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INTRODUCTION

This chapter of the ES introduces the requirements of environmental impact assessment (EIA); outlines the process of ‘scoping’ the EIA; identifies those matters scoped out of detailed assessment and sets out the general approach to assessment.

- 4.1 The EIA has been undertaken in accordance with the Town and Country Planning (Environmental Impact Assessment)(Wales) Regulations 2017 (the EIA Regulations), which came into force on 16 May 2017. Cognisance has also been given to the guidance set out in Circular 11/99: *Environmental Impact Assessment*¹ and The Institute of Environmental Management and Assessment’s “*Guidelines for Environmental Impact Assessment*”.

ENVIRONMENTAL IMPACT ASSESSMENT

- 4.2 EIA is an important procedure for ensuring that the likely effects of a new development on the environment are fully understood and taken into account before the development is allowed to proceed. The term EIA describes a procedure that must be followed for certain types of development before they are given “*development consent*”, which in the UK includes the grant of a planning permission. The procedure is a means of drawing together, in a systematic way, an assessment of a project’s likely significant environmental effects.

Statutory Background

European Context

- 4.3 The Environmental Impact Assessment Directive² (the “*EIA Directive*”) requires that, before granting ‘*development consent*’ for projects, including development proposals, authorities should carry out a procedure known as environmental impact assessment (or “*EIA*”) of any project which is likely to have significant effects on the environment. The aim of the EIA Directive is to ensure that the authority giving consent for a project makes its decision in the knowledge of any likely significant effects on the environment. The first EIA Directive (85/337/EEC) came into force in 1988 and was subsequently amended in 1999 (Directive 97/11/EC) extending the range of development to which the Directive applies and made some small changes to EIA procedures. The Directive was further amended in 2003 by Directive 2003/35/EC and in 2009 by Directive 2009/31/EC. The initial Directive of 1985 and its amendments were codified by Directive 2011/92/EU³ of 13 December 2011. As a result of a review process⁴, on 26 October 2012, the Commission adopted a proposal for a revised

¹ This circular refers to the 1999 version of the EIA Regulations

² Directive 2014/52/EU of The European Parliament And Of The Council of 16 April 2014 amending Directive 2011/92/EU on the assessment of the effects of certain public and private projects on the environment, <http://eur-lex.europa.eu/legal-content/EN/TXT/?uri=CELEX:32014L0052>

³ Directive 2011/92/EU of The European Parliament And Of The Council of 13 December 2011 on the assessment of the effects of certain public and private projects on the environment. <http://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=OJ:L:2012:026:0001:0021:EN:PDF>

⁴ Review of the Environmental Impact Assessment (EIA) Directive. <http://ec.europa.eu/environment/eia/review.htm>

Directive². The newly amended EIA Directive (2014/52/EU) came into force on 15 May 2014 to simplify the rules for assessing the potential effects of projects on the environment. This Directive has now been adopted by the governments in the UK, with new regulations coming into force in Wales on 16th May 2017.

National Context

- 4.4 The EIA Directive has been implemented by regulations for development proposals under the Town and Country Planning Act 1990 (the 1990 Act). The current regulations are the Town and Country Planning (Environmental Impact Assessment)(Wales) Regulations 2017 (the 'EIA Regulations') and the Infrastructure Planning (Environmental Impact Assessment) Regulations 2017. In relation to the planning application at Penrhyn Quarry it is the former that are of relevance. Separate regulations also are in force for the devolved governments in Scotland, Wales and Northern Ireland.
- 4.5 The EIA Regulations specify certain types of development for which EIA is mandatory (Schedule 1 projects), and categories of development where an EIA may be required (Schedule 2 projects) dependent upon the likely significance of the impacts. In connection with the proposals for Penrhyn Quarry, the extent of the proposed extension falls well below the 25 ha threshold for Schedule 1 developments and thus falls to be considered against the criteria for Schedule 2. In the context of the second application, it seeks to amend the working scheme (specifically in relation to the deposit of mineral wastes) and so falls to be considered against Part 13 *"Changes and extensions - Any change to or extension of development of a description listed in Schedule 1 (other than a change or extension falling within paragraph 24 of that Schedule) where that development is already authorised, executed or in the process of being executed; and (13b) Any change to or extension of development of a description listed in paragraphs 1 to 12 of column 1 of this table [i.e. Schedule 2], where that development is already authorised, executed or in the process of being executed."*
- 4.6 In view of the cumulative area of the quarry workings and associated land together with its proximity to 'sensitive areas' (and indeed, the proposed extension falling within part of a Special Area for Conservation (SAC), see Chapter 2 above) the applicant is not contesting the need for the application to be supported by an EIA. In view of this, no 'Screening Opinion' has been requested.

The Environmental Statement

- 4.7 An Environmental Statement (ES) is a report of an EIA that is required to be submitted with a planning application for major and other developments that are likely to have significant impacts on the environment. It evaluates the likely environmental impacts of the development, together with an assessment of how the severity of the impacts could be reduced.
- 4.8 The EIA Regulations⁵ indicate that an ES must include the information reasonably required for reaching a reasoned conclusion on the significant effects of the development on the environment, taking into account current knowledge and methods of assessment. Regulation 17 of the EIA Regulations indicates that an ES should include at least:

⁵ Regulation 17(4)(d)

- (a) a description of the proposed development comprising information on the site, design, size and other relevant features of the development;
- (b) a description of the likely significant effects of the proposed development on the environment;
- (c) a description of any features of the proposed development, 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 proposed development and its specific characteristics, and an indication of the main reasons for the option chosen, taking into account the effects of the development on the environment;
- (e) a non-technical summary of the information referred to in sub-paragraphs (a) to (d); and
- (f) any additional information specified in Schedule 4 relevant to the specific characteristics of the particular development or type of development and to the environmental features likely to be significantly affected.

4.9 For ease of reference, the box below sets out the requirements of Schedule 4.

Table 4-1
Document Overview

Requirement	Location in the ES
<p>1) A description of the development, including in particular:</p> <ul style="list-style-type: none"> (a) a description of the location of the development; (b) a description of the physical characteristics of the whole development; (c) a description of the main characteristics of the operational phase of the development (d) an estimate of expected residues and emissions and quantities and types of waste produced during the construction and operation phases. <p>2) A description of the reasonable alternatives;</p> <p>3) A description of the current baseline conditions and an outline of the likely evolution thereof without implementation of the development</p> <p>4) A description of the factors specified in regulation 4(2) likely to be significantly affected by the development: 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.</p> <p>5) A description of the likely significant effects of the development on the environment resulting from, inter alia:</p> <ul style="list-style-type: none"> (a) the construction and existence of the development, including, where relevant, demolition works; 	<ul style="list-style-type: none"> 1) Chapter 2 for the description of location and site setting and Chapter 3 for a description of the development. Individual topic chapters also contain a description of the development, where necessary, to augment the description within Chapter 3. 2) Chapter 3 sets out the alternatives considered. 3) Chapters 6 to 12 describe the baseline in the context of the main environmental subjects to be assessed. 4) This ES assesses the Proposal’s potential impact under the following topics. <ul style="list-style-type: none"> (a) Chapter 6 – Landscape and Visual (b) Chapter 7 – Ecology (c) Chapter 8 – Cultural Heritage (d) Chapter 9 – Water Environment (e) Chapter 10 – Noise (f) Chapter 11 – Air Quality (g) Chapter 12 – Vibration (h) Chapter 13 – Wellbeing <p>It is considered that these assessments address the issues identified within Schedule 4(2).</p>

Requirement	Location in the ES
<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 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 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 development.</p> <p>6) A description of the forecasting methods or evidence used including details of difficulties.</p> <p>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.</p> <p>8) A description of the expected significant adverse effects of the development on the environment deriving from the vulnerability of the development to risks of major accidents and/or disasters which are relevant to the project concerned.</p> <p>9) A non-technical summary of the information provided under paragraphs 1 to 8.</p> <p>10) A reference list detailing the sources used</p>	<p>5) Chapters 6 to 12 describe the likely significant effects in the context of the main environmental subjects to be assessed. Chapter 13 then considers the potential effects on ‘wellbeing’ having regard to other assessments carried out as part of the EIA. Chapter 14 sets out the cumulative effects.</p> <p>6) Chapters 6 to 12 describe the forecasting methods and evidence used in the assessment in relation to the main environmental subjects to be assessed.</p> <p>7) Chapters 6 to 12 describe the measures envisaged to avoid, prevent, reduce or, if possible, offset any identified significant adverse effects on the environment in the context of the main environmental subjects to be assessed.</p> <p>8) This matter has been scoped out of the EIA..</p> <p>9) A separate Non Technical Summary is provided (Volume 3).</p> <p>10) Details of sources used are clearly identified in the text of each chapter and included as footnotes to each chapter of the ES.</p>

Scoping

- 4.10 The EIA Regulations require consideration of the likely significant environmental effects of a development proposal. However, the EIA Regulations and associated guidance need to be capable of being applied to all forms of development, and not purely mineral developments. Each development proposal is unique, and the potential impacts associated with one site may not be the same as another. Consequently, it is not always necessary to address all the areas identified in the EIA Regulations in the same amount of detail. It is therefore important to clearly identify or ‘scope’ the main environmental issues, as this allows for more detailed and targeted assessment to be carried out.

- 4.11 The applicant has carried out a formal scoping exercise, commencing with an internal scoping appraisal undertaken by SLR to establish the likely significant environmental effects. This was set out in the 'Scoping Report' submitted to the MPA on 2nd November 2018, which described the proposed scope of the EIA, and was accompanied by a request for a 'Scoping Opinion'. It should be noted that this request was made in respect to the larger scheme and not this revised (smaller) scheme.
- 4.12 Regulation 15 of the EIA Regulations, places a duty on the planning authority, if requested, to give their opinion (known as a 'Scoping Opinion') in writing to the applicant on the information to be provided in the ES. The MPA issued their Scoping Opinion on 29th January 2019, attached as **Appendix 4/1** to this chapter. In view of the comments raised regarding biodiversity/ecology, SLR's ecologist met with the Biodiversity Officer from Gwynedd County Council on site to discuss further the scope of the ecological assessment; this culminated in a slightly different scope being agreed, which is documented in **Appendix 4/2**. Subsequent to issuing the Scoping Opinion, the MPA advised on 24 July 2019 that consideration may need to be given to Maintaining and Creating Distinctive and Sustainable Communities Supplementary Planning Guidance Post Consultation Draft, July 2019). Despite the passage of time and the reduction in the scale of the extension, it is considered that the scoping opinion is still relevant, be it that certain aspects are no longer relevant (for example when considering the potential effects from waste tipping).
- 4.13 As part of the formal Pre-Application Consultation process, NRW provided a detailed response on the ecology chapter for the draft ES (which related to the larger extension scheme) indicating what additional work would be required. This is considered further in Chapter 7 of this volume.
- 4.14 In accordance with Regulation 15 of the EIA Regulations, the MPA consulted key statutory consultees and made their responses and advice available to the applicant to assist with the preparation of the EIA.
- 4.15 The EIA and attendant ES have, therefore, been prepared having regard to the MPA's Scoping Opinion (as required under Regulation 15 of the EIA Regulations), the scoping appraisal, and the advice received during these, and subsequent, consultation discussions.
- 4.16 Finally, the assessments of environmental effects have been undertaken using guidance and professional standards relevant to the individual topic area, and are separately referenced in the appropriate chapter.
- 4.17 Table 4-2 below provides the main aspects of the scoping opinion and where within the ES the information is provided. The text shown underlined relates to the original proposals for amending the profile of two of the quarry tips; as previously noted, these proposals have been dropped and so the underlined text is no longer of relevance to the EIA.

**Table 4-2
Summary of Scoping Opinion (main response)**

Environmental Topic	Requirement	Where addressed
Air Quality, Noise, Population and Health	<p>The environmental statement should identify all potential receptors that are most vulnerable to the effects of noise, dust, blast vibration and movement of vehicles/operation of plant machinery within the quarry. The authority's Public Protection Department monitor the site for environmental effects and have been engaged with the quarry liaison group where matters relating to noise, dust & vibration are discussed with representatives of the company and a delegation of local councillors and residents. As stated previously, there are schemes and assessments on noise and dust impacts already submitted in accordance with the requirements of conditions, which provide an updated baseline for the impacts of such elements on local receptors. <u>The applicant will therefore need to refer to sensitive properties and the population affected in respect to tipping areas, given the nearest property is located approximately 360m due west, with public footpath No. 43 at a distance of 125m and footpath No. 50 at 100m.</u></p> <p>The assessment must show that the levels of noise, blasting and air overpressure are within acceptable limits.</p> <p><u>It is considered therefore that Air Quality and Noise cannot be scoped out of the EIA and the applicant should ensure that a thorough assessment of waste tipping</u> and ancillary development on air quality, noise is included in the ES. Having considered the comments of Gwynedd Public Protection it is agreed that the impact on community health should be assessed and it will be necessary therefore to include a Welfare Assessment as part of the Environmental Impact Assessment.</p>	<p>These matters have been addressed in the following chapters in this ES:</p> <p>Chp. 10 – Noise</p> <p>Chp. 11 – Air Quality</p> <p>Chp. 12 – Vibration</p> <p>Chp. 13 – Wellbeing</p> <p>It should be noted that the key consideration for Air Quality and Noise effects was in relation to tipping rather than the proposed extension.</p>
Ecology (flora and fauna)	<p>In the SR, the Applicant identifies a number of current ecological assessments that have been carried out that will inform the Ecology section of the ES, and these seem largely appropriate. The 2012 EIA application provided surveys and assessments for vegetation, invertebrates, birds, fungi, lichens, badgers, bats, otters, water voles, great crested newts which were updated as part of the 2016 ROMP review. It is agreed that in view of the considerable survey work that has previously been undertaken it is considered that the baseline conditions are well understood. In view of this, it is proposed that an extended Phase 1 survey be undertaken to establish whether there has been any change to the ecological conditions. This, along with the previous survey work will be used to prepare an Ecological Impact Assessment which follows the guidelines provided by Chartered Institute of Ecology and Environmental Management (CIEEM 2018). NRW are satisfied with this approach in respect to protected species.</p> <p>In response to consultation, NRW confirm that the site lies within the Eryri Special Area of Conservation and Site of Special Scientific Interest designated for their montane habitats and the proposal will extend the footprint of the workings into areas previously excluded due to their ecological value, notably areas of wet heath and flush. Both the extension and diversion of a small section of leat will impact on SAC features and NRW agree that the impact of the proposal on protected sites cannot be scoped out of the EIA. The applicant should ensure that mitigating leat for the consented development is not made worse, but potentially improved. Also, confirmation required as to any</p>	<p>This scope has been amended following a site meeting between SLR and the Council's Biodiversity Officer. The revised scope (Appendix 4/2) has been used to inform the Ecological impact assessment (Chp. 7)</p>

Environmental Topic	Requirement	Where addressed
	<p>management undertaken within the compensation area to the east of the quarry, which was provided for the loss of SAC area.</p> <p>APPENDIX 6a is the response of Gwynedd Biodiversity service which provides the scope of updated surveys to form part of the Ecological Assessment. APPENDIX 6b & 6c confirms further discussions and consultation with your ecologist, to include updated information to account for any changes to vegetation following the implementation of a recent permission for minerals extraction and construction of an intercepting leat and trackways but also, updated habitat & species surveys for previously undisturbed upland vegetation and historic tip areas where the existing configuration has been preserved. With respect to the quarry extension, the proposed survey method for reptiles, birds, otters and badgers is agreed, however whilst previous survey data may be used for vegetation and habitat, the area must be ground-checked and extended to include the deposit of stones and gravels from the leat and new features in the landscape, i.e. the leat and trackways.</p> <p>The proposal also includes tipping onto the historic slate tips (Tip 2) which have become vegetated with heather, grasses, trees, bryophytes and lichens. The Biodiversity Service confirm that these have created habitats such as heathland, acid grassland and open mosaic of previously developed land which are all of biodiversity importance. Therefore ecological surveys and impact assessment of the tips will be needed and should include vegetation/habitats, lower plants (bryophytes and lichens), reptiles, birds and invertebrates.</p> <p>Therefore, the Applicant should ensure that the baseline data for the assessments conducted are robust, and provide the data necessary to assess any likely significant effects arising from the Proposed Development. The EIA must therefore provide sufficient information to allow Cyngor Gwynedd as competent authority to undertake an Appropriate Assessment in accordance with regulation 61 of the Conservation (Natural Habitats, & C.) Regulations 2010, to assess any likely significant impacts of the development on listed features of the SAC and their attributes. By satisfying the requirements concerning the SAC as indicated above, it is likely the requirements for the SSSI will also be met.</p>	
<p>Hydrology and Hydrogeology</p>	<p>NRW are satisfied with the proposed scope of the EIA relating to hydrogeology ...</p> <p>However, NRW confirm that the study of the hydrology of the proposed development will inform any potential additional mitigation (in terms of the leat) required for protected sites. Consequently, the current mitigation measures and operational practices in terms of the water environment will need to be reviewed to ensure continued function and effectiveness for the duration of any potential development. In relation to drainage, table 4.1 of the SR (climate change), confirms that a flood risk assessment will be undertaken as part of the assessment on the water environment. This assessment will take into account storm events and allow for increases due to climate change.</p>	<p>This is addressed in Chapter 9 of this Volume</p>
<p>Landscape and Visual Impact</p>	<p>In response to consultation, (APPENDIX 2a) NRW agree that the landscape context has been appropriately set out in section 2.3.4 of the SR but do highlight the point that it could be made clearer that the quarry and proposed</p>	<p>These matters have been addressed in Chapter 6 which</p>

Environmental Topic	Requirement	Where addressed
	<p>application site lie within the setting of the National Park. I would also refer to the consultation response of the Snowdonia National Park in this regard to identify any visual or landscape impacts on the National Park with appropriate measures shown to mitigate for those effects.</p> <p>The site is likely to be seen from Elidr Fach, the head of the ridge at Carnedd y Filliast (both open access land) and from the public footpath at Cefn yr Orsedd to the east of the Nant Francon Valley but also the local community outlook (Mynydd Llandygai) and in this respect, views from public footpaths to the north and west of the site may be relevant. I would agree with NRW's opinion that the scope of residential/human receptors needs to be extended to include walkers within the National Park and the impacts on tranquillity but also, <u>the impacts of tipping operations, mostly in Tip 2, on receptors at Mynydd Llandygai. I would further agree with NRW that very little information has been submitted to ascertain the full environmental impact of increasing the waste tipping capacity of the existing mineral-working deposits.</u></p> <p><u>Based on the information submitted, tipping operations on Tip 2 is likely to be the most contentious element of the development proposals both in terms of visual and landscape impacts but also in terms of residential amenity. I would refer to NRWS concerns on landscape impacts in their response of the 9th January (APPENDIX 2b) which states; "should tipping take place down the public facing elevations of' prominent relict tips - the contrast in colour between weathered and recently excavated slate could be noticeable. Storage of waste on the top of the tip and vehicle movements could modify the profile of tips and affect tranquillity. Where seen against the skyline this could be particularly visually intrusive. These aspects need to be assessed and tipping operations planned to minimise disturbance to views and tranquillity (both an audible and visual sense of peacefulness). In addition to viewpoint photos, cross-sections would be required to illustrate existing and proposed profiles as would be seen within public views. Photomontage images may be required depending on visibility and degree of change from specific viewpoints".</u></p> <p>In respect of the preferred viewpoints for the visual impact assessment, the Zone of Visual Influence should include an appraisal of the visual impact of the development on the settlement of Bethesda & Mynydd Llandygai, and the Snowdonia National Park and as requested by NRW, it would be helpful to agree a draft schedule of viewpoints by reference to a scale plan. For both the ROMP and previous application for a re-alignment of quarry workings, clear plans and contextual information has been submitted including a selection of viewpoints and photomontages which provided sufficient appraisal for the purposes of the EIA. The assessment should include an appraisal of the site as existing, during progressive stages of extraction and as a final landform including progressive and final restoration proposals consistent with the approach in Section 3.8 of the SR to reflect the details and methodology previously approved under the ROMP review. Restoration should form part of the application proposals.</p> <p>There are issues of historic landscape and biodiversity to be considered and it is acknowledged that Welsh Slate have initiated studies and a specialist programme of restoration configured to integrate such elements 'Restoring Habitats of High Conservation Value after Quarrying - Life Project: in conjunction with Bangor University and that this approach has been maintained in the current management regime for the site. It is recognised that varying techniques and methods of restoration and planting have been</p>	<p>presents a Landscape and Visual Impact Assessment that has been undertaken in accordance with GLVIA3</p> <p>Landscape and Visual effects associated with changes to the quarry tips are no longer relevant.</p>

Environmental Topic	Requirement	Where addressed
	<p>sought and it is important for the success of the scheme that the restoration works are monitored so that various techniques and methodologies may be applied in a cohesive strategy for the whole site.</p>	
<p>Archaeology and Cultural Heritage</p>	<p>Given the setting of the quarry and the cultural and historic associations with Dyffryn Ogwen and Bethesda there are issues concerning direct and indirect impacts on archaeological features and Landscape of Outstanding Historic Interest that need to be addressed in the EIA.</p> <p>Gwynedd Archaeological Planning Service (GAPS) confirm in their consultation response (APPENDIX 4) that, whilst known archaeological remains would be directly affected by the proposed quarry extension, the scope of work outlined in Table 4.1 (p.24) of the scoping document, draws upon the extensive body of work already carried out and appears suitable in respect of direct impacts. However their response goes on to say that any archaeological assessment must acknowledge and consider the impacts upon any statutorily designated site within a proposal site or its sphere of influence as a matter of good practice. I would agree that the requirements of Welsh Planning legislation specify consultation with the Welsh Government body, CADW, on any development likely to be visible from a scheduled monument which is within a distance of 5km from the perimeter of a scheduled monument and which is 100m or more in height or has an area of 1 hectare or more. As the proposed extension <u>and extended tip areas measure approximately 38 hectares</u>, the assessment will be obliged, as a minimum, to identify scheduled monuments within a 5km radius of the application site and to establish whether any visual relationships exist, in order to provide an evidence base for this consultation.</p> <p>Both CADW and Gwynedd Archaeological Planning Service (APPENDICES 3a, 3b & 4) do not agree that the impact of the proposed development on the setting of scheduled monuments can be scoped out of the EIA and recommend that a search area of 3km should be used, in which the 4 scheduled monuments identified below are present.</p> <ul style="list-style-type: none"> · CN119 Sling Burial Chamber · CN219 Ty'n Twr · CN297 Slate Gwaliau at Felin Fawr, Penrhyn · CN374 Mod y Cl calm <p>CADW strongly recommends that that this assessment should be produced in accordance with the Welsh Government document "The Setting of Historic Assets in Wales".</p> <p>CADW confirm that; "the application site is within the Dyff'yn Ogwen Registered Landscape of Outstanding Historic Interest, and the quarry and its historical and geographical associations are primary components of this landscape. Section 6. 1.27 of Planning Policy Wales indicates that this will be a material consideration in an application such as the extension to Penrhyn Quarry and the Technical Advice Note 24 section 7. 8 explains that an Assessment of the Significance of the Impact of Development on the Historic Landscape (ASIDOHL2) report should be produced as part of the EIA process".</p>	<p>These matters have been addressed in Chapter 8</p> <p>It should be noted that the candidate World Heritage Site has now been confirmed by UNESCO.</p> <p>It should also be noted that the scale of the development has significantly reduced</p>

Environmental Topic	Requirement	Where addressed
	<p>In accordance with the advice set out in the consultation response, CADW's Environment Senior Planning Inspector should be contacted to agree the scope of the ASIDOHL assessment.</p> <p>CADW also request that in accordance with Section 6.1.22 of PPW10, impact of the proposed quarry expansion on the nominated World Heritage Site will be a material consideration of the planning application.</p> <p>The Gwynedd and Mon Joint Local Development Plan recognises that the Councils have a duty in exercising their planning functions to preserve and enhance the significant character and appearance of the Plan area's cultural and historic environment and that the historic environment contributes to the enjoyment of life, provides a unique sense of identity and is a valuable economic asset. Policy PS20 states; <i>"In seeking to support the wider economic and social needs of the plan area, the Local Planning Authorities will preserve and where appropriate, enhance its unique heritage assets"</i>, including amongst other considerations, scheduled ancient monuments and other areas of archaeological importance, registered historic landscapes, buildings of architectural/historic/cultural merit that are not designated or protected (in line with Policy AT3) and Candidate World Heritage Sites.</p> <p>In line with the advice from CADW and GAPS, the applicant should ensure that the impacts of the development on known archaeological features, the impacts on the setting of scheduled ancient monuments and the direct and indirect impacts on the registered historic landscape and candidate world heritage site are dealt with in the Historic Environment / Cultural Heritage section of the ES.</p>	

4.18 The Scoping Opinion confirms that the following can be scoped out of the EIA:

- Traffic and Transport;
- Climate Change (except flood risk and drainage patterns which are to be addressed under Hydrology and Hydrogeology);
- Accidents, Natural Disasters and Hazards;
- Socio-Economic (but noted that Welsh Language and the related socio-economic benefits should be addressed in the Planning Statement); and
- Geology and Geotechnical.

Assessment Procedures

4.19 The EIA has identified a range of potential environmental issues, many of which vary in terms of the stage in which they occur within the life cycle of the development and the length of time over which they are experienced.

Phase	Duration
Construction Phase	As an extension to an existing mineral working, works typically associated with the construction phase (establishment of site infrastructure for example) have already been undertaken. Initial operations during the construction phase would be the stripping of soils and overburden, which would be undertaken on a phased basis throughout the life of the development. Soil stripping operations are typically completed in 4-6 weeks, whilst overburden stripping in an ongoing operation over the course of the development.
Operational Phase	This would cover the development of the quarry extension as part of the overall development of the quarry, including land within the extant planning permission, for the period of around 13 years (noting that the extant permission has 10 years remaining for mineral extraction operations).
Restoration Phase	This would cover a period of approximately 2 years following the completion of slate extraction operations and include the final restoration operations to create new habitats. Following this, a five year period of aftercare management would ensue.

4.20 Identified impacts can have differing durations, and the EIA has generally classified impacts into three timeframes; short term, medium term and long-term.

Timeframe	Description
Short Term	Typically being from a few months up to three years in duration.
Medium Term	This would cover a period of around three to ten years.
Long Term	This would cover a period in excess of ten years.

4.21 Notwithstanding this, assessments that have been carried out as part of the EIA may use different definitions for these timescales. Where this is the case, they are clearly outlined in the respective chapter.

4.22 Identified effects can be temporary or permanent; direct or indirect; and positive or negative.

Temporary/Permanent Effects

4.23 In relation to the different time frames above, some of the effects would be temporary, for example, the clay extraction and restoration operations, whilst others would be permanent, such as the impact of new landforms on the landscape.

Direct/Indirect Effects

4.24 The proposed development could potentially have direct effects upon nearby properties and settlements, together with the environment as a whole in relation to potential emissions of noise and dust. Indirect impacts can also occur such as those relating to the transportation of slate products (which already occur and would not be affected by the proposals).

Positive/Negative Effects

4.25 The proposed development could generate both negative effects and positive benefits, either by virtue of the proposals themselves or as a result of the mitigation measures proposed.

Cumulative Impacts

4.26 Cumulative impacts can be described⁶ as those caused by the sum of the project's impacts on the environmental components, and/or the project's impact when combined with those of other past, present or future projects. Cumulative impacts can be:

- additive, aggregative or “nibbling”, namely the simple sum of all the impacts;
- synergistic, where impacts interact to produce an impact greater than the sum of the individual impact; and
- neutralising or antagonistic impact, where the impacts counteract each other, reducing the overall impact.

4.27 Such cumulative impacts have been addressed in each of the respective chapters within the ES. However, there is also the potential for unrelated impacts, which in themselves are not significant, to collectively generate an overall impact that is unacceptable. For example, the sum of minor impacts on noise, odour and traffic could potentially produce an overall significant impact.

4.28 The various impacts are assessed individually within their respective chapters and then collectively in Chapter 14 of this ES.

Depth of Assessment

4.29 As noted earlier, a formal ‘scoping’ exercise was conducted by SLR Consulting in November 2018. The purpose of this exercise was to provide the MPA with sufficient information to enable them, along with other consultees, to set out the scope of the various assessments that make up an EIA.

4.30 A fundamental aspect of any EIA is to determine the baseline environmental conditions prevailing at the application site and the sensitivity of these receptors to change. These form the benchmark against which predicted changes resulting from the development can be assessed to determine the magnitude of any impact. There is already an operational quarry (and associated infrastructure) adjacent to the application site. Such operations would continue in the absence of the current

⁶ Methods of Environmental Impact Assessment. P. Morris and R. Therivel. UCL Press, 2000

proposal (to which this ES relates) with the extant permission⁷ having an end date of 31st December 2032 for slate extraction and 31st December 2034 for restoration works. Moreover, the extant operations were the subject of an EIA undertaken in 2015/16, as reported in an ES published in September 2016.

- 4.31 The baseline conditions (including those established under the existing planning permission) have been determined by a number of different methods including desktop research, analytical modelling and the acquisition of data from third party sources.
- 4.32 Methodologies for predicting the nature and magnitude of any potential environmental impacts are entirely dependent on the subject area. Quantitative methods of assessments are employed to predict values which can be compared against published thresholds and indicative data contained within Government guidance and standards. However, it is not always possible to ascribe quantitative values to environmental assessments and, in these instances, qualitative assessments are used. This type of assessment is largely subjective and therefore relies on previous experience and professional judgement to arrive at a sound conclusion.
- 4.33 Finally, if significant environmental impacts are predicted in the EIA process, then the ES provides measures which would be employed to eliminate or ameliorate the impact to acceptable levels. Mitigation measures have been formulated based on a hierarchy of avoid, reduce, compensate, remediate and enhance. As such mitigation measures can be in the form of changes to operational practice, or changes/additions to the design of the site. Accordingly, the EIA process forms part of the iterative design process.

STATEMENT OF SIGNIFICANCE

- 4.34 Assessing the significance of effects relies, at least in part, on value judgements including placing weight or value on the environmental receptors likely to experience the change. The significance of effects at the assessment stage relates to the sensitivity of receptors to accommodate change.
- 4.35 The significance of an effect is derived from an analysis of:
- the sensitivity of the receiving environment or receptor to change, including its capacity to accommodate the kinds of changes the proposed development may bring about;
 - the amount and type of change, often referred to as the impact magnitude which includes the timing, scale, size and duration of the impact;
 - the likelihood of the impact occurring, which may range from certainty to a remote possibility;
 - comparison of the impacts on the environment that would result from the proposed development relative to any changes that would occur without the proposed development, often referred to as the “do nothing” or “do minimum” comparison; and

⁷ As reviewed under the provisions of the Environment Act 1995

- expressing the significance of the effects of the project, usually in relative terms, based on the principle that the more sensitive the receptor, the more likely the predicted changes, and the greater the magnitude of those changes (when compared with the do nothing scenario), the greater will be the significance of the effect.

4.36 As the significance of effects will differ depending on the context and the receptors affected by the proposed development, there is no general definition of what constitutes significance. In EIA, the term significance reflects both its literal meaning of ‘importance’ and its statistical meaning where there is an element of quantification. This combination of judgemental/subjective and quantifiable/objective tests has become the standard approach to understanding and applying the test of ‘significance’.

4.37 Significant effects are defined in each of the topic specific chapters. Any effects associated with the proposed development are assumed to be negative except where they are stated to be positive.

LIMITATIONS AND TECHNICAL DIFFICULTIES

4.38 In general, no technical difficulties were encountered when undertaking the EIA. In considering the potential impacts of the proposals on nearby properties, it should be noted that observations and measurements were generally made from public areas (such as rights of way and highways). It is considered that this has not prevented the accurate assessment of potential environmental impacts or the identification of appropriate mitigation measures.