

1 Introduction, Scope, and Methodology

WSP Ireland Consulting Ltd ('WSP') have been commissioned to undertake this remedial Environmental Impact Assessment Report ('rEIAR') to accompany a substitute consent application for a disused sand, gravel and rock quarry (the 'Project') at the townland of Coolsickin – Quinsborough¹, Ballykelly, Monasterevin, Co. Kildare (the 'Application Site' or 'Site'). This rEIAR is submitted on instruction of Bison Quarries Ltd who own of the lands on which the disused quarry is located and are the Applicant for this substitute consent application.

An s.261A quarry assessment prepared by Kildare County Council (KCC) planning department in 2012 states that the operator of the quarry at the time of closure (c. 2006) was Roadfill Ltd. Bison Quarries Ltd (the Applicant) were not the owner of the Application Site during the period of extraction. The lands subject to this substitute consent application were acquired by Bison Quarries Ltd in 2022.

This substitute consent application will be accompanied by an application under Section 37L of the Planning and Development Act 2000 as amended for the reinstatement of the quarry to agricultural use through importation of soil and stone to land contours similar to baseline topographical levels.

The Application Site is situated approximately 9 km northwest of Kildare town and approximately 2.7 km north east of Monasterevin. Figure 1.1 shows the regional location of the Site, whilst Figure 1.2 presents the substitute consent application area (i.e. the Application Site) and the EIA Boundary.

¹ The townland is also referred to as 'Coolsickin – Quinsborough'.

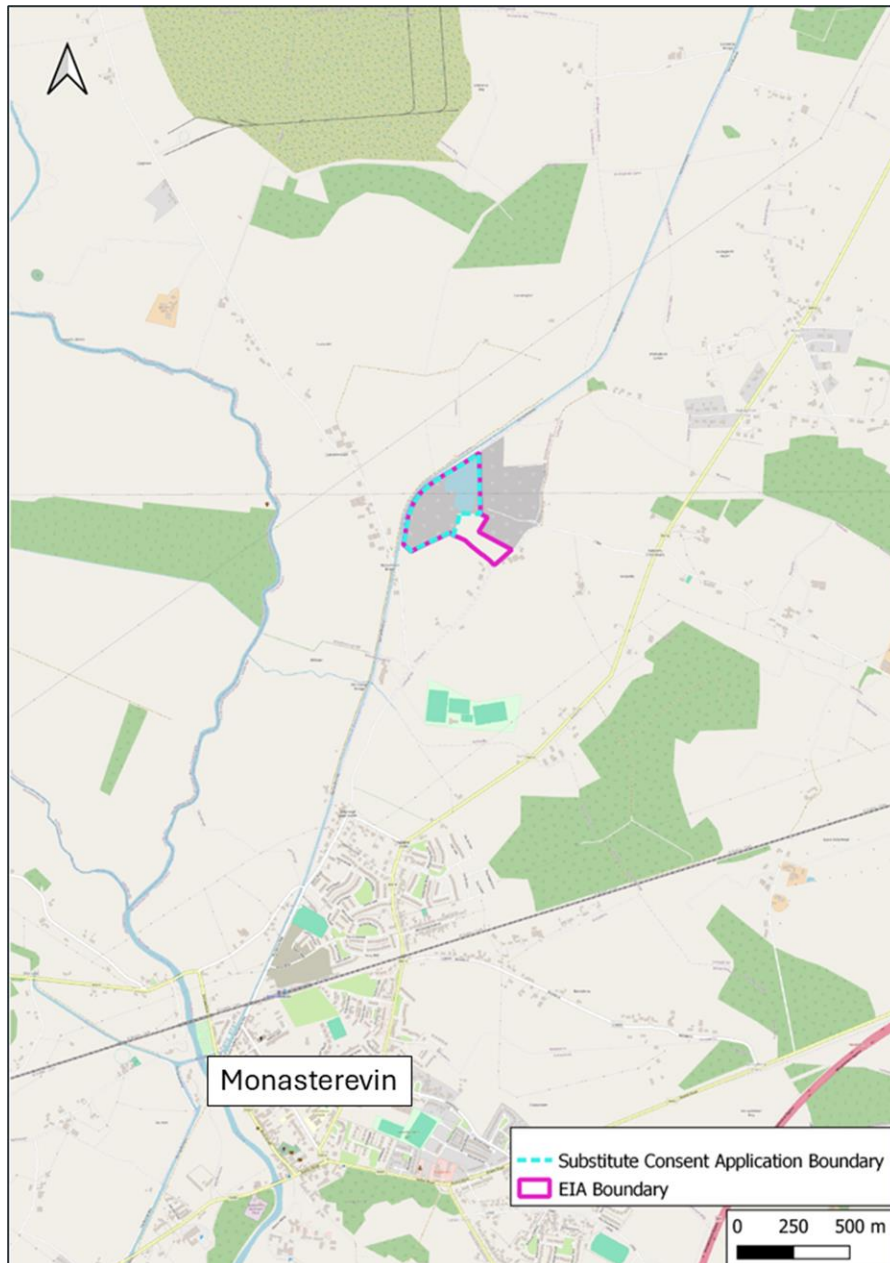


Figure 1.1: Project Location

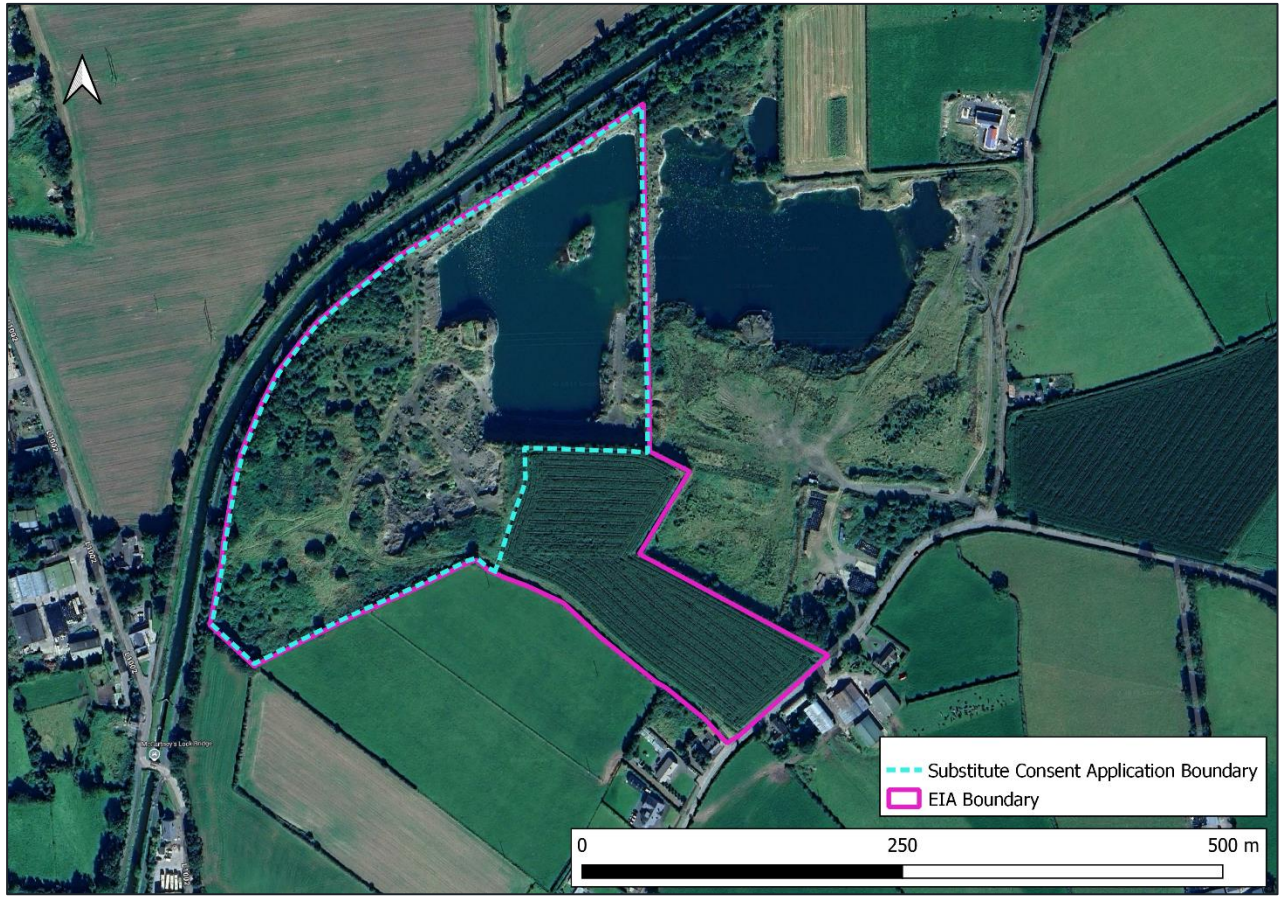


Figure 1.2: Substitute Consent Application Boundary and EIA Boundary

1.1 Requirement for rEIAR

Certain proposed developments, due to their typology and scale, automatically trigger the requirement for EIA by a competent authority as part of that authority's formal assessment process for granting permission, consent or licensing. As set out in the next section, a hierarchical suite of European and national legislation and guidance govern Environmental Impact Assessment (EIA) and direct Environmental Impact Assessment Report (EIAR) content.

The s.261A quarry assessment prepared by KCC planning department in 2012 found that as the quarry commenced after the 1 February 1990 with an area greater than 5 hectare, then mandatory EIA was required as it exceeded the thresholds cited in S.I. No. 93/1999 European Communities (Environmental Impact Assessment) (Amendment) Regulations, 1999.

The planning history for the Application Site is described in section 2.3 of Chapter 2 (Project Description).

1.2 Substitute Consent Application and EIA Project Boundaries

The substitute consent planning application unit extends to approximately 7.87 ha. and reflects the historic operational site area including the extractable void area of approximately 2.3 ha.

As noted at the outset, the application for substitute consent to which this rEIAR accompanies is to be made concurrent with an application for further development of quarry under Section 37L. The 37L application is also to be accompanied by an EIAR. In view of this rEIAR and the EIAR being concurrently prepared for much of the same operational lands it is submitted that a single EIA project boundary for the purposes of assessment by experts of works past and proposed is consistent and will facilitate EIA of each development within the same EIA project envelope.

The EIA project boundary envelopes an area of approximately 10.62 ha. that encloses previous quarry working areas and intended future Development (the latter is addressed in the separate s.37L Application).

1.3 Structure and Content of the rEIAR

EIA is a process undertaken for certain types of development. It provides a means of drawing together the findings from a systematic analysis of the likely significant environmental effects of a scheme to assist local planning authorities, statutory consultees and other key stakeholders in their understanding of the impacts arising from the development.

The following subsections outline the evolution of EIA Directives and their interpretation in the Irish jurisdiction, statutory provisions and guidance that provide the purpose and content of the rEIAR which is summarised at the end of this section.

1.3.1 EIA Directives and Transposition

The requirement for an EIA process arises from European Union (EU) Directives required to be adhered to by member States and transposed into national laws.

The original EIA Directive 85/337/EEC has been amended and superseded by Directives 97/11/EC, 2003/35/EC, 2009/31/EC to Directive 2011/92/EU.

Having regard to the transposition of the original environmental assessment Directive into Irish Law, it is determined by reference to the Planning and Development Act, 2000 as amended that the appointed day at which the requirement for same arose is the 1 of February 1990.

On 16 April 2014, Directive 2011/92/EU was amended by Directive 2014/52/EU of the European Parliament and of the Council (2014 EIA Directive).

The amending 2014 EIA Directive consists of 16 no. Articles and 5 no. Annexes that define EIA and the supporting information and processes available, and the requirement for EIA determination in the form of reasoned conclusion by the competent authority.

This is the environmental impact assessment report (EIAR) by the developer defined at Article 1 and required under Article 3. This report relates to lands of 7.87 ha. Extraction area of that magnitude attracts automatic requirement for EIA as an Annex 1 project and is therefore subject to an assessment in accordance with articles 5 through 10.

Article 5 of the 2014 EIA Directive sets down the minimum information to be supplied in an EIAR, including those matters in Annex IV, as follows;

- (a) a description of the project comprising information on the site, design, size and other relevant features of the project;*
- (b) a description of the likely significant effects of the project on the environment;*
- (c) a description of the features of the project and/or measures envisaged in order to avoid, prevent or reduce and, if possible, offset likely significant adverse effects on the environment;*
- (d) a description of the reasonable alternatives studied by the developer, which are relevant to the project and its specific characteristics, and an indication of the main reasons for the option chosen, taking into account the effects of the project on the environment;*
- (e) a non-technical summary of the information referred to in points (a) to (d); and*
- (f) any additional information specified in Annex IV relevant to the specific characteristics of a particular project or type of project and to the environmental features likely to be affected.”*

The 2014 EIA Directive required that “Member States shall bring into force the laws, regulations and administrative provisions necessary to comply with this Directive by 16 May 2017.”

The requirement for the current rEIAR arises under the Planning and Development Act, 2000 as amended. Therefore, the competent authority undertaking EIA is An Bord Pleanála.

1.3.2 Statutory Provisions

The Planning and Development Act, 2000 as amended, describes an rEIAR to be submitted in instances of substitute consent application at S.177F(1) as follows;

“A remedial environmental impact statement shall contain the following:

- (a) a statement of the significant effects, if any, on the environment, which have occurred or which are occurring or which can reasonably be expected to occur because the development the subject of the application for substitute consent was carried out;*
- (b) details of—*
 - (i) any appropriate remedial measures undertaken or proposed to be undertaken by the applicant for substitute consent to remedy any significant adverse effects on the environment;*

(ii) the period of time within which any proposed remedial measures shall be carried out by or on behalf of the applicant;

(c) such information as may be prescribed under section 177N”.

Regulations have been made to administer EIA. For the purposes of this rEIAR and the statutes under which the requirement for its preparation has arisen, the following Statutory Instruments are relevant and have informed this report:

- European Communities (Environmental Impact Assessment) Regulations;
- European Union (Environmental Impact Assessment and Habitats) Regulations;
- European Communities (Environmental Impact Assessment) Regulations; and,
- Planning and Development Regulations.

1.3.3 Guidance

The structure and content of this rEIAR is in accordance with the following guidance:

Guidelines issued by the Housing, Local Government and Heritage Department:

- 2020 Environmental Assessments and Planning in Ireland – Planning Leaflet 11, Office of the Planning Regulator
- 2018 August Guidelines for Planning Authorities and An Bord Pleanála on carrying out Environmental Impact Assessment, Department of Housing, Planning and Local Government
- 2012 July Section 261A of Planning and Development Act, 2000 and related provisions Supplementary Guidelines for Planning Authorities, Department of the Environment, Community and Local Government
- 2012 January Section 261A of Planning and Development Act, 2000 and related provisions Guidelines for Planning Authorities, Department of the Environment, Community and Local Government
- 2009 December (revision February 2010) Appropriate Assessment of Plans and Projects in Ireland, Department of Environment, Heritage and Local Government
- 2009 November The Planning System and Flood Risk Management Guidelines for Planning Authorities, Department of Environment, Heritage and Local Government
- 2004 April Quarries and Ancillary Activities Guidelines for Planning Authorities, Department of the Environment, Heritage and Local Government

Guidance issued by the Environmental Protection Agency [EPA]:

- 2022 May Guidelines on the Information to be Contained in Environmental Impact Assessment Reports
- 2006 Environmental Management Guidelines, Environmental Management in the Extractive Industry (Non-Scheduled Minerals).

1.3.4 Purpose and Content of rEIAR

Taking the description of an rEIAR as in the Planning & Development Act 2000, as amended and the definition of an EIAR in the same Act together with that by reference to Articles 3 and 5 of the 2014 EIA Directive, this rEIAR is:

A remedial environmental impact assessment report of the effects, if any, on the environment, which have occurred or which are occurring or which can reasonably be expected to occur because the development the subject of the application for substitute consent was carried out. The report is prepared to aid An Bord Pleanála in environmental impact assessment.

In addition to the aforementioned Directives and statutory provisions and guidance, the contents of this rEIAR, including baseline data, then anticipated potential environmental effects and remedial mitigation measures have been fully informed by preceding and subsequent planning and license applications and outcomes related to the subject lands.

The rEIAR has been prepared in a 'Grouped Format' structure, having regard to the prescribed environmental factors of the EIA Directive and the 2022 EPA Guidance; "Population and Human Health; Biodiversity, Land & Soils, Water, Air, Climate, Material Assets, Cultural Heritage, Landscape, Interactions."

In this way each aspect of the environment is presented as a separate section referring to the environment as it existed before Project development commenced, the existing development, experienced and / or likely impacts, and employed / proposed remedial mitigation measures.

The rEIAR has therefore been systematically organised to provide the information and environmental aspect chapters identified in Table 1.1.

Table 1.1: Overall Structure of the rEIAR

Content	Chapter
Context and Requirement for rEIAR	1 Introduction, Scope and Methodology
A description of the existing environment.	2 Project Description; and as appropriate in the respective discipline chapters.
A description of the project.	2 Project Description
Identification of experienced / likely significant impacts during construction and operation of the development and a description of the measures employed / envisaged in order to avoid, reduce and, if	3 Population and Human Health 4 Ecology and Biodiversity 5 Land, Soils and Geology 6 Water

possible, remedy significant adverse impacts.	7 Air Quality 8 Climate 9 Noise and Vibration 10 Cultural Heritage 11 Landscape and Visual Impact 12 Traffic and Transport 13 Material Assets 14 Major Accidents and Disasters
Sets down the cumulative and in combination significant effects of the project and considers expected / experienced effects deriving from the vulnerability of the project to risks of major accidents and/or disasters that are relevant to the project concerned	Cumulative: As appropriate in the respective discipline chapters. In combination: 15 Interactions Major accidents and/or disasters: Chapter 14

Alternatives are examined by reference to locations, design, technology, size, scale and processes, as appropriate, and are set out later in this chapter.

Likely and significant impacts arising from the existence of the Project, its use of natural resources, the emission of pollutants and the creation of nuisances are identified, described as direct, indirect, secondary, cumulative; by duration as short, medium and long-term, permanent and temporary; and by type as positive and negative, as appropriate.

A Non-Technical Summary (NTS) accompanies the rEIAR and provides a summary of the key findings of the EIA in non-technical language.

Table 1.2 identifies the data and information to be included by the developer in the rEIAR as described in Annex IV of the amended EIA Directive, and the location of this information within the document.

Table 1.2: Requirements of 2014/52/EU Annex IV and where these have been addressed in this rEIAR

Item	Requirement of Annex IV item	Reference in rEIAR
1	Description of the project, including in particular: (a) a description of the location of the project; (b) a description of the physical characteristics of the whole project, including, where relevant, requisite demolition works, and the land-use requirements during the construction and operational phases;	(a) and (b) Chapter 2 – ‘Project Description’ (c) and (d) Chapter 2 – ‘Project Description’, and identified in the relevant technical chapters

Item	Requirement of Annex IV item	Reference in rEIAR
	<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>	
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.	Section 1.7 – Consideration of Alternatives
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.	<p>A ‘Baseline Conditions’ section has been provided in each technical chapter’ along.</p> <p>Given the nature of the rEIAR and the substitute consent process the potential impacts of a ‘Do Nothing’ scenario if the Project were not operating during this period has not been considered.</p>
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.	Each relevant study area which has been scoped into the rEIAR is provided within a dedicated technical chapter. Chapters 3 – 14.

Item	Requirement of Annex IV item	Reference in rEIAR
5	<p>A description of the likely significant effects of the project on the environment resulting from, inter alia:</p> <p>(a) the construction and existence of the project, including, where relevant, demolition works;</p> <p>(b) the use of natural resources, in particular land, soil, water and biodiversity, considering as far as possible the sustainable availability of these resources;</p> <p>(c) the emission of pollutants, noise, vibration, light, heat and radiation, the creation of nuisances, and the disposal and recovery of waste;</p> <p>(d) the risks to human health, cultural heritage or the environment (for example due to accidents or disasters);</p> <p>(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;</p> <p>(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;</p> <p>(g) the technologies and the substances used.</p> <p>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.</p>	<p>(a), (b) and (c) Each technical chapter, as appropriate</p> <p>(d) Chapter 3 (Pop. and Human Health), Chapter 10 (Cultural Heritage), and Chapter 14 (in relation to accidents and disasters)</p> <p>(e) Each technical chapter, as appropriate</p> <p>(f) Chapter 7 (Air Quality) and Chapter 8 (Climate)</p> <p>(g) Each technical chapter, as appropriate</p> <p>Descriptions of effects are identified in each technical chapter, as appropriate</p>
6	<p>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.</p>	<p>Assessment methodology is identified in each technical chapter, as appropriate, or a common framework and terminology has been identified in Section 1.6.</p>

Item	Requirement of Annex IV item	Reference in rEIAR
		Difficulties encountered in compiling the rEIAR have been identified in each technical chapter, as appropriate
7	A description of the measures envisaged to avoid, prevent, reduce or, if possible, offset any identified significant adverse effects on the environment and, where appropriate, of any proposed monitoring arrangements (for example the preparation of a post-project analysis). That description should explain the extent, to which significant adverse effects on the environment are avoided, prevented, reduced or offset, and should cover both the construction and operational phases.	The identification of remedial mitigation measures is identified in each technical chapter, as appropriate.
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.	Chapter 14 (Major Accidents and Disasters)
9	A non-technical summary of the information provided under points 1 to 8.	Submitted as a separate document with this application
10	A reference list detailing the sources used for the descriptions and assessments included in the report.	Final Section of each technical chapter.

1.4 Limitations and Difficulties in Compiling the Specified Information (Schedule 6 of SI 600 of 2001, as amended)

Limitations and difficulties encountered in preparing this rEIAR having regard to the Planning and Development Regulations and Section 3.7.2 of the 2022 EPA Guidelines.

The project description has been prepared based on limited planning information held by KCC with regards to the Project and publicly available aerial imagery. Accordingly, given the nature and scale of the Project within the Application Site, and the period in which it operated in the early to mid-2000s, assumptions have been made with based on the operation of similar developments from that time. E.g. with regards to the type and number of plant and vehicles used in extraction and processing within the Application Site. Conservative assessments have been applied where information concerning methodology or program could not be fully determined. See Chapter 2 (Project Description) for details.

As appropriate, information from publicly available sources has been used in the course of this assessment. This includes mapping sources such as the EPA, Geological Survey of Ireland, Department of Environment, Climate and Communications, etc., and other information including Census returns. Due care has been taken in the review of these data sets however no responsibility can be taken for inaccuracies which may be present within this public data.

1.5 rEIAR Contributors and Guarantee of Competency and Independence

S177F(1A) requires that the rEIAR be prepared by experts with the competence to ensure its completeness and quality.

In the interests of consistency and the leveraging of existing specialist knowledge of the subject site, alongside the applicant, competent experts have been retained to compile this rEIAR.

The rEIAR was completed by a project team led by WSP, who also prepared a number of the chapters.

The members of the team and their respective inputs are presented in Table 1-3.

In accordance with EIA Directive 2014/52/EU, we confirm that experts involved in the preparation of the rEIAR are fully qualified and competent in their respective field. Each has extensive proven expertise in the relevant field concerned, thus ensuring that the information provided herein is complete and of high quality.

All technical leads contributed to the assessment of interacting effects.

Table 1.3: rEIAR Contributors

Discipline Lead	Specialist	Qualifications	Accreditations	Years of prof. experience
Introduction, Scope and Methodology; Project Description;	Rhian Llewellyn	MGeol Geology with Palaeobiology; PhD Earth Science;	PIEMA	9+

Discipline Lead	Specialist	Qualifications	Accreditations	Years of prof. experience
Population & Human Health; Land, Soils & Geology; Climate; Material Assets; Major Accidents and Disasters		Adv. Dip. Planning and Env. Law		
Water	Kit Pannell	MSc Hydrogeology		11+
Biodiversity	Ursula Digby	BSc (Hons) Environmental Biology MSc Environmental Resource Management	Chartered Environmentalist (CEnv) Full Membership of the Chartered Institute for Environmental and Ecological Management (CIEEM) Member of the UK Environmental Law Association	20
Air Quality	Katie Armstrong	Katie Armstrong	BSc. Mathematics; MSc. Weather, Climate and Modelling	-
Noise & Vibration	Gregor Massie (SLR)	Associate member of the Institute of Acoustics (AMIOA) MSc Environmental Sustainability BEng (Hons) Civil Engineering	IoA Certificate of Environmental Noise Measurement, IOA Diploma in Acoustics and Noise Control	6+
Cultural Heritage	Kevin Paton	MA (Hons) Archaeology	Member of Chartered Institute for Archaeologists	17
Landscape & Visual	Richard Baker (Macroworks)	MLA, PG Dip Forestry, BA Env	Corporate Member Irish Landscape Institute	20+

Discipline Lead	Specialist	Qualifications	Accreditations	Years of prof. experience
Traffic & Transport	Kevin Harley	BEng (Hons) Civil Engineering	CEng MIEI	20

1.6 rEIAR Scope & Methodology - Prediction Of Impacts And Effects And Assessment Of Remedial Mitigation Measures

1.6.1 Determining The Extent Of The Assessment

It is necessary to define the extent of the rEIA in both spatial and temporal terms, and this has been described below.

1.6.1.1 Geographical Extent

The rEIA directly covers the physical extent of the Site as shown in the EIA boundary plan (Figure 1-2). Also, as many predicted impacts can extend beyond the immediate EIA boundary, for example the use of the Site for foraging by a species that is primarily located off-site.

For certain topic areas a wider 'zone of influence' has been considered, as described in the individual topic chapters.

The geographical extent of the EIA boundary also includes the cumulative impacts from related and unrelated development activities in both the construction and operational phases.

1.6.1.2 Temporal Extent

Historical arial mapping and documentation held by Kildare Country Council indicates extraction of aggregates within the Application Site is estimated to have commenced within 2000 and the operation had ceased within 2006. Accordingly, the baseline for this rEIAR has been set to 01 January 2000, and the rEIAR process has assessed environmental impacts from that date to 31 December 2006 (see Chapter 2 Project Description for detail).

1.6.2 Prediction Of Impacts And Effects Prior To Mitigation

Prediction methods are required to identify and assess the significant effects of the Project on the environment. The predictive methods used for each technical discipline are detailed in the respective chapter. For several topic areas, predictive methods have been developed by professional bodies. Where these are available, they have been identified in the individual chapters as appropriate.

For topics where there is no topic specific guidance available, a common framework of assessment criteria and terminology has been used based on the EPA's draft Guidelines on the Information to be Contained in EIARs (EPA, 2022).

This common framework follows a 'matrix approach' to environmental assessment which is based on the characteristics of the impact (magnitude and nature) and the value (sensitivity) of the receptor. The terms used in the common framework are described below. Details of how these specifically relate to the individual topic areas are provided, where appropriate, within the respective topic chapters. The descriptions for value (sensitivity) of receptors are provided in Table 1-4.

The descriptions for magnitude of impact are provided in Table 1-5.

The approach followed to derive effects significance from receptor value and magnitude of impacts is shown in the Table 1-6 below. Where two significance categories are identified the topic chapters shall support the reporting of a single significance category.

A description of the significance categories used is provided in Table 1-7.

Table 1-4 - Environmental value (sensitivity) and descriptions.

Value (sensitivity) of receptor / resource	Typical description
High	High importance and rarity, national scale, and limited potential for substitution.
Medium	Medium or high importance and rarity, regional scale, limited potential for substitution.
Low	Low or medium importance and rarity, local scale.
Negligible	Very low importance and rarity, local scale.

Table 1-5 - Magnitude of impact and typical descriptions.

Magnitude of impact (change)		Typical description
High	Adverse	Loss of resource and/or quality and integrity of resource; severe damage to key characteristics, features or elements.
	Beneficial	Large scale or major improvement of resource quality; extensive restoration; major improvement of attribute quality.
Medium	Adverse	Loss of resource, but not adversely affecting the integrity; partial loss of/damage to key characteristics, features or elements.

	Beneficial	Benefit to, or addition of, key characteristics, features or elements; improvement of attribute quality.
Low	Adverse	Some measurable change in attributes, quality or vulnerability; minor loss of, or alteration to, one (maybe more) key characteristics, features or elements.
	Beneficial	Minor benefit to, or addition of, one (maybe more) key characteristics, features or elements; some beneficial impact on attribute or a reduced risk of negative impact occurring.
Negligible	Adverse	Very minor loss or alteration to one or more characteristics, features or elements.
	Beneficial	Very minor benefit to or positive addition of one or more characteristics, features or elements.

Table 1-6 - Significance Matrix.

	Magnitude of Impact (Degree of Change)				
Environmental value (Sensitivity)		Negligible	Low	Medium	High
	High	Slight	Slight or moderate	Moderate or large	Profound
	Medium	Imperceptible or slight	Slight or moderate	Moderate	Large or profound
	Low	Imperceptible	Slight	Slight	Slight or moderate
	Negligible	Imperceptible	Imperceptible or slight	Imperceptible or slight	Slight

Table 1-7 - Significance categories and typical descriptions.

Significance Category	Typical Description
Profound	An effect which obliterates sensitive characteristics.
Large	An effect which, by its character, magnitude, duration or intensity alters a significant proportion of a sensitive aspect of the environment.

Moderate	An effect that alters the character of the environment in a manner that is consistent with existing and emerging baseline trends.
Slight	An effect which causes noticeable changes in the character of the environment without affecting its sensitivities.
Imperceptible	An effect capable of measurement but without significant consequences.

The approach to assigning significance of effect included reasoned argument, the professional judgement of competent experts and using effective consultation to ensure the advice and views of relevant stakeholders were taken into account. The assessment of the significance of environmental effects covered the following factors:

1. The receptors/resources (natural and human) which would have been affected and the pathways for such effects;
2. The geographic importance, sensitivity or value of receptors/resources;
3. The duration (long or short term); permanence (permanent or temporary) and changes in significance (increase or decrease);
4. Reversibility - e.g. is the change reversible or irreversible, permanent or temporary;
5. Environmental and health standards (e.g. local air quality standards) being threatened; and
6. Feasibility and mechanisms for delivering mitigating measures, e.g. Is there evidence of the ability to legally deliver the environmental assumptions which are the basis for the assessment?

Following the assessment of the level of effect significance, remedial measures will be presented that will be used to further avoid, prevent or reduce the magnitude of the potential impact. If necessary, the significance of the effect taking into account the remedial measures is then assessed to give the residual effect significance. Any monitoring that will be required to measure the success of the remedial measures will also be presented.

Residual effects of 'large' or 'profound' significance are considered to be 'significant' for the purposes of this assessment.

The effects of the Project are also considered cumulatively with those that could foreseeably have resulted from other known developments that have occurred in the assessment study area.

1.7 The Need For The Project And Consideration Of Alternatives

Identification and consideration of alternatives of design and scale for a quarry development, particularly for a continuation of extraction, are limited in scope. The

extraction of aggregates is controlled by the availability and quality of the materials (both sand and gravel, and rock) which in turn controls the overall design plan for the quarry.

The sand, gravel and limestone rock at the subject location is of a proven good quality capable of being used for a range of materials in the construction industry. Therefore, the reserve material assumed to be present at the subject site and now extracted provided suitable aggregates for construction purposes.

In considering alternative sites, it is a basic principle that aggregates can only be worked where they naturally occur. The products are generally of low unit value and the most significant cost is transportation. As with all aggregate extraction development the nearer the supply of aggregate to the market, the more economically viable it is and given the nature of aggregate deposits. In this case the Site has the benefit of being strategically located in close proximity to the M7 Motorway and town of Monasterevin. Aligned to this economic situation is the environmental and social preferability of locally sourced aggregates. Aggregates sourced close to their market are preferable to those sourced at more remote locations as this lessens road traffic and associated environmental impacts and economic costs. Socially, the local sourcing of construction aggregate strengthens the local economy through job provision and associated spending and exploits advantages and opportunities inherent in local supply chains.

Aggregates are an essential material for the construction industry and are used in all major development plans (housing, road surfacing, infrastructure etc.). As such, they are of major significance to the overall growth of their local areas and the country and an important economic resource despite fluctuations in levels of construction due to wider economic forces, or events such as the COVID-19 pandemic suspension of construction.

The purpose of this rEIAR is to assess the site with regard to experienced / potential impacts on the environment, and to recount / propose measures to avoid, reduce or remedy undesirable potential impacts, as appropriate.

1.7.1 Site Selection

In this instance the rEIAR has arisen as a direct requirement of an application for leave for substitute consent. In other words, the subject site is not a proposed site but rather an existing disused extraction site. In view of the retrospective nature of the substitute consent process we cannot point to a site selection methodology employed in choosing the subject site as indicated in section 1.6 above.

1.8 References

EPA (2022) Guidelines on the information to be contained in Environmental Impact Assessment Reports. Available at: https://www.epa.ie/publications/monitoring--assessment/assessment/EIAR_Guidelines_2022_Web.pdf

EU Environmental Impact Assessment Directive (Council Directive 2014/52/EU).