.

Addendum to Chapter 5

Section 5.4.2.2 of the amended Biodiversity chapter of the EIAR provides additional text:

'The felling and removal of trees is considered to represent a loss of some low to moderate value potential roosting and foraging habitat for a range of bat species. This represents a loss of roosting opportunities to bats and is likely to reduce the quality of foraging habitat locally, but is not likely to be significant given the relatively small amount of habitat loss involved in the context of the overall landscape.'

However, this is inconsistent with appendix 5G and section 5.4.4.8 of the addendum report which recognises that the removal of trees will result in residual significant negative impacts to bats through the loss of supporting foraging habitat necessary for the functioning of the maternity soprano pipistrelle bat roost identified in the surrounding area; as well as causing the loss of an early emergence outpost for the roost colony outside of the T32 cluster (for details to this effect refer to Appendix 5G which provides all relevant information relating to the bat assessment undertaken). Appendix 5G and the findings therein have not been incorporated into the text of the assessment correctly, the interpretation of the findings is therefore questioned.

Furthermore, the loss of overhanging vegetation and riparian habitat has far reaching implications relating to the broader ecology of the area aside from just bats. For example, it is recorded in the initial EIAR that the scheme area has an active nesting site for Kingfisher which use overhanging vegetation to perch on for the hunting strategy. Therefore, the removal of this vegetation needs to be assessed in relation to the potential impacts to the breeding success of this species. These impacts need to be assessed with respect to all key ecological receptors.

The scope of works being undertaken, including the ongoing maintenance works, have been updated (addendum report for chapter 3) to provide estimated volumes of excavated material as well as the methods that will be followed for all works (Table 3.2). The detail provided is now sufficient to form the basis of the technical assessment from a biodiversity perspective.

This section does not appear to take due account of the findings of the assessment of effects on hydromorphology provided in s6 or of effects on water quality provided in s7, as required for a compliant assessment of interactions between effects on different environmental factors as required by the legislation (ref Article 2(3) of SI 472/2019).

Due to the nature of the addenda to each of the sections being done per section, and the initial review comments relating to cross sectional inconsistencies, the revised review process is complex. The initial EIAR identified that works will be restricted to the months of May to October.

'Avoid working in areas identified as being suitable for fish spawning, where practicable.'

This was identified to be inconsistent with the mitigation measures presented in the biodiversity section. There is no clarification or amendment to this text presented in the addendum to section 3 of the initial EIAR. The addenda to Chapters 4 and 5 including the Addendum CEMP have largely but not definitively addressed this issue though revised mitigation measures.

Uncertainty is also introduced in the report that demonstrates that permanent loss of riverine habitat suitable for protected species (such as **but not limited to** Brown Trout) will result from the scheme.

‘Compensation measures for permanent loss of riverine habitat will be carried out in agreement with Inland Fisheries Ireland. Enhancement measures have been identified for the Bride and the recommendation of O’Grady (2016) Draft Fisheries Enhancement Proposals will be carried out as part of the scheme. The proposal includes rehabilitation of the River Bride immediately downstream of McDonalds to the location of the proposed trash screen adjacent to Blackpool Shopping Centre. It is the opinion of the author (O’Grady) that the works will significantly improve the rivers capacity to support a brown trout population and the net gain in fish stock terms will more than offset the permanent loss caused by culverting in the lower reaches of the proposed drainage scheme.’

The construction of the scheme and implementation of mitigation measures will require close attention to the biodiversity sensitivities including the issues identified in this review. These concerns are addressed through recommendations at the end of this report.

EIA Compliance Conclusion on Chapter 5

The information as presented in the EIAR and Addendum is considered, together, to be generally compliant, subject to compliance with conditions which are recommended to be attached in event of issuing a confirmation order.

6 Land Use, Geology and Soils in the Existing Environment

The assessment of impacts in this section is generally adequate. It is noted that effects of new sediment control measures on channel hydromorphology are predicted to include permanent moderate to significant negative impacts.

Addendum to Chapter 6

No addendum was specifically requested or provided for this chapter. Supplementary information on spoil volumes and waste management was provided in Addendum Appendix 3 *Construction Environmental Management Plan*.

EIA Compliance Conclusion on Chapter 6

The information as presented in the EIAR and Addendum is considered, together, to be generally compliant.

7 Water – Hydrology & Hydrogeology

Detailed information on the water quality baseline is included in s7.3.2.1 including for example information levels of suspended solids. The assessment of impacts due to generation of silts and suspended solids and due to potential water pollutants is limited to high level, generalised comments on potential impacts, for example:

Deposited sediment may also impact on the habitat of bottom dwelling aquatic invertebrates and damage nursery habitat for young fish

The assessment of effects of the project on water quality does not take account of the baseline information presented in s7.3.2.1, assess effects of specific project characteristics in the context of the baseline information or predict likely significant effects on the characteristics that define water

quality. Statements with regard to potential impacts on biodiversity receptors (as in the excerpt above) do not draw on any of the information presented in s5 and indicate a poor level of compliance with the requirement to assess interactions between effects on different environmental factors (as discussed in the review of s5 above).

The mitigation measure regarding hydrogeology in s 7.3.3 propose that 'A bunded area will be constructed within the site compound in order to avoid any polluting substances infiltrating the ground water during the construction and operation phase of the Scheme'. There is no information provided in the EIAR or scheme documents on how such areas can be accommodated at potential compound sites.

The information presented on assessment of flooding impacts in s7.4 largely repeats information presented earlier in the EIAR. As found in the review of s4, relevant information for example on the numbers and types of properties which will benefit from the scheme is not presented in the EIAR. There is no assessment of risks of flooding during project construction or maintenance works and how environmental effects will be managed, for example, risks of pollution due to flooding of construction compounds will be avoided.

As there is no clear prediction of the likely significant effects or levels of effect that would be considered acceptable, the basis for and adequacy of proposed mitigation measures is unclear. There is no assessment of the appropriateness or likely effectiveness of the proposed mitigation measures and the conclusions regarding residual effects are not substantiated.

This section is considered to have significant gaps which render it non-compliant with the legislative requirements. Recommendations were made to request supplementary information to address deficiencies identified in the assessment of effects of the project on water quality.

Addendum to Chapter 7

The supplementary information, particularly the CEMP, Maintenance Plan and Project Description, including information on instream working methods (ref s 3.2 of Addendum to Chapter 3 and 3.2.6 to 3.2.8, also 4, 5, 6 and 8 of CEMP), generally addresses the issues identified in the review of the original EIAR.

EIA Compliance Conclusion on Chapter 7

The information as presented in the EIAR and Addendum is considered, together, to be generally compliant.

8 Air Quality & Climate / Noise & Vibration

Much of the extensive and detailed desk and survey-based baseline information which is included does not appear to have informed the assessment of likely significant effects. Inclusion of such baseline information reflects a lack of attention to scoping, as indicated earlier in this report, and compromises the accessibility of the EIAR. However, this is not considered a compliance issue.

Assessment of impacts on air quality due to dust is generic and does not focus on specific characteristics of the proposal, works locations or sensitive receptors. Mitigation measures such as ‘a dust minimisation plan will be formulated for the construction phase’ and ‘Site roads shall be regularly cleaned and maintained as appropriate’ are inadequate. The former leaves potentially significant detail until post-consent and the latter lacks any clarity as, for example, it is not clear what roads will be considered site roads, or what level of cleaning will be considered to be appropriate.

Assessment of impacts on noise does consider specific project characteristics and proximity to sensitive receptors and provides a clear assessment of impacts. The details of and commitment to mitigation measures, however, lacks clarity. For example, most of the measures presented include words like ‘may be’, ‘it is recommended that’, ‘should be’ or ‘where possible’. Such measures are lack clarity and are likely to be problematic for enforcement purposes.

It is stated in various parts of the EIAR that working hours will be limited to normal working hours which are given as 08:00 – 18:00. However, in s9 there are references to working outside these hours, for example (from p8-33):

The assessment above relates to daytime operations. Where evening or night-time operations are required, it is recommended that noise impacts associated with proposed works be assessed in advance.

This contradicts information presented elsewhere and has a significant bearing on likelihood of the scheme to cause significant effects. It also leaves part of the EIA process to a post-consent stage which is not compliant with requirements.

While this section is generally found to follow requirements, there are compliance deficiencies. Recommendations were made to request supplementary information to address these deficiencies.

Addendum to Chapter 8

The information contained in the addendum, including the CEMP included as Appendix 3F, is considered to adequately address the gaps and deficiencies identified in the original EIAR.

EIA Compliance Conclusion on Chapter 8

The information as presented in the EIAR and Addendum is considered, together, to be generally compliant.

9 Landscape

The assessment of landscape and visual effects is found to be generally thorough and appropriately detailed. Effect predictions are generally clear and specific, clear and appropriate mitigation measures are included.

One aspect is however found to be deficient which results from the lack of information on the design of the pumping station kiosks as discussed in the review of s3. As no such information is available this statement regarding impact of these structures in s9.6.3.8 cannot be taken as reliable.:

Other works with potential landscape and visual impacts include the construction of pumping stations in seven locations, which may include an above ground element likely to resemble a kiosk. This is subject to confirmation, but in these locations the pumping stations are considered to have a **Permanent Imperceptible Negative Impact**.

Also, the section lacks assessment of interactions (ref. discussion in the review of s5 above) between effects on Landscape and effects on Cultural Heritage. There is minimal cross from this section to s10. While s9.3 refers to numerous land use plan policies and objectives, many of which are of limited relevance to the assessment, it does not refer to the Blackpool Architectural Conservation Area which is described in s10.3.2 and overlaps with the scheme area. It is unclear if the landscape impact assessment takes due account of this designation, as evidenced in the statement about pumping stations as quoted above.

These issues were addressed in recommendations to request supplementary information.

Addendum to Chapter 9

The information contained in the addendum, including pumping station kiosk details provided in Appendix 3B, is generally considered to adequately address the gaps and deficiencies identified in the original EIAR.

EIA Compliance Conclusion on Chapter 9

The information as presented in the EIAR and Addendum is considered, together, to be generally compliant.

10 Cultural Heritage

The assessment of impacts, particularly on architectural heritage, does not appear to take account of the assessment of landscape impacts. This gap in the description of interactions is discussed in the review of s9 above.

There is reference to drawn and photographic records of bridges being contained in Appendix 10.2 however, on examination, no such records appear to be contained in the Appendices.

While it is stated that works will be archaeologically supervised under licence from the NMS, it is not stated how construction will be managed to avoid or monitor impacts on cultural heritage features or what procedures will followed in event of discovery of unknown features, as is normal practice at the pre consent assessment stage.

These issues were addressed in recommendations to request supplementary information. This section is otherwise considered to generally contain adequate information and assessment of impacts on Archaeology and Architectural Heritage.

Addendum to Chapter 10

The information contained in the addendum, including mitigation and monitoring proposals in s10.5, is generally considered to adequately address the gaps and deficiencies identified in the original EIAR.

EIA Compliance Conclusion on Chapter 10

The information as presented in the EIA and Addendum is considered, together, to be generally compliant.

11 Material Assets Impact Assessment

Traffic

The duration of construction is given elsewhere as 18 months but is stated as 24 months in this section. The assessment in this section also does not appear to align with the allowance for a works closure over a period of approximately one month around the Christmas period. It can be seen however that the traffic generation due to removal of material and construction workforce is low at approximately 27 round trips per day, of which 20 are workforce movements. Significant impacts due to construction traffic can be considered as unlikely to occur.

Mitigation of impacts due to bridge works states merely that these works:

will be carried out by a suitably qualified and experienced contractor who will be supervised to ensure that the works are carried out correctly. This will ensure that the bridges will be constructed safely and ensure the structural integrity of the structure.

No details of the design standards for specifications for these works appears to be given.

Assessment of impact of temporary road closures and diversions just states that this will cause temporary negative impacts. No further assessment is provided here. For example, there is nothing stated about alternative routes or impacts on journey distances or times. Without any such information, the severity and significance of these impacts is unclear.

Mitigation of impacts of disruptions to the road network state that these impacts will be 'mitigated through the use of industry standard traffic management measures. These traffic management measures should be designed in accordance with the 'Guidance for the Control and Management of Traffic at Roadworks – Second Edition'. The acceptability of deferring these details entirely until post-consent depends on the significance of the impacts. However, as pointed out in the preceding paragraph, these impacts have not been properly assessed at this stage.

It is noted that later in the section it is stated that partial road closures will cause 'significant disruption' in the Blackpool area. (ref. p11-18) and further mitigation measures are proposed. These generally also leave detailed arrangements until post-consent stage.

Services

This section is generally found to meet requirements and finds that temporary impacts will be significant and there will be no long-term impacts.

Waste

The information on waste management while generally considered adequate and unlikely to cause significant impacts does contain some significant gaps, as follows.

It is stated that a Construction and Demolition Waste Management Plan (C&DWMP) is required. However, no C&DWMP has been provided in the scheme documents.

It is clear that there is significant presence of invasive species in the works area including Japanese Knotweed, Himalayan Balsam and Giant Rhubarb. The management of wastes which may contain invasive species material is not addressed.

Issues identified in s11 were addressed in recommendations to request supplementary information.

Addendum to Chapter 11

In relation to traffic, the information contained in the addendum, including the detailed assessment of impacts and mitigation measures set out in Traffic Impact Assessment contained in Appendix 11B, is generally considered to adequately address the gaps and deficiencies identified in the original EIAR.

The information on waste management provided in s 3.3. of the CEMP addresses C&DWMP requirements.

Appendix 5F provides an Invasive Species Management Plan. Proposals for management of infested material and spoil discuss a range of methods which may involve burning, pesticide application and burial however there are restrictions on these methods in the setting of this scheme and the actual management of invasives will require detailed planning and management to ensure that this issue is carefully addressed.

EIA Compliance Conclusion on Chapter 11

The information as presented in the EIAR and Addendum is considered, together, to be generally compliant.

The issue of invasive species management is further addressed through a recommended condition.

12 Interaction of the Foregoing

This section recaps on parts of the EIAR where interactions have been covered. It does not check for gaps in this coverage and fails to identify the significant interactions that have not been addressed, as discussed in the reviews of relevant sections above, such as the interaction between impacts on Landscape and Cultural Heritage.

A general recommendation was made in the request for supplementary information to update the EIAR to take account of interactions between impacts on different environmental factors.

Addendum to Chapter 12

No specific supplementary information was provided in relation to this chapter. The supplementary information is nonetheless considered to generally take account of interactions.

EIA Compliance Conclusion on Chapter 12

The information as presented in the EIAR including addenda to the various preceding chapters is considered, together, to be generally compliant.

Non-Technical Summary

This provides the required summary of the EIA in non-technical language and is considered generally adequate.

It was requested to be updated to take account of supplementary information in relation to the EIA and the fact that an NIS has been prepared for the scheme.

Addendum to Non-Technical Summary

A revised Non-Technical Summary was provided.

EIA Compliance Conclusion on Non- Technical Summary

The information as presented in the Non-Technical Summary addendum is considered to be generally compliant.

Conclusions

Significant gaps and deficiencies in the original EIA have generally been addressed in the supplementary information which addressed *inter alia*, assessment of alternatives, construction methodology, assessment of impacts and mitigation and monitoring measures.

The EIA is considered to be compliant with the requirements of the legislation and adequate to support the EIA process.

Recommendations are provided below to ensure: use of environmental controls during construction and maintenance including effective implementation of mitigation and monitoring measures; and transparency of environmental compliance during and after construction. These recommendations ensure the adherence of the consent process with the requirements of the EIA Directive regarding these aspects of the proposal.

Recommendations

The following conditions are recommended for consideration by the Minister to augment any conditions which may be imposed in the event that it is decided to issue a Commencement Order for the scheme. These recommendations address requirements arising from both the EIA and AA processes.

1. The scheme shall be carried out in its entirety in accordance with all the plans, particulars, specifications, undertakings (both commitments and recommendations) including those contained in the Environmental Impact Assessment Report (EIA), Natura Impact Statement (NIS) and in the supplementary information including the *Response to Request for Supplementary Information* document and addenda to the EIA and NIS, save as may be required by other conditions attached hereto.

Reason: To ensure that the development shall be carried out in accordance with the Confirmation Order and that effective control can be maintained.

2. An Environmental Monitoring Group (EMG) shall be established prior to commencement of the works and shall be in place for the full duration of scheme construction including the period of implementation of all construction stage mitigation measures. The EMG shall include representatives of the Office of Public Works and Cork City Council. Cork County Council shall be invited to appoint a representative if it wishes to do so. All updates to the CEMP will be subject to review and formal written agreement by the lead EMG representatives. The EMG shall review all environmental audit results and ensure that remedial actions are agreed and implemented to address any environmental compliance issues on a timely basis. It shall also ensure that environmental impacts during construction of the scheme are managed as required by this order and do not exceed the envelope of effects predicted in the EIAR and NIS including their addenda.

Reason: In the interests of environmental protection and compliance.

3. A derogation license must be obtained prior to commencement of all works which have been identified to impact the maternity bat roost identified in Appendix G of the EIAR Addendum. The conditions associated with this licence must subsequently be adhered to during the implementation of the scheme.

Reason: In the interests of environmental protection and compliance and to minimise the impacts of the scheme on the resting place of bats, which are protected under national and EU legislation.

4. Detailed design of the proposed lighting scheme and of streetscaping works associated with the culverting of the 342m section of the River Bride must be carried out in collaboration with a suitably qualified bat specialist to minimise potential impacts to ecological resources such as bat foraging areas and ensure that the functional connectivity of the maternity roost identified in Appendix G of the EIAR Addendum is maintained. All design specifications must be submitted for written approval of the EMG.

Reason: In the interests of environmental protection and compliance and to minimise the impacts of the scheme on the resting place of bats, which are protected under national and EU legislation.

5. All detailed design proposals affecting fisheries habitat including areas identified in the EIAR as having significant salmonid habitat or spawning value shall be subject to specific agreement with and written approval by the appointed representative of Inland Fisheries Ireland. This agreement shall be provided to the EMG in advance of commencement of such works elements.

Reason: In the interests of environmental protection and compliance,

6. The frequency of Environmental Audits shall be monthly, at least. It shall be reviewed by the EMG and increased, if required, during periods of elevated potential for impacts or in response to frequency or extent of any emerging compliance issues.

Reason: In the interests of environmental protection and compliance.

7. The EMG shall monitor liaison with relevant statutory authorities regarding aspects of construction affecting specific environmental factors, as relevant to each authority. These authorities shall include the Environment, Heritage and Planning sections of Cork City and County Councils, Inland Fisheries Ireland, the National Monuments Service and the National Parks and Wildlife Service sections of the Department of Culture, Heritage and the Gaeltacht.

Reason: In the interests of environmental protection and compliance.

8. A Communication Plan shall be prepared and agreed with the EMG. This plan shall provide for the presentation of clear information on scheduled works along with obligations set out in the EIAR and NIS and proposals in the CEMP. It shall also provide for access to the full Schedule of Mitigation Measures, CEMP and Environmental Audits. It shall specify the format of environmental audit presentation to include summaries and to ensure that the information is readily accessible. This information shall be made publicly available through the project Extranet or equivalent, as well as by any other means agreed with the Councils, such as newsletters for public distribution. The EMG shall monitor adherence to the communication plan.

Reason: In the interests of making information on upcoming and ongoing works, and on environmental compliance, freely available to interested parties.

9. Following completion of the construction phase of the scheme all maintenance works shall be subject to further environmental assessment and compliance requirements as required to ensure ongoing compliance with all applicable statutory guidance and all relevant environmental legislation. This will include, but not be limited to, compliance with the mitigation measures set out in the EIAR and NIS, to ensure the maintenance works are consistent with the predicted envelope of environmental effects, as assessed during the DPER consent process.

Reason: In the interests of clarity and the amelioration of environmental impacts.

Appendix 1 - Reference Documents

Environmental Impact Assessment Report by McCarthy Keville O’Sullivan and Ryan Hanley, May 2018 including:

- Volume 1 – Non Technical Summary
- Volume 2 – Main Text
- Volume 3 – Appendices

EIAR Errata by McCarthy Keville O’Sullivan and Ryan Hanley, January 2019

Scheme Confirmation – Report on Commissioner’s Decision by Arup, June 2018

Public Exhibition – Report on Observations by Arup, May 2018

Schedules A, B, C and D by Office of Public Works (not dated)

Confirmation Drawings by Office of Public Works (not dated)

Supplementary Information

Response to Request for Supplementary Information by Ryan Hanley/MKO, November 2020

EIAR Addendum including:

- Chapters 1 – 5 and 7 – 13
- References
- Non-Technical Summary
- Appendices 3B – 3F, 5F, 5G, 10.1 - 10.3 and 11B

Appendix 2 - Recommendations made following initial EIAR Review

These recommendations were incorporated into the request for further information, which the Commissioners responded to in November 2020.

In the event that it is decided to request further information on the scheme, it is recommended to request the following items in relation to the Environmental Impact Assessment Report (EIAR).

1. Competency details for all personnel and firms who provided significant inputs to the EIAR.
2. Further information to clearly show how environmental considerations were taken account of during consideration of alternatives. This should cover the reasonable alternatives considered at different hierarchical stages from catchment level alternatives to alternatives to specific works elements. Where identified constraints influenced the selection of alternatives, this should be clearly explained. Where issues raised during consultation were taken account of during consideration of alternatives, this should also be clearly explained. The information provided should include a comparison of the environmental effects of alternatives at each hierarchical level.
3. Details of extent of instream works including maximum extents of silt and gravel excavation in river bed and of any channel widening. These details should include the outermost, or 'worst-case', extents of these elements of the proposal. It should be ensured that this information meets the requirements of Annex IV of the EIA Directive as sufficient basis to support the Minister in carrying out the Environmental Impact Assessment of the scheme.
4. Details of proposed pumping station kiosks including plans, sections and elevations and including information on finishes.
5. Confirmation of wall height of proposed wall at rear of properties which front onto Old Commons Road.
6. Confirmation of status of sediment trap proposal upstream of Commons Inn Hotel as referred to in s5.4.5.1 of the EIAR.
7. A quantified summary of information on the benefits of the scheme, including an overview of the numbers and types of properties which will benefit.
8. Updates to the assessment of impacts on biodiversity to include:
 - bat roost surveys in accordance with the Bat Conservation Trust guidelines
 - alignment with the findings of the assessments of impacts on hydromorphology and water quality
9. Review of assessment of impacts on traffic in s11 to include further detail of impacts of road closures and partial road closures on pedestrian and vehicular traffic insofar as required to ensure clear and robust assessment of the likely significant impacts of these closures.
10. Provision of updates to assessment of impacts in all other specialist sections of the EIAR, insofar as required to ensure that:

- the EIAR takes due account of all information requested in this request for further information;
 - assessments of likely significant impacts on each environmental factor take account of relevant findings of assessments of impacts on other factors (impact interactions);
 - impact predictions address all likely significant impacts during both the construction and the future maintenance stages; and
 - impacts are predicted in accordance with the EPA Guidelines.
11. Mitigation measures and monitoring proposals are to be revised and augmented, as required to ensure that they are:
- adequate to mitigate and monitor the specific effects of the scheme;
 - practicable; and
 - enforceable (for example by means of audit) and that their details are clear to all stakeholders.
12. Monitoring proposals should be accompanied by appropriate and clear remedial or other actions which will be implemented in event of exceedances of trigger levels, to ensure that acceptable limits are not exceeded.
13. A consolidated list of all proposed mitigation and monitoring measures.
14. Updates to assessments of residual impacts in the specialist sections insofar as required to clearly show the predicted levels of effectiveness of mitigation measures (as updated on foot of this request for further information) and the predicted residual impacts of both the construction and of the ongoing maintenance of the proposed scheme.
15. Updates to the Non-Technical Summary as required to align with changes to the EIAR on foot of this request for further information.
16. A reference list detailing the sources used for the descriptions and assessments included in the EIAR.
17. A Construction Environmental Management Plan clearly showing the specific procedures and measures that contractors will be required to adhere to ensure that environmental effects will be appropriately controlled so that they conform with the proposals assessed in the Environmental Impact Assessment Report. This shall clearly cover the construction stage and maintenance stages. It shall include but not be limited to:
- Details of the proposed works, including works referred to in item 3 of this request for further information.
 - Timing of works to include:
 - i. Seasonal works restrictions and which types of works and works locations these apply to.
 - ii. Working hours, any exceptions to these hours, and criteria for allowance of any exceptions.
 - Detailed monitoring measures including triggers and actions - to include environmental auditing of compliance with all relevant commitments, mitigation measures and other controls contained in the EIAR and associated documents.

Environmental auditing should be ongoing throughout the construction period at appropriate frequency to demonstrate full compliance.

- Reporting arrangements to ensure full accessibility and transparency.
- Arrangements for liaison with all significant stakeholders including local residents, Inland Fisheries Ireland, the National Monuments Service and the National Parks and Wildlife Service (NPWS).

18. A Construction & Demolition Waste Management Plan

19. An Invasive Species Management Plan.

Updates to the EIAR may be addressed by means of an addendum to the EIAR or a revised EIAR. All information shall be presented in format which ensures that the whole EIAR, including the further information, is clear and accessible. Regard shall be had to the *Guidelines on the information to be contained in Environmental Impact Assessment Reports 2017 (draft)*, EPA, including guidance on editing, integration and cross-referencing contained in s4.3.

Any material changes to the proposed scheme resulting from the response to the request for further information should be addressed by means of updates to the scheme documents, as appropriate.

A report on submissions received during the consultation period required by S.I. 472 of 2019 is provided. The Commissioners are requested to consider the issues raised and take account of them in the further information, as appropriate.

In the event that it is decided to issue a Commencement Order for the scheme, recommendations will be made regarding conditions in relation to the EIA.

Appendix 3 - Competency of Review Team

Paul Fingleton, lead reviewer, has an MSc in Rural and Regional Resources Planning (with specialisation in EIA), University of Aberdeen, 1990. Paul is a member of the International Association for Impact Assessment as well as the Institute of Environmental Management and Assessment. Paul has over twenty years' experience working in the area of Environmental Assessment. Paul has been involved in a diverse range of projects including contributions to, and co-ordination of, a number of complex EIARs, NISs and / or IPPCL Applications for projects. He is the lead author of the current version of the EPA Guidelines.

Andrew Torsney, ecologist, has an MRes in Biodiversity and Conservation from the University of Leeds. Andrew is a full member of the Chartered Institute of Ecology and Environmental Management (MCIEEM). Andrew has over seven years' experience working as an Ecologist on both national and local scale projects. His experience ranges from academic research which has been implemented by practical management to extensive consultancy work. Andrew has designed and coordinated ecological elements of Environmental Impact Assessments (EIA) for multiple large scale projects.

Clare O'Doherty, study assistant, has a BSc in Environmental Management, Dublin Institute of Technology, 2019. Clare has experience working as part of team projects and in the preparation of EIA documents on behalf of multi-nationals and infrastructural providers. She also liaises with various government agencies and local authorities in order to assimilate the environmental baseline information that is used in SEAs, EIAs and AAs and assists in the preparation of the various SEA, EIA and AA related documentation.

Study Director (QA) - Conor Skehan (BSC), (MLArch) Master of Landscape Architecture, University of Pennsylvania, 1983. Conor has been chartered by a number of professional Institutes including the International Association for Impact Assessment; the Irish Landscape Institute; the Royal Institute of the Architects of Ireland; and the Irish Planning Institute. He co-founded and served as President of the Irish Landscape Institute from 1993 to 1994. Environmental Impact Services is a Registered Assessor member of the Institute of Environmental Assessment (UK). Conor is an Architect, Landscape Architect, Strategic Planner, Impact Analyst, academic and writer.

Conor has worked for over 30 years in many countries providing strategic and spatial planning and environmental consultancy to a wide range of government, public and private clients on assignments varying in scale from very large-scale infrastructural and industrial projects to large urban renewal and tourism projects. He has made significant contributions to a wide range of complex Environmental Impact Statements, planning applications and environmental reports for Industry (ICT, Bio-pharma), Infrastructure (road, rail, airport, port, power, energy waste, drainage and water supply), Institutions (hospital, prison projects) as well as major urban renewal and extension projects.