

PENRHYN QUARRY

Proposed lateral extension to working area and
continuation of working for an additional three
years

Volume 1:
PLANNING STATEMENT

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APPENDICES

Appendix 01: GWP Geotechnical Report

1.0 Introduction

This document comprises an Planning Statement and has been prepared by SLR Consulting Limited ('SLR') on behalf of Breedon Trading Limited (trading as Welsh Slate). This statement forms part of a package of documents being formally submitted to Gwynedd Council (as Mineral Planning Authority, 'MPA') in support of two planning applications relating to land at Penrhyn Quarry, near Bethesda.

- 1.1 Breedon Trading Limited (hereafter referred to as 'the applicant') is submitting two planning applications for Penrhyn Quarry. The first planning application seeks a small lateral extension to the working area of the quarry at its south-western corner. Land associated with the proposed extension lies wholly within the boundary of the current planning permission. The second planning application seeks to amend the provisions of the extant planning permission in so far as it relates to the duration of extraction operations.
- 1.2 These proposals have been amended from those previously consulted on between 11 December 2020 and 22 January 2021 as part of the formal Pre-Application Consultation process. In this respect, the extent of the proposed extension has been reduced to 1.6 hectares (ha) so that it lies on the inside of the drainage leat that bounds the quarry. In view of the reduced extension, and in the light of being able to sell more of the quarry waste, the requirements for additional tip capacity has reduced. Accordingly, it is no longer proposed to amend the tipping arrangements from those approved as part of the Review of Old Mineral Permissions under the Environment Act 1995 (permission ref. C16/1164/16/MW). This is explained further in Volume 3 to this submission (refer to paragraph 1.5 below).
- 1.3 In view of the interrelated nature of the developments, and to ensure that the whole scheme is assessed, this ES addresses both planning applications. It should be noted that development within the quarry has recently been assessed as part of a Review of Old Mineral Permissions (the Planning History for the quarry is set out in Chapter 2 of this volume). Where relevant, this ES has had regard to the previous Environmental Impact Assessment.
- 1.4 This Planning Statement supports the planning submission and considers the proposals in the context of relevant planning policies in the Development Plan, and other material considerations, such as national planning policy.

Application Submission Package

- 1.5 This statement comprises the first of three volumes submitted to the MPA to accompany the planning submission. In addition to the formal planning application forms and certificates, the full submission comprises:
 - Volume 1 - Planning Statement;
 - Volume 2 - Environmental Statement;
 - Volume 2A – Environmental Statement Text;
 - Volume 2B – Environmental Statement Technical Appendices; and
 - Volume 2C – A Non-Technical Summary of the Environmental Statement.

- Volume 3 – Pre-application Consultation Statement.

1.6 The role of each document has been set out in Chapter 1 of the ES.

The Site

- 1.7 Penrhyn Quarry is located immediately to the south of the town of Bethesda, to the west of the A5(T). The settlements of Mynydd Llandegai, Bryn Eglwys, Coed y Parc and Braichmelyn form an arc to the north of the quarry, with the Afon Ogwen lying to the east and the mountains of the Glyder Ridge to the south.
- 1.8 Penrhyn Quarry itself extends over an area of some 318 hectares (ha), the majority of which has been disturbed to some degree by quarrying or associated activities. The main elements of Penrhyn Quarry are the old North Quarry (now worked out and flooded); the existing permitted working area in the South Quarry; the slate waste tips; the processing area, aggregate processing plant and the administration offices. The northern and eastern limits of the quarry are covered in the main by a series of slate waste tips, many of which are very old and reflect the primary means of slate waste disposal in the nineteenth century. The more recent slate waste tips are located on the north-western limits of the quarry and within the current quarry working area (at its northern end).
- 1.9 The application site encompasses around 2.26 ha of land which is wholly within the area of planning permission ref. C12/0874/16/MW granted in December 2012¹ (see Chapter 2 below). Not all of this area would form the proposed extension as margins to the north-western and south-western boundaries would be maintained; the extraction area would be around 1.6 ha in extent.
- 1.10 **Chapter 2** within this Volume provides further information on the application site and its environs, with a more detailed account provided in Chapter 2 of Volume 2.

The Proposed Development

- 1.11 As noted above, the applicant is submitting two planning applications relating to its Penrhyn Quarry. The planning applications seek permission for:
- a ‘full’ planning application to extend the quarry working area into around 1.6 ha of land lying adjacent and contiguous with the current working area. The proposed extension would release around 0.25 Mt (million tonnes) of high quality (purple) roofing slate and 1.9 Mt of red and blue slate for decorative aggregates (nett). In common with the extant scheme the proposals also incorporate the associated stockpiling of soils and overburden, landscaping works and restoration of the workings to a range of habitats. Notably, the extension would be wholly within the confines of the area covered by planning permission C12/0874/16/MW (dated 18 December 2012) but out with the extraction limits shown on the approved plans attached to that permission.
 - an application under s.73 of the Town and County Planning Act 1990 (as amended) to extend the duration of slate extraction operations by up to three years to allow the additional reserves to be worked.
- 1.12 The proposed extension would be worked in an identical fashion to the current workings, for which a comprehensive working scheme was approved in 2017 as part of a review under the Environment Act 1995 (the ‘ROMP review’ ref. C16/1164/16/MW). The extension would form a logical progression from

¹ This permission has been the subject of a “Review of Old Mineral Permissions” under the provisions of the Environment Act 1995 (ref. C16/1164/MW).

the previous extension to the workings (planning permission ref. C12/0874/16/MW) expanding the workings along the north-western side.

- 1.13 Further details of the proposed development are set out in **Chapter 3** below.

The Applicant

- 1.14 The planning application is being submitted by Breedon Trading Limited (trading as Welsh Slate). Following the acquisition of assets from the Lagan Group in 2018 Welsh Slate forms part of Bredon Trading Limited, a wholly owned subsidiary of the Breedon Group.
- 1.15 Welsh Slate is the world's leading manufacturer of high-quality slate for an unparalleled range of design-led applications.
- 1.16 The business in its current format was acquired from Alfred McAlpine in December 2007 who had since the 1960s expanded the business from its headquarters at Penrhyn Quarry to include operations at Blaenau Ffestiniog, and Cwt-y-Bugail. In July 2010 Welsh Slate Ltd acquired the assets of Omya's slate mineral processing business at Blaenau Ffestiniog.
- 1.17 Today, Welsh Slate continues to operate in the same three locations, producing roofing slate, architectural products and aggregates.
- 1.18 The applicant strives for continual improvement in its environmental performance, its environmental policy commits to meeting and where possible, exceeding applicable legal requirements across its operations. As part of the applicant's commitment to environmental performance Penrhyn Quarry operates an extensive environmental management system that is accredited to ISO 14001.
- 1.19 Further information on the applicant can be found on its corporate web site at:

<http://www.welshslate.com/>

Publication

- 1.20 Paper copies of the planning submission can be obtained from SLR Consulting Ltd at the following address:
- 15 Middle Pavement
Nottingham
NG1 7DX
- 1.21 The planning submission (i.e. Volumes 1 to 3) is available in both paper and CD-ROM format, for which charges of £300 and £25 are applicable respectively². In addition, the application documents will be available to download from the Gwynedd Council website.

² A hard copy of the ES can be purchased on its own for a fee of £250 whilst stocks last.

2.0 Site Description

This chapter sets out the characteristics of Penrhyn Quarry, together with the proposed extension. A fuller description can be found within Chapter 2 of Volume 2. In addition, a number of the chapters within Volume 2 provide descriptions of the site in relation to particular environmental topics.

Location

- 2.1 Penrhyn Quarry is located immediately to the south of the town of Bethesda, to the west of the A5(T). The settlements of Mynydd Llandegai, Bryn Eglwys, Coed y Parc and Braichmelyn form an arc to the north of the quarry, with the Afon Ogwen lying to the east and the mountains of the Glyder Ridge to the south.
- 2.2 For identification purposes, the quarry is centred on National Grid Reference (NGR) SH 61947 64839, with the administrative offices located at SH 62016 65382. **Drawing PQ 2/1** in the ES illustrates the location of the quarry.
- 2.3 In terms of administration, the whole of the quarry is located within the administrative boundary of Gwynedd Council, but lies adjacent to the area administered by the Snowdonia National Park Authority.
- 2.4 The proposed extension to the quarry lies at the south-western corner of the quarry workings, centred on NGR SH 60904 63891. Again, Drawing PQ 2/1 illustrates the location of the proposed extension within the context of the overall quarry workings at Penrhyn.

Site Description

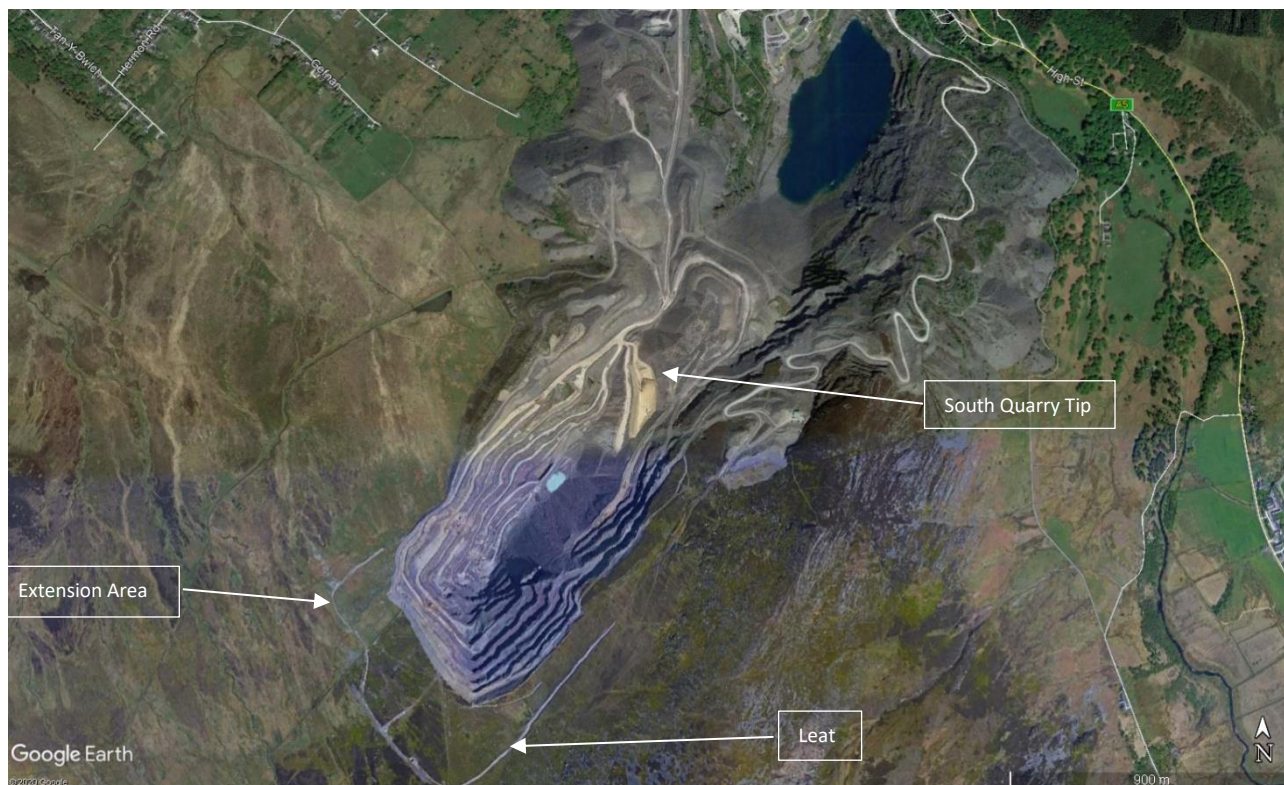
Penrhyn Quarry

- 2.5 Penrhyn Quarry extends over an area of some 318 hectares (ha), the majority of which has been disturbed to some degree by quarrying or associated activities. Penrhyn Quarry comprises two quarries: North Quarry and South Quarry. The North Quarry is separated from the South Quarry by a substantial area of slate waste which has been loose tipped. In addition to the two quarries is a works area within which are situated a range of buildings.
- 2.6 The main elements of Penrhyn Quarry are:
 - the old North Quarry (now worked out and flooded. Includes infrastructure associated with 'Zip World');
 - the existing permitted working area in the South Quarry;
 - the slate waste tips;
 - the processing area, aggregate processing plant and the administration offices.
- 2.7 The northern and eastern limits of the quarry are covered in the main by a series of slate waste tips, many of which are very old and reflect the primary means of slate waste disposal in the nineteenth

century. The more recent slate waste tips are located on the north-western limits of the quarry and within the current quarry working area (at its northern end).

- 2.8 The old North Quarry is some 150 metres deep having been taken down in approximately 15m high benches. Mineral extraction (with the exception of reworking some of the waste tips) has ceased and it is now flooded to a depth of some 90m and overflows via an adit into the Afon Ogwen. The eastern side of the North Quarry is formed by steep faces, many of which are now covered by scree hiding the form of the quarry benches. To the east of the old quarry are historic slate tips; between the tips and quarry rim is an access track providing access to the launch pad for the zip lines (associated with Zip World). The northern and north western aspects to the old quarry are more open, with the site infrastructure (offices, buildings, plant and machinery) located on a plateau, shielded by peripheral slate tips. To the west and south are areas of more recent tipping.
- 2.9 The current quarry workings are located in the South Quarry and are advancing in a general south-westerly direction, averaging some 120m in depth from original ground levels. The South Quarry is rectangular in shape, approximately 1400m long and 500m wide. On the south-eastern side the quarry has been developed into the slopes of Y Fronllwyd, whilst to the west the land is more open, comprising heath/bog (Gwaen Gynfi). On the western side of the quarry, located at the toe of the tips, is an area that is being managed as an “*ecological compensation area*” (refer to Drawing P7/73C in Appendix 2/1 in the ES) which was agreed following the removal of land from the Special Area of Conservation as part of an earlier planning application for an extension in c. 2012 (see below). As in the North Quarry the benches are approximately 15 metres in height and are permitted to extend to within 350m of the Afon Marchlyn Mawr.
- 2.10 The works area is at an elevation of around 180m AOD, with the peripheral tips rising to the north and west to between 200m and 220m AOD. Further to the south (and on the western side of the South Quarry) the tips increase in height to around 360m AOD, with a similar elevation reached by the tip that divides the North and South Quarries. Between these two tips is routed the main haul road. The haul road steadily climbs from the works site to a peak of 315m AOD, before dropping into the void of the South Quarry. The base of the South Quarry is currently at an elevation of 250m AOD, whilst the rim reaches around 400m to 440m AOD on the south eastern side and between 365m and 315m AOD on the north western side.
- 2.11 Figure 2-1 below provides an illustration of the current form of the southern part of the quarry workings.

Figure 2-1
Context of the Southern Quarry



Access

2.12 Access to the quarry is gained via a private road which joins the B4409 at NGR SH 62573 65964, some 88m to the west of the junction with the A5(T). This access is also shared with Zip World. The A5(T) joins the A55 North Wales Expressway at a grade separated junction (Junction 11), located approximately 5km to the north.

Rights of Way

2.13 During 2002 the following footpath diversion, creation and closure orders were confirmed:

- Stopping Up and Creation Order – Footpaths 46 (Part) and 50 (Part);
- Diversion Order – Footpath 45 (Part);
- Stopping Up Order – Footpaths 42 (Part) and 50 (Part).

2.14 The Stopping Up Order attaching to Footpaths 46 and 50 (Part) was for a temporary period expiring in March 2017. As part of the Review of Old Mineral Permission (ROMP) process under the Environment Act 1995 new stopping up orders were confirmed which will remain in place until the end of 2034 by which time the footpaths are to be reinstated (following the completion of restoration works).

Land Use

2.15 The predominant land use within the quarry is related to the quarry workings and associated ancillary operations. As such the uses include:

- slate extraction area (both weathered and prime slate);
- overburden and slate waste tips;
- roofing slate production buildings;
- aggregate processing plant;
- roofing slate product storage areas;
- aggregate stockpiles;
- office accommodation;
- staff welfare facilities;
- car parking areas;
- haul roads;
- access road; and
- restored workings.

2.16 Also within the curtilage of the quarry is a leisure use associated with 'Zip World'. This use is subject to separate planning controls.

The Proposed Extension

- 2.17 The proposed extension to the slate workings is located at the south-western corner of the quarry workings, contiguous with the working area. Notably, the extension would be wholly within the confines of the area covered by planning permission C12/0874/16/MW (dated 18 December 2012) but out with the extraction limits shown on the approved plans attached to that permission.
- 2.18 It is approximately rectangular in shape, measuring around 2.3 ha and effectively 'squares off' the quarry workings within the area bounded by the peripheral leat.
- 2.19 The proposed extension is bounded to the north and east by the approved quarry working area (including areas within the permission still to be worked) with a recently constructed 'leat' (drainage channel) forming the southern and western boundaries, beyond which are areas of open upland land (Gwaen Gynfi). The proposed extension currently forms part of Gwaen Gynfi (be it severed by the leat) and so has no dominant land use other than upland grazing.
- 2.20 In terms of topography, the proposed extension site ranges in elevation from approximately 385m AOD at the south-western boundary to approximately 355m AOD at the northern boundary.
- 2.21 For identification purposes, the proposed extension area is shown edged in red on **Drawing PQ 2/1**, whilst **Drawing PQ 2/2** shows the setting of the proposed lateral extension to a scale of 1:10,000. Finally **Drawing PQ 2/3** shows the extent of the proposed lateral extension in more detail (to a scale of 1:2500).

Site and Planning History

- 2.22 Whilst there is a long history of quarrying at Penrhyn the planning history starts with the original grant **of** planning permission for “proposed tipping and quarrying development” on 12 November 1947. This permission was subject to the registration procedure under the Planning and Compensation Act 1991, with the registration granted by Gwynedd Council on 7 November 1994. This consent previously governed all workings that have taken place at Penrhyn up until 2000 when the consolidating Planning Permission C96A/0020/16MW was granted. That permission was amended in 2008, with a new permission (C08A/0039/16/MW) issued on 9 June 2008.
- 2.23 In December 2012 planning permission (C12/0874/16/MW) was granted for a “*proposed extension and re-alignment of slate extraction operations with a progressive scheme of restoration*”.
- 2.24 Most recently, all of the mineral planning permissions were reviewed under the provisions of the Environment Act 1995. The development scheme for the quarry was subject to an EIA and new conditions issued for the whole site (decision ref. C16/1164/16/MW).

3.0 The Development

This chapter describes the development proposals for which the planning applications seek permission.

Overview of the proposed development

- 3.1 The principles of the quarry development scheme were established at the time of granting planning permission for an extension to the working area in 2012 (permission ref. C12/0874/16/MW and referred to as the 're-alignment application'). Details submitted to the MPA included a comprehensive working scheme for the remaining reserves at the quarry, involving the development of the quarry in a series of benches being advanced in a south-westerly direction. The working scheme was then reviewed under the Environment Act 1995 as part of the 'Review of Old Mineral Permissions' process.
- 3.2 The approved scheme can be divided into the following distinctive operations:
- mineral extraction (within the southern quarry);
 - mineral waste tips (within the southern quarry and periphery of northern quarry);
 - mineral processing for secondary aggregates (within the northern quarry area);
 - production of roofing slates and ancillary building products (within the northern quarry area);
 - mineral stockpiling (within the northern quarry area);
 - slate products stockpiling (within the northern quarry area);
 - removal of material from historic waste tips (within the northern quarry area);
 - site offices and administration (northern quarry area);
 - weighbridges and office (northern quarry area);
 - restored mineral workings.
- 3.3 In the context of the proposed extension, it is only the mineral extraction and restoration (due to the subsequent change to the final profile of the quarry workings) that are relevant to the consideration of the planning applications and notably this EIA. All other aspects of the development of the quarry, including waste tipping and haulage would be undertaken in accordance with the approved scheme.
- 3.4 Under the current planning permission the above operations can continue until 31 December 2032, with final restoration to be completed by 31 December 2034 (condition 2 of planning permission C16/1164/16/MW refers).
- 3.5 In order to demonstrate the acceptability of the development proposals, a development scheme has been prepared and is described in this section. In general terms it is proposed that the extraction operations reflect current practices and remain largely as currently permitted. Slate extraction has been phased to ensure that the application site is worked in an efficient and systematic manner, and

ensures potential environmental impacts are kept to acceptable levels whilst maintaining an adequate supply of quality of slate for the production of roofing slates etc.

Development Phases

3.6 The proposed development can be divided into the following key stages:

- Quarry site preparation works (i.e. soil/overburden stripping);
- Mineral extraction;
- Mineral waste tipping; and
- Restoration.

Construction Phase

3.7 As an established mineral operation site infrastructure is already in place. This includes:

- site access;
- wheel wash (located on the metalled access road close to the processing infrastructure);
- haul road (between access point and processing infrastructure);
- processing plant/buildings; and
- internal secondary haul roads between face and plant/overburden disposal areas.

3.8 To facilitate the extraction of slate within the proposed extension soils (peat) and overburden would need to be stripped to expose the slate rockhead. As noted in Chapter 2 above, there are no soils of agricultural quality within the working area and thus usual soil handling techniques (such as former MAFF's Good Practice Guide for Handling Soils, published in 2000) do not need to be observed.

3.9 Soils and overburden would be removed separately in stages to allow for the working of annual blocks of overlying weathered slate so revealing the high quality slate for production purposes.

3.10 Typically, soils and overburden are stripped using a hydraulic excavator and transported across the site to the storage locations in articulated dump trucks. As per the current planning permission, the precise location of soil storage areas would be provided to the MPA prior to the commencement of soil stripping operations (condition 6 of planning permission C16/1164/16/MW refers).

3.11 Previous ecological surveys have identified some features of interest and the extant planning permission contains conditions relating to ecological works required prior to stripping. This includes further walk over survey work for lichen and reptiles for example. Should any boulders be identified as having lichenological interest, then they are to be removed from the working area. Allied to this, archaeological walk over surveys are required prior to stripping. These measures would be employed as part of the development of the proposed extension. In this context, further lichen surveys have been undertaken in 2019 and are reported in Chapter 7 of Volume 2).

- 3.12 Finally, archaeological investigations have been carried out in the vicinity of a feature referred to as “*the sheepfold*”, which is located within the extension area. Whilst the sheepfold itself is considered to be post-medieval, it overlies an Iron Age settlement. To date, hand dug pits and trenches have been excavated in two successive phases of investigation. Following this investigation it has been agreed that no further site work is required save for a programme of recording and controlled demolition will be instigated prior to development. This is considered further in Chapter 8 of the ES.

Operational Phase

General

- 3.13 The approach to development at the quarry is dictated by the geological conditions. Extensive drilling and mapping of the current permitted workings has determined the location of the prime in-situ quality slate. The upper sequence of slate is weathered and fractured to a depth of 55/65 metres from the surface.
- 3.14 The method of operation within the proposed extension would be in accordance with permitted current practice subject to variation in order to satisfy localised conditions. The following paragraphs provide a description of the operations.

Weathered Slate

- 3.15 Horizons of weathered slate would be drilled and blasted with tracked excavators loading dump trucks for transport to the pre-identified tip. Blasting is undertaken in accordance with the requirements of the Health and Safety legislation as applicable to quarries and other open pit mining operations. Typically, weathered slate is found within the top three benches of the quarry workings.
- 3.16 In general terms, the weathered rock is worked by drilling a row or rows of boreholes (often referred to as shot holes) into the rockhead above, and behind, the working quarry face using an air flushed drill rig with dust suppression equipment. Predetermined quantities of explosive are placed into each hole and the spaces between the charges and the top sections of the holes are “stemmed”, usually with 10mm aggregate. Each charge is connected to the next in line and fired sequentially by the use of millisecond delay detonators. This delayed sequence, together with the amount of explosive charge and the shot hole spacing is employed to reduce both noise and ground vibration caused by the explosion in accordance with good environmental practice.
- 3.17 Blasting would only occur within set times of the day and holes are only charged within a few hours of use.
- 3.18 Under the extant planning permission conditions 26 to 30 regulate blasting operations and development within the proposed extension would also be undertaken in line with these conditions. This is set out further in Chapter 12 of Volume 2.

Slate

- 3.19 Extraction of the quality slate is undertaken to minimise fragmentation and so maximise the recovery of slate suitable for conversion into roofing or cladding slates.
- 3.20 To reduce the amount of waste slate produced, wire saws were introduced which increased the yield and results in minimal impact on the advancing face. Notwithstanding this, it is not always feasible to employ sawing, such as the lower faces within the quarry workings; in such instances ‘black powder’ blasting is used for block recovery. By widening the workings, as proposed by the extension, it will

become feasible to use sawing on the lower faces which will improve the recovery of primary (roofing) slate and reduce waste.

- 3.21 Extracted slate is transported from the face to the processing area by dump trucks using haul roads that are routed along the working benches and join with the main haulage route located on the western side of the quarry voids.
- 3.22 Operations within the proposed extension would represent a continuation of the practices established at the quarry. The form of the extended quarry workings is illustrated on GWP Drawing 19WPENP2110GS contained in the Geological Statement in Appendix 3/1 of the ES (Volume 2).

Dyke

- 3.23 As noted in Chapter 2, the strata are cut by numerous sub-vertical dolerite dykes of Ordovician age. The effects on the adjacent baked slate aureole are generally restricted to within 3 to 4m of the dyke margins. However, the recently exposed large dyke at the southern end of the South Quarry displays distinctly different characteristics. In this instance the slate well beyond the baked margins of the dyke is intensely fractured and altered such that no workable material for producing slates can be recovered from this area. The margin of unworkable slate extends 25m either side of the dyke margins.
- 3.24 The dyke obliquely cross cuts the advancing south-western faces and has had significant impact on how the quarry is being worked. The best quality slate is present at depth, and because of the fixed excavation limits and fault bounded geological domain boundaries, the productive working face length significantly reduces with depth. The 25m highly fractured margins either side of the dyke sides means that much of the productive working face is lost when working within the broken slate aureole. This is exacerbated due to the step in the north-western excavation boundary. In total the dyke and effected broken slate margin result in the loss of at least 1.11Mt of what would have been premium slate for slate making purposes.
- 3.25 This has meant that in order to keep up with production requirements the broken slate (now waste) is removed and the benches where areas of workable slate remains have to advance more rapidly than had previously been anticipated. Workable face lengths are reduced and timescales for production mean that wire sawing is not possible and black powder has to be resorted to. The yield from in situ slate is markedly reduced using black powder shots. This again reduces the life span of the accessible good quality slate.
- 3.26 Recent experience has shown that associated with the dyke, the depth of weathering in the in situ slate also increases such that productive slate is only found below c. 330m AOD. Again this reduces the available quantity of workable slate.

Reserves

- 3.27 Based on the latest geological modelling of the approved quarry development scheme, reserves of good quality slate (for roofing and aggregates) is estimated at 3.3Mt; this takes into account the reserves lost as a result of the substantial dyke which cuts across the current workings. This resource is only sufficient to sustain production for around 10 years. However, it has now been found that the Holywell bench will not yield any roofing slate.
- 3.28 By extending the quarry workings as set out in this document, the resource of good quality slate (for roofing) increases by 0.25Mt to 3.6Mt whilst the resource of slate in the Red and Blue domain for decorative aggregates increases by around 1.9Mt to 3.1Mt; the additional resources are all within the coloured slate domains (purple and reds/blues). This increase in the total resource would sustain

production for around an additional three years (but again would be reduced due to the lower yield from the Holywell bench).

- 3.29 Further details of the slate resources at Penrhyn Quarry are set out in the GWP Consultants Geological Statement (Appendix 2/1 within the ES).

Impact on slope security and health and safety by adopting the proposed realignment extension configuration

- 3.30 The currently consented north western excavation limit in the realignment area has a c. 90m step to the southeast midway along it (see Drawing No. 19WPENP2110GC in **Appendix 3/1** within this document). The resultant narrowing of the quarry has significant impacts on slope stability, health and safety and winnable resources. This is set out in the following paragraphs, which have been taken from a Geotechnical report produced by GWP Consultants (see **Appendix 3/1**)

Impact on excavation security

- 3.31 The step in the excavation profile results in two internal corners and a pronounced external corner or “nose” at each bench level. The resultant faces of the “nose” propagate to the east with depth with individual faces on the “nose” also facing east. The introduction of a tight external corner into the excavation geometry introduces significant extra stability concerns because:
- The process of excavation causes significant stress relief and relaxation within the rock mass. On any external corner there are two free sides and the effects of stress relief are increased compared to a straight face. The stress relief loosens the rock mass and increases the likelihood of larger structurally controlled failure and general unravelling leading to increased smaller scale rock fall
 - The faces of the “nose” face towards the east. The combination of persistent discontinuities within the rock mass means that faces in this orientation are prone to structurally controlled wedge and toppling instabilities through the intersection of bedding (where present as a discontinuity surface) and jointing in the “Red and Blues” Domain and jointing and faulting in the “Purple” Domain. Such failures may result in the loss of a bench crest which would impact on anyone working on the bench below (as failure can occur sometime after formation). Further, the materials within the dyke envelope are closely jointed with jointing parallel to the dyke; this leads to localised toppling and rock fall which is exaggerated where it coincides with the change in face orientation on the “nose”. By straightening the faces to align the excavation with the strike of the strata along the north western boundary the potential for these styles of wedge and toppling failure is markedly reduced.
 - There is an increase in unravelling on faces resulting in an increased rock fall hazard particularly from the closely jointed materials the dyke envelope. Attempts to scale the loosened rock mass making up the “nose” in these materials can often be futile as an entire bench can easily be dug out when trying to find sound rock, resulting in a double height face which then presents an even greater rock fall hazard. Rock fall (often blocks of less than 10 tonnes) although relatively small in mass is the most frequent cause of fatalities in quarries involving falls of ground. The loosened rock mass increases the number of blocks which may fall and opens up joints allowing the ingress of water, reducing shear contact, all of which increases the propensity of blocks to detach from the face. Rock traps at the base of the faces may catch individual blocks but larger loose columns may topple across such traps

- Where the rock fall hazard is identified and wider rock traps are deemed necessary then bench widths have to be increased which widens the “nose” further, directly impacting on accessible roofing slate resources (see discussion in GWP Report No. 211014₃ comprising the supporting Geological Statement). Straightening the faces, as will result by adopting the realignment extension along the north-western boundary, will keep the rock mass relatively “tight” and the potential rock fall hazard is significantly reduced

Impact on Health and Safety

- 3.32 Under Regulation 30 of the Quarries Regulations there is a requirement to ensure all excavations are designed to avoid movement which may increase risk to health and safety. As discussed above, by straightening the excavation boundary the increased hazards of structural failure and rock fall would be markedly reduced.
- 3.33 Under Regulation 13 of the Quarries Regulations there is a need to design haul roads to ensure plant can move safely along them. This includes removing wherever possible any sharp bends to improve visibility and avoiding travel around any external corners (developed by the “nose”). The step in the currently consented excavation boundary introduces sharp bends at both the internal corners and external nose. Straightening the excavation boundary eliminates the “nose” and both of these issues.

Mineral Waste Tipping

- 3.34 In common with most quarrying operations there is a need to dispose of overburden, inferior rock and mineral wastes. However, unlike conventional aggregate quarries, the volume of material to be tipped is significantly greater, typically representing over 75% of the material extracted. Put into context, each month around 49,000m³ of material is sent to tip. Notwithstanding this, the applicant is actively exploring options for reducing the amount of material sent to tip by marketing the material as a secondary aggregate product.
- 3.35 Overburden takes the form of a peaty material/glacial superficial deposits, below which is the weathered slate. These materials are not suited to processing and need to be disposed within tips, which are located on the western periphery of the quarry and between the north and south quarries. The majority of other material produced in the quarrying operation is either used in the production of slate products, or suitable for processing with the aggregates plant.
- 3.36 Extant planning conditions, such as condition 42 in planning permission ref. C16/1164/16/MW, provides that tipping operations shall be directed towards the production of final landforms and shall more specifically avoid any conical tip forms, horizontal or straight tip profiles or regular horizontal benches.
- 3.37 In August 2015 details were submitted to the MPA regarding the temporary storage of materials within Tip E2 (located on the western edge of the quarry), but above the final restoration profile. The revisions to the E2 Tip area accommodates 111,298m³ of tip material which will include overburden and weathered slate. Upon final restoration, all tips will be regraded in accordance with final restoration contours illustrated on the Permitted Restoration Scheme (Drawing P7/106A contained in the Environmental Statement for the ROMP review), and also shown on the new Restoration Scheme (Drawing PQ 6/15 in volume 2).
- 3.38 In view of the reduced scale of the proposed extension, coupled with efforts to reduce the amount of waste sent to tip, it is considered that the current arrangements are sufficient. This will though be kept under review as part of the 5 yearly development plans that need to be provided under the extant planning permission (condition 5 of planning permission C16/1164/16/MW refers).

Operating Hours

- 3.39 Under planning permission ref. C16/1164/16/MW there are no restrictions on operating hours. Notwithstanding this, conditions 17 and 18 set noise limits for certain times of the day, with condition 18 restricting 'temporary operations' (i.e. overburden stripping) to between 0600 and 1900 hours.
- 3.40 Under planning permission ref. C16/1164/16/MW, condition 24 provides restrictions on blasting, drilling and soil stripping/overburden removal as follows:
- Blasting
 - 1000 to 1600 hours Monday to Friday;
 - 1000 to 1300 Saturdays;
 - No blasting on Sundays, bank or public holidays.
 - Drilling
 - 0700 to 1900 hours Monday to Friday;
 - 0700 to 1300 hours Saturdays;
 - No drilling on Sundays, bank or public holidays.
 - Soil/Overburden stripping
 - 0700 to 1900 hours Monday to Friday;
 - 0700 to 1300 hours Saturdays;
 - No drilling on Sundays, bank or public holidays.

Restoration

- 3.41 As part of the ROMP review a comprehensive restoration scheme was approved for the quarry workings, based on earlier reviews undertaken in 2014 and 2012. The applicant's approach to restoration of their operations is as follows:
- the aim of the restoration programme is to encourage the natural process of regeneration in reinstated land affected by quarrying activity. Many areas of the quarry have regenerated naturally. These areas are considered by the applicant as a conservation model to follow and as a precedent for the restoration and management for the rest of the quarry. Sections of the landholding are subject to agricultural tenancies, including wetland and heathland, untouched by quarry working and regularly inspected to maintain their conservation value.
 - whilst taking into account the need for wildlife conservation and enhancement, the applicant has implemented a sympathetic approach to restoration having regard to the historic value of the local landscape and the impact of the quarry on local residents.
 - development of restoration areas is considered a continuous process requiring forward planning, assessment and preparation of the next stage. This enables the applicant to integrate the restoration of the quarry in parallel with the expansion of the quarry.
 - many of the techniques and skills developed and used in this process are unique to the applicant. It is understood that there are no other restoration / reinstatement programmes within the quarrying industry of this scale and duration currently taking place in North Wales.

- all trees, shrubs and heathers as well as many of the grasses and wild flowers etc. are of local provenance. Collected from local seed sources, propagated and grown at the purpose-built nursery at Penrhyn Quarry, this maintains the genetic integrity of planting stock. Only green compost is used in the growing and planting procedures.

3.42 Two types of planting procedures are employed at the quarry:

1. The first procedure is followed where tip slopes are relatively easy to access on foot. When planted out onto the tips, trees and shrubs are placed in hessian sacks containing 1.5 litres of compost and buried in place. This allows enough growing medium and nutrient for the plants to establish, no fertiliser being added. The sack gradually biodegrades over a period of between 12 / 14 months allowing the root system plenty of time to establish.
The vegetation that is to be introduced is applied to specific areas over the tips by means of pocket planting in discrete blocks. All seeds are pre-germinated before application.
2. The second procedure is followed where tip slopes are difficult to access on foot. Due to the steep angle of some of the tips, access to planting areas is extremely difficult; the methods used are seed balling and pocket planting on steep gradients and the sack method at the base of the slope. Seed balling is a method that has been developed at Penrhyn Quarry and involves the manufacturing of balls of compost with pre-germinated seeds. These are then cast down the tips where they find their own lodging point on the slope. Over time, the seeds develop within their pocket of compost.

3.43 The proposals do not seek to amend the approach to restoration that has previously been approved. However, a new Restoration Scheme (see Drawing PQ 6/15 in Volume 2) has been prepared to show how the extension can be assimilated into the wider workings.

4.0 Planning Policy

This chapter sets out the planning policy that is considered to be relevant to the proposed development. The relevant policies are highlighted and an analysis provided of the extent to which the proposed development complies with policy.

It is a fundamental principle of the planning system that in dealing with a planning application, the planning authority should determine it in accordance with the Development Plan unless other material considerations indicate otherwise. Therefore, this section also considers other material considerations. The process of ‘weighing up’ the relevant factors is often described as the ‘planning balance’, and will take all the relevant factors into account.

National Policy

General

- 4.1 At a National Welsh Government level, the key planning policy and technical guidance/advice documents comprise:
- Planning Policy Wales (PPW) Edition 11, February 2021;
 - Minerals Technical Advice Note 1: Aggregates (MTAN1), March 2004
- 4.2 PPW is supplemented by a series of Technical Advice Notes (TANs), Welsh Government Circulars, and policy clarification letters, which together with PPW provide the national planning policy framework for Wales. PPW, the TANs, MTANs and policy clarification letters comprise national planning policy.

Planning Policy Wales (PPW) 2021

- 4.3 Planning Policy Wales (PPW) sets out the land use planning policies of the Welsh Government. The primary objective of PPW is to ensure that the planning system contributes towards the delivery of sustainable development and improves the social, economic, environmental and cultural well-being of Wales.
- 4.4 At the heart of PPW (as with previous editions) is the concept of sustainable development. PPW defines sustainable development as:

“... the process of improving the economic, social, environmental and cultural well-being of Wales by taking action, in accordance with the sustainable development principle, aimed at achieving the well-being goals.

Acting in accordance with the sustainable development principle means that a body must act in a manner which seeks to ensure that the needs of the present are met without compromising the ability of future generations to meet their own needs”.

- 4.5 From this, it can be seen that well-being is a key component to sustainable development, alongside economic, social and environmental considerations; PPW refers to the “*Well-being of Future Generations*” and in particular seven well-being goals. These goals are:
- a prosperous Wales;
 - a resilient Wales;
 - a healthier Wales;
 - a more equal Wales;
 - a Wales of cohesive communities;
 - a Wales of vibrant culture and thriving Welsh language;
 - a globally responsible Wales;
- 4.6 In order to demonstrate that appropriate consideration has been given to the Well-being goals and sustainable development principle in the decision making process, public bodies are required to have regard to the ‘*five ways of working*’. Penrhyn Quarry contributes to these goals by:
- providing a significant source of local skilled employment.
 - producing high quality roofing slates and other slate products. This helps to maintain the character of existing buildings (including listed buildings) whilst the use in new building projects helps maintain the character of existing settlements. This not only benefits the region, but with slate products exported nationally (and indeed worldwide) benefits a much wider area.
 - making best use of slate waste, which would be tipped, to produce a range of decorative and construction aggregates together with walling stone.
- 4.7 Allied to this, operations are undertaken in a sympathetic fashion to minimise the effects on local communities. Finally, the quarry is an important local employer with a large proportion of the workforce, who are drawn from the local area, along with senior management being fluent Welsh speakers. In view of this, the quarry represents an important part of supporting the Welsh Language within the locality in line with the aims of PPW. Should the quarry close then the workforce is likely to move away from the area, or seek employment with other businesses where Welsh is not so widely spoken.
- 4.8 PPW is divided into five key chapters covering People and Places; Strategic and Spatial Choices; Active and Social Places; Productive and Enterprising Places; Distinctive and Natural Places. In relation to the development proposals it is the second and final two chapters that are most relevant.
- 4.9 In relation to minerals, Section 5.14 of PPW is relevant. Paragraph 5.14 opens by stating “*Society needs, and will continue to need for the foreseeable future, a wide range of minerals*”. It adds at paragraph 5.14.2 that “*the role of the planning authority in relation to mineral extraction is to balance the fundamental requirement to ensure the adequate supply of minerals with the protection of amenity and the environment*”. The key principles are to:

- provide positively for the safeguarding and working of mineral resources to meet society's needs now and in the future, encouraging the efficient and appropriate use of high quality materials;
- protect environmental and cultural characteristic of places, including those highly cherished for their intrinsic qualities, such as wildlife, landscapes, ancient woodlands and historic features, and to protect human health and safety and general well-being;
- reduce the impact of mineral extraction and related operations during the period of working by ensuring that impacts on relevant environmental qualities caused by mineral extraction and transportation are within acceptable limits;
- achieving, without compromise, a high standard of restoration and aftercare so as to avoid dereliction and to bring discernible benefits to communities, heritage and/or wildlife, including beneficial after uses or opportunities for enhancement of biodiversity and the historic environment.

4.10 In view of this, there is, on the one hand, a need to ensure that sufficient roofing slate is available to meet society's needs into the long term, but balancing this against potential harm through loss, be that habitat, heritage, landscape or amenity. Paragraph 5.14.4 recognises that mineral working is different from other forms of development in that:

- extraction can only take place where the mineral is found to occur;
- it is transitional and cannot be regarded as a permanent land use even though operations may occur over a long period of time; and
- when operations cease land needs to be reclaimed to a high standard and to a beneficial and sustainable after-use so as to avoid dereliction and to bring discernible benefits to communities and/or wildlife.

4.11 The first bullet point above is vitally important to the consideration of this planning application. Occurrences of suitable deposits for roofing and decorative slate are not widespread; they are a limited geological resource which tends to occur in narrow bands. They are not widely available in the same way minerals for aggregate production are. Moreover, each slate deposit has particular characteristics, for example in terms of colour. At Penrhyn Quarry, to increase the yield of recoverable roofing slate it is necessary to widen the quarry workings at the southern end; the nature of the geology is such that it is only possible to widen on the north-western side of the workings.

4.12 In terms of the efficient use of minerals paragraph 5.14.6 recognises that in some exceptional cases, planning permission may have been granted because of UK or regional need for the mineral in areas which would not normally be suitable for mineral extraction because of environmental or policy objections. This is the case for Penrhyn, which, as noted above, produces high quality roofing and decorative slates which are exported to the rest of the UK, as well as shipped to other countries. Where this is the case, PPW recognises that it is essential that the mineral is not exploited for a lower grade purpose than that originally intended. Where it is an exception to normal policy to allow mineral extraction at a particular location in order to fulfil a specific need, appropriate conditions and/or time limits should be considered carefully to ensure that the mineral extraction for the intended end-use is adequately controlled.

- 4.13 Also of note are Paragraphs 5.14.47 and 48 which consider extensions to mineral workings. In the first place it comments that extensions to existing mineral workings should be considered in the same manner as applications for new sites. Each application will need to consider the impact on the site as a whole and the wider surroundings and will need to be considered on its own merits. It goes on to add that the presence of an existing quarry should be a material consideration when considering a proposal for an extension. There may be benefits to extending a site in terms of shared infrastructure, for instance, as opposed to working a new greenfield site.
- 4.14 In terms of the general (non-mineral) related policy in PPW, Chapter 2 addresses “*People and Places: Achieving well-being through placemaking*”. Whilst it is oriented towards built development and settlements, parts are relevant to developments such as that proposed at Penrhyn. At paragraph 2.3 it states, “*The planning system should create sustainable places which are attractive, sociable, accessible, active, secure, welcoming, healthy and friendly*”. It then defines placemaking as being:
- “a holistic approach to the planning and design of development and spaces, focused on positive outcomes. It draws upon an area’s potential to create high quality development and public spaces that promote people’s prosperity, health, happiness, and wellbeing in the widest sense.*
- Placemaking considers the context, function and relationships between a development site and its wider surroundings. This will be true for major developments creating new places as well as small developments created within a wider place”.*
- 4.15 To be able to achieve such places good quality building materials will be needed; materials that reflect the vernacular of the area. Whilst it is difficult to design quarries to be “attractive” careful design can ameliorate visual effects and suitable working practices can reduce the environmental effects of the operations. As such, it is possible for quarries to accord with the spirit of placemaking. Figure 4 (p.17) sets out the ‘Key Planning Principles’, with paragraph 2.20 recognising that not every development or policy proposal will be able to demonstrate they can meet all of the outcomes. The Key Planning Principles’ are:
- Growing our economy in a sustainable manner;
 - Making best use of resources;
 - Facilitating accessible and healthy environments;
 - Creating and sustaining communities; and
 - Maximising environmental protection and limiting environmental impact.
- 4.16 It is considered that these aspects are allowed for in the development proposals at Penrhyn Quarry: the employment opportunities and slate products produced all benefit the economy. Widening the quarry workings also increases the amount of slate resource that can be recovered from the workings. As an established operation, controls and measures are in place to minimise the effects of the development on the environment and local amenity. However, it is acknowledged that the proposed extension does lead to a minor intrusion into the SAC (but does not affect the priority habitats for which the SAC was designated).
- 4.17 In Chapter 3 (“*Strategic and Spatial Choices*”) the concept of good design is considered. At paragraph 3.3 PPW states that good design is “*fundamental to creating sustainable places where people want to*

live, work and socialise. Design is not just about the architecture of a building but the relationship between all elements of the natural and built environment and between people and places” Figure 8 then illustrates the objectives of good design, identifying access; character; community safety; environmental sustainability; and movement. Again, environmental aspects are recognised as being a key component of national policy. Under the heading of ‘Placemaking in Rural areas’, paragraph 3.38 recognises *“the countryside is a dynamic and multi-purpose resource. In line with sustainable development and the national planning principles and in contributing towards placemaking outcomes, it must be conserved and, where possible, enhanced for the sake of its ecological, geological, physiographic, historical, archaeological, cultural and agricultural value and for its landscape and natural resources. The need to conserve these attributes should be balanced against the economic, social and recreational needs of local communities and visitors”*. This provides the well-established balance of economic benefits and environmental protection.

4.18 Chapter 5 covers the economic components of placemaking; *“Productive and Enterprising Places”* are those which promote economic, social, environmental and cultural well-being by providing well-connected employment and sustainable economic development. Key issues in this chapter include:

- ensuring that there is sufficient employment land to meet the needs and requirements of a range of future employment scenarios;
- promoting and diversifying our rural economy;
- ensuring that minerals resources which may be needed in the future are safeguarded and the adequate supply of a diverse range of minerals is available over the long term.

4.19 It goes on to add *“The policy topics of the Productive and Enterprising Places theme can collectively work together to create sustainable places through development plan strategies, policies and allocations and development management decision making. In particular ...*

recognising the economic contribution of minerals in the provision of economic infrastructure”

4.20 Finally, Chapter 6 addresses ‘*Distinctive and Natural Places*’. In so doing it touches on many facets of the environment, covering the *“historic environment, landscape, biodiversity and habitats, coastal characteristics, air quality, soundscape, water services, flooding and other environmental (surface and sub-surface) risks”*. It recognises that the special and unique characteristics and intrinsic qualities of the natural and built environment must be protected in their own right, for historic, scenic, aesthetic and nature conservation reasons. These aspects are considered further under the heading ‘*Protection of the Environment*’.

Minerals Technical Advice Note 1: Aggregates March 2004 (MTAN1)

4.21 Although slate is not an aggregate *per se*, slate waste is utilised as a secondary aggregate and as such is discussed in MTAN1.

Reducing the Effects of Mineral Operations

4.22 MTAN1 sets out detailed advice on the mechanisms for delivering the policies of MPPW (which has now been replaced by the latest edition of PPW). Of particular relevance is ‘Section C’, which deals with the objective ‘to reduce the impact of aggregates production’. MTAN 1 outlines a number of measures to fulfil that principle, including the establishment of buffer zones, control of dust, blast vibration, noise, visual impact, undertaking environmental audits, and the establishment of community liaison.

Not all of these are relevant to the proposals contained in this application. Aspects that are of particular relevance to Penrhyn Quarry are considered later in this chapter under the heading 'Protection of the Environment'.

- 4.23 MTAN1 advocates liaison with local communities as a means of providing a better understanding of the impacts of quarrying, and it notes that many quarries have established site liaison groups to provide a forum for regular discussion and explanation of current problems (ref para 96). The quarry hosts such liaison meetings, which are held biannually.

Restoration

- 4.24 MTAN1 places considerable emphasis on the need to achieve high standards of restoration and aftercare, and to provide for a beneficial after use. This is to be secured by careful attention to restoration design, and specific advice is provided on the key topics to be considered when drawing up reclamation conditions (ref para 111, Box 2).
- 4.25 MTAN1 also emphasises the need for aftercare conditions to be imposed to ensure the successful implementation of the restoration scheme, where such conditions can either specify the steps to be taken via the planning condition, or require an aftercare scheme to be submitted to the minerals planning authority for approval.
- 4.26 MTAN1 thus provides a useful checklist of issues to be considered as part of the objective to reduce the impact of aggregate extraction. Each environmental issue has been addressed in this ES, and the recommended criterion levels set out in MTAN1, together with the wider advice relating to planning conditions, is fully reflected in the schedule of conditions now proposed by the applicant.

World Heritage Site

- 1.22 Gwynedd Council and its partners³ have been developing a World Heritage Site nomination for the Slate Landscape of Northwest Wales since 2009. In 2011 it was included on the United Kingdom's list of nominated properties and in 2011 announced as the next bid to be presented to UNESCO by the UK Government. It was added to UNESCO's tentative list on 27 January 2012. The formal bid was presented to UNESCO in 2019 and in 2021 The Slate Landscape of Northwest Wales was inscribed onto the World Heritage List at the 44th Session of the World Heritage Committee in Fuzhou, China.
- 1.23 Gwynedd Council's *World Heritage Site Management Plan for Public Engagement* (2019, 6 & 10) states:
'The Slate Landscape of Northwest Wales was formed by the quarrying, processing and transportation of slate to produce roofing materials and architectural materials for global markets, from the late eighteenth century to the twentieth. As well as the quarries and mines themselves, this landscape has also been shaped by the need to create huge tips of waste rock; to process and transport slate; to manage water to power machinery; to house quarrymen and their families, and to provide for their material, moral and intellectual well-being.'
- 1.24 The proposed World Heritage Site comprises seven component parts, each of which demonstrate the full range and variety of the slate industry in Northwest Wales. Included in the list is:
1. Penrhyn Slate quarry and Bethesda, and the Ogwen Valley to Port Penrhyn

³ the Welsh Government, National Museum of Wales, the Royal Commission on the Ancient and Historical Monuments of Wales, the Snowdonia National Park, the National Trust, Bangor University and key landowners

- 1.25 Each one includes a relict slate quarry or quarries, associated processing areas and a quarry settlement or settlements. Most include elements related to the transport of slate.
- 1.26 The attributes of the proposed World Heritage site include:
- Heritage assets, including quarries, working faces, waste tips, historic buildings, monuments and railway systems.
 - Inhabited settlements with historic street patterns, garden-plots, slate-slab field boundaries, wrought-iron gates and 19th-century dwellings.
 - Transport, including railways, stations, works buildings, engineering workshops.
 - The use of slate for roofing, architectural components, field boundaries and walls.
 - The use of building material brought in through international trade, including bricks bought in by railway and Canadian timber.
 - The Welsh language, traditions, spirit and feeling.
- 4.27 Full consideration of the potential effects that the proposed development may have on this designation is set out in Chapter 8 of the ES; from the assessment it has been concluded (paragraph 8.141 *et seq*):
- “Objective 7 of the World Heritage Site Management Plan for Public Engagement is ‘A sustainable slate industry’. Policy 7.1 states quarrying would not take place within the boundary of the World Heritage Site, but (under policy 7.2) would be permitted within the Buffer Zone, providing quarrying does not impact on the Outstanding Universal Value of the property. These policies reflect the need to support the slate industry to continue to flourish and develop for the future (Gwynedd County Council 2019, 118).*
- The proposed development would have no direct impact on the World Heritage site nor its Outstanding Universal Value. This is because the proposed extension is outside its boundaries. The PEA is located within the buffer zone. Extraction would have a slight impact on views to and from the World Heritage Site. Objective 7 and policy 7.2 allow for quarrying in the buffer zone.*
- Policy MWYN3 in the Anglesey and Gwynedd Joint Local Development Plan 2011-2026 seeks to avoid significant adverse impacts on sites of international heritage importance, including World Heritage Sites. The slight impact of the proposed development is in accordance with this policy.”*

The Development Plan

Anglesey and Gwynedd Joint Local Development Plan

- 4.28 The Anglesey and Gwynedd Joint Local Development Plan (LDP) was adopted on 31 July 2017. The LDP is a land use development strategy for a period of 15 years which concentrates on sustainable development. It will aim to achieve the following:
- Guide the development of housing, retail, employment and other uses;
 - Include policies which will aid the Local Planning Authority’s decision with regard to planning applications;

- Protect areas to ensure the maintenance and enrichment of the natural and built environment

4.29 The LDP contains a number of Strategic Policies and general policies which are grouped by topic area. As the LDP covers all forms of development not all of the policies are relevant. Of note are the following.

1.1 **Strategic Policy PS:1** considers the Welsh language and culture indicating that the Councils will promote and support the use of the Welsh language in the Plan area. It then sets out how the policy will be achieved, referring to the need for Welsh Language Statement or Assessment. Given the nature of the development, the implications of the policy (in terms of requiring a Welsh Language Statement or Welsh Language Assessment) are not relevant as the criteria are not met (i.e. increase in employment or floor space). Notwithstanding this, as noted above at paragraph 4.6 in relation to PPW a high proportion of the workforce, including senior operational management, are Welsh speakers, meaning that Welsh is the main language spoken on site. **Strategic Policy PS:2** then touches of infrastructure and the need to ensure that sufficient essential infrastructure is in place/available. As the application is a small lateral extension to existing operation, along with associated changes to the approved working scheme, then suitable infrastructure is already in place.

4.30 Under the heading of sustainable living, **Strategic Policy PS:5** considers sustainable development. In the main it is focussed on built forms of development, but the spirit can be applied to the proposals at Penrhyn Quarry. The policy sets out eight issues that all developments should take into account and a further five that may be applicable. The factors to consider that are relevant to the application are:

- Alleviate the causes of climate change and adapting to those impacts that are unavoidable in accordance with Strategic Policy PS 6. The proposals do not alter fundamentally the operations at the quarry, and so would not lead to an increase in carbon emissions. The main consideration for climate change, and in particular the effects of climate change, is therefore flood risk; this has been addressed in Chapter 9 of the ES.

Promote greater self-containment of Centres and Villages by contributing to balanced communities that are supported by sufficient services; cultural, arts, sporting and entertainment activities; a varied range of employment opportunities; physical and social infrastructure; and a choice of modes of travel. The proposals have little relevance to this part of the policy with the main relevant part being in relation to employment. As noted above, the quarry is a significant local employer requiring a varied range of skill sets.

- Protect, support and promote the use of the Welsh language in accordance with Strategic Policy PS 1. This has been discussed above in the context of PPW and Strategic Policy PS: 1 where it has been shown that the quarry provides important support in fostering the Welsh Language
- Preserve and enhance the quality of the built and historic environment assets (including their setting), improving the understanding, appreciation of their social and economic contribution and sustainable use of them in accordance with Strategic Policy PS 20. Consideration of the potential effects on the built and historic environment are set out in Chapter 8 of the ES.
- Protect and improve the quality of the natural environment, its landscapes and biodiversity assets, including understanding and appreciating them for the social and economic contribution they make in accordance with Strategic Policy PS 19. These aspects have been addressed in Chapter 7 (Ecology) and 6 (Landscape and Visual Impact) within the ES.
- Reduce the amount of water used and wasted; **reducing the effect on water resources** and quality; **managing flood risk** and maximizing use of sustainable drainage schemes; and progressing the objectives of the Western Wales River Basin Water Management Plan. As noted

above, consideration of the effects on the water environment have been set out in Chapter 9 of the ES.

4.31 **Policy PCYFF 2** sets out development criteria indicating that proposals should *inter alia* make efficient use of land; include appropriate provision for the appropriate management and eradication of invasive species. The policy then indicates that planning permission will be refused where development would have an unacceptable adverse impact on:

- The health, safety or amenity of occupiers of local residences, other land and property uses or characteristics of the locality due to increased activity, disturbance, vibration, noise, dust, fumes, litter, drainage, light pollution, or other forms of pollution or nuisance.

4.32 The applicant seeks to ensure that its sites are appropriately managed, including routine checking for *inter alia* invasive species (and eradicating them if found). Several chapters in the ES have examined the potential effects of developing the proposed extension on the amenity of the local community, with Chapter 13 drawing these assessments together in the context of 'wellbeing'. None of the assessments has shown that the proposals would significantly affect the health, safety or amenity of the local community.

4.33 **Policy PYCFF 3** sets out the requirements for design and shaping, indicating that "*all proposals will be expected to demonstrate high quality design which fully takes into account the natural, historic and built environmental context and contributes to the creation of attractive, sustainable places. Innovative and energy efficient design will be particularly encouraged*". The policy then sets out ten considerations which may need to be taken into account. Of these the following are noted:

- It respects the context of the site and its place within the local landscape, including its impact on important principal gateways into Gwynedd or into Anglesey, its effects on townscape and the local historic and cultural heritage and it takes account of the site topography and prominent skylines or ridges (2); and
- Its drainage systems are designed to limit surface water run-off and flood risk and prevent pollution. (6)

4.34 It should be borne in mind that the proposals are for a small lateral extension to an existing quarry; the design concept, including landscape and restoration of which has been previously approved (and reviewed under the provisions of the Environment Act 1995). The design of the proposals therefore ensure that the proposed extension integrates into the approved scheme. Moreover, the relevant aspects identified above have been fully assessed within the ES in Chapter 6 (Landscape and Visual Impact), Chapter 8 (Heritage) and Chapter 9 (Water Environment). In each case no significant adverse effect has been identified and the proposals are therefore considered to be in accordance with this policy.

In a similar fashion, **Policy PCYFF 4** considers design and landscaping indicating that all proposals should integrate into their surroundings. It goes on to add that "*proposals that fail to show (in a manner appropriate to the nature, scale and location of the proposed development) how landscaping has been considered from the outset as part of the design proposal will be refused*". The policy then provides ten aspects that, where relevant, should be address, including *inter alia* consideration of Landscape Character Area Assessments; natural contours and views, as well as choice of species for planting. These matters have been considered as part of the Landscape and Visual Impact Assessment (See

Chapter 6 of Volume 2) which concludes that overall there are no significant landscape or visual effects predicted as a result of the proposed development.

1.2 Minerals are addressed at paragraphs 6.5.64 to 6.5.88 of the LDP, together with Strategic Policy PS 22 and policies MWYN 1 to MWYN 9.

4.35 **Strategic Policy PS 22** is positive in its framing indicating that the council will contribute to regional and local demand for a continuous supply of minerals in accordance with the key objectives and principles of sustainable development. It should be noted that the proposals are not for the supply of primary aggregates, but high quality slate. As such the parts of the policy which relate to 'landbanks' are not relevant to the proposals. Of the ten points that are set out in the policy the following are of note:

- Maximise the use of secondary and recycled materials and mineral wastes.
- acknowledge that where the principles of sustainable development can be achieved, the extension of existing quarries and/or new quarries is likely to be appropriate;
- ensuring good restoration and aftercare;
- minimising potential conflict between mineral and non-mineral land uses.

4.36 **Policy MWYN 3** then provides the framework for mineral developments indicating that extensions to existing operations will be granted to maintain the Plan area's landbank of aggregates, or to meet a demonstrated need for other minerals provided the following criteria are met:

1. *There is no unacceptable harm to the amenity or health of local residents in terms of visual impact, levels of dust, noise, vibration, and light as a result of the operation itself or the resulting traffic movements;* As noted above in relation to Policy PCYFF 2, these aspects have been fully addressed in the ES in Chapters 10 (Noise), 11 (Air Quality), 12 (Vibration) and 13 (Wellbeing). In this respect, the assessments have demonstrated that no significant adverse effects would arise.
2. *There is a suitable buffer between mineral development and sensitive development;* The proposed extension is over 1km from the nearest residential properties, with mineral workings having taken place closer under the extant planning permission. Allied to this, the extension lies on the inside of the drainage leat that bounds the southern end of the site and so 'appears' to be part of the wider quarry.
3. *There is no unacceptable harm to the stability and support of adjacent land;* A Geotechnical Assessment has been undertaken (and included as Appendix 3/1 to this Volume). This assessment shows that the extension can be developed without giving rise to stability issues. Moreover, quarries are regularly inspected by Geotechnical Engineers to ensure that no stability issues arise.
4. *The development is sensitively screened and landscaped;* This has been considered as part of the Landscape and Visual Impact Assessment reported in Chapter 6 of Volume 2.
5. *The development will not have a significant adverse impact on sites of international, national, regional or local environmental, nature conservation, landscape and /or heritage importance;* it is acknowledged that the proposed extension lies within the Eryri SAC, but avoids any of the Priority Habitats for which it was designated. This is considered within Chapter 7 of the ES along with Appendix 7/4 (Habitats Regulation Assessment). The proposed extension also lies close to the recently designated World Heritage Site. As discussed earlier, the conclusions of the Heritage Assessment (Chapter 8 of the ES) demonstrate that the proposals would have no

direct impact on the World Heritage Site nor its Outstanding Universal Value. It lies within its buffer zone where quarrying is permitted.

6. *The proposal does not sterilize or otherwise prevent the working of other significant mineral deposits*; The proposals seek the opposite in that it seeks to ensure that the slate resource is not unduly sterilised and maximised within environmental limits.
7. *There is no unacceptable harm to land drainage groundwater and water resources*; This has been addressed through Chapter 9 of the ES where a comprehensive assessment of both ground and surface water is provided. This assessment shows that the development can proceed without giving rise to significance adverse effects on the water environment.
8. *The proposal ensures that the potential use of the resource is maximised and there is satisfactory disposal of any waste arising from the mineral operation*; This has been set out in the development description. The extension represents a logical progression of the workings, allowing the resource to be maximised, taking into account geological and environmental constraints. The applicant is actively pursuing opportunities to realise value from the waste slate through the production of secondary aggregate products and minimise the amount sent to tip. Where slate waste needs to be tipped, it will be in accordance with the approved scheme.
9. *Where blasting is proposed, the proposal includes a scheme of blasting to demonstrate that it can be controlled to meet the conditions detailed in Mineral Technical Advice Note MTAN (Wales) 1: Aggregates, or any amendments*; The effects of blasting have been assessed in Chapter 12 of the ES and it has been shown that development within the extension can comply with existing conditions. It should be noted that the extension is over 1000m from the nearest residential receptor and does not approach any closer to the Marchlyn dam.
10. *The proposal includes a scheme for the after use of the site and details of the restoration and aftercare required to achieve it in accordance with Policy MWYN 9*; The restoration proposals for the proposed extension would be integrated in to the wider approved restoration scheme for the quarry workings, as illustrated on Drawing PQ 6/15 within Volume 2.
11. Wherever economically feasible, mineral waste or products should be transported by rail or water. There are no opportunities for such materials to be transported directly from the quarry due to a lack of suitable infrastructure. The applicant does export slate products by boat and is exploring opportunities to export secondary aggregates by rail from a railhead located at Llandudno Junction.

4.37 In summary therefore, through the EIA process (reported in Volume 2) it has been possible to demonstrate that these policy considerations have been met. This is also considered further under the heading “*Protection of the Environment*”. That said, as an established operation for which planning permission has previously been granted (and reviewed under the Environment Act 1995), the potential effects on the environment and local amenity are understood and found to be limited, with suitable controls already in place through the extant planning permission.

4.38 Finally, **Policy MWYN 9** addresses restoration and aftercare, requiring the submission of a suitable restoration scheme. As noted above, the proposals represent a logical expansion of the current workings and can be incorporated into the approved restoration scheme. This is shown on Drawing PQ 6/15 within the ES.

Protection of the Environment

Landscape

4.39 At the national level Paragraph 5.14.36 of PPW (when considering protecting special characteristics and qualities of places) mentions in the context of minerals “*Development adjacent or close to these*

[sensitive] areas may have a significant detrimental effect on their special qualities. Minerals development proposed adjacent or close to a National Park or AONB that might affect the setting of these areas, should be assessed carefully to determine whether the environmental and amenity impact is acceptable or not, or whether suitable, satisfactory conditions can be imposed to mitigate the impact”.

- 4.40 Overarching policy for protecting landscape is set out in Section 6.3 of PPW. At paragraph 6.3.3, PPW states *“All the landscapes of Wales are valued for their intrinsic contribution to a sense of place, and local authorities should protect and enhance their special characteristics, whilst paying due regard to the social, economic, environmental and cultural benefits they provide, and to their role in creating valued places”.* It adds that
- Wales contributes to meeting international responsibilities and obligations for landscapes;
 - statutorily designated sites are properly protected and managed;
 - that the value of all landscapes for their distinctive character and special qualities is protected; and
 - the opportunities landscapes provide for tourism, outdoor recreation, local employment, renewable energy and physical and mental health and well-being are taken into account and multiple well-being benefits for people and communities secured.
- 4.41 MTAN1 highlights the fact that hard rock quarries physically alter the ground surface through the development of faces and benches, and these landscape changes are often irreversible. It goes on to add that other operations related to quarrying may have an impact on the landscape, including the historic landscape: quarry tips; aggregates storage areas; screening mounds; settlement ponds; processing plant; roads and buildings. It advises that proposals for new aggregates extraction or extensions to existing sites should be assessed carefully to determine the potential impact on the character of the landscape. The assessment should also facilitate a comprehensive understanding of the visual impact of a development from various locations which will assist in devising an appropriate layout and phasing, and the most appropriate restoration strategy (paras 89 and 90).
- 4.42 MTAN1 sets out advice for national landscape designations, with no guidance for local designations or the landscape as a whole.
- 4.43 Relevant policies at the local level include **Strategic Policy PS 19** *“Conserving and where appropriate enhancing the natural environment”*; **Policy AMG 2** *“Special Landscape Areas”*; and **Policy AMG 3** *“Protecting and enhancing features and qualities that are distinctive to the local landscape character”*).
- 4.44 Firstly, **Strategic Policy PS 19**, which is an overarching policy addressing ecology landscape and heritage, states that:
“The Councils will manage development so as to conserve and where appropriate enhance the Plan area’s distinctive natural environment, countryside and coastline, and proposals that have a significant adverse effect on them will be refused unless the need for and benefits of the development in that location clearly outweighs the value of the site or area and national policy protection for that site and area in question. ...”. It goes on to provide eight matters that need to be addressed, including
- Safeguard the Plan area’s ... landscapes;

- Protect or where appropriate enhance sites of international, national, regional and local importance and, where appropriate, their settings in line with National Policy;
- Have appropriate regard to the relative significance of international, national or local designations in considering the weight to be attached to acknowledged interests, ensuring that any international or national responsibilities and obligations are fully met in accordance with National Policy;
- Protect, retain or enhance the local character and distinctiveness of the individual Landscape Character Areas.

4.45 **Policy AMG 2** seeks to protect the Special landscape areas indicating that *when considering a proposal within Special Landscape Areas (SLA), there will be a need to appropriate consideration to the scale and nature of the development ensuring that there is no significant adverse detrimental impact on the landscape. The development should aim to maintain, enhance or restore the recognised character and qualities of the SLA.* **Policy AMG3** adds *“Proposals that would have significant adverse impact upon landscape character as defined by the Landscape Character Areas included within the current Landscape Strategy for the relevant authority, must demonstrate through a landscape assessment how landscape character has influenced the design, scale, nature and site selection of the development”* .
A proposal will be granted provided it doesn’t have significant adverse impact upon features and qualities which are unique to the local landscape in terms of visual, historic, geological, ecological or cultural aspects.

4.46 Chapter 6 of Volume 2 assesses the potential visual and landscape impacts of the proposed development, building upon earlier assessments undertaken as part of the Environment Act 1995 Review process. The assessment concludes:

“In the case of the proposed development adverse landscape and visual effects would occur from the proposed mineral extension, although this is a very limited area within the context of the large -scale landscape of the study area, and outside the Snowdonia National Park. Any changes resulting from this extension would also be in the context of the existing quarry and no significant effects are predicted to occur. The importance of the Fronllwydd and Elidir Fach ridges are identified in the LVIA and these limit the effects of the existing quarry, as well as the extension area within the wider Snowdonia National Park.

*The level of landscape effects identified in the LVIA are summarised in Table 5 in Appendix 6/2, the higher levels of effect identified are described in greater detail in the main text of the LVIA under ‘Assessment of Significance of residual Landscape Effects’. **Overall there are no significant landscape effects predicted as a result of the proposed development.***

*The level of visual effects identified in the LVIA are summarised in Table 4 in Appendix 6/3, the higher levels of effect identified are described in greater detail in the main text of the LVIA under ‘Assessment of Significance of Residual Visual Effects’. The effects on the identified visual receptors within the local landscape is examined with reference to the identified viewpoints to describe the effects of the proposed development. **Overall there are no significant visual effects predicted as a result of the proposed development.”***

4.47 Based on the assessment no significant adverse effect has been identified and accordingly it is considered that the proposals do not run contrary to the aims of the development plan or national planning policy in the context of landscape or visual intrusion.

Ecology

- 4.48 Paragraph 5.14.37 of PPW, in the context of minerals, indicates that *“Minerals proposals within or likely to significantly affect Sites of Special Scientific Interest and National Nature Reserves, potential and classified Special Protection Areas, designated, candidate or proposed Special Areas of Conservation or Ramsar sites must be carefully examined. If the proposal would adversely affect the integrity of the site, taking into account advice from NRW, and conditions would not remove this effect, planning permission should not be granted, unless alternative supplies cannot be made available at reasonable cost, there is no scope for meeting the need in some other way and regard has been paid to considerations such as the need for the development in terms of UK mineral supply and the impact on the local economy of permitting the development or refusing it. Minerals development in non-statutory nature conservation sites should be carefully assessed to determine whether the environmental and amenity impact is acceptable or not relative to the benefits to be gained from mineral development.”*
- 4.49 Section 6.4 (Biodiversity and Networks) also provides overarching policy aimed at protecting the natural environment. At paragraph 6.4.3 it states that the planning system has a key role to play in helping to reverse the decline in biodiversity and increasing the resilience of ecosystems, at various scales, by ensuring appropriate mechanisms are in place to both protect against loss and to secure enhancement. It adds that development proposals must consider the need to:
- support the conservation of biodiversity, in particular the conservation of wildlife and habitats;
 - ensure action in Wales contributes to meeting international responsibilities and obligations for biodiversity and habitats;
 - ensure statutorily and non-statutorily designated sites are properly protected and managed;
 - safeguard protected and priority species and existing biodiversity assets from impacts which directly affect their nature conservation interests and compromise the resilience of ecological networks and the components which underpin them, such as water and soil, including peat; and
 - secure enhancement of and improvements to ecosystem resilience by improving diversity, condition, extent and connectivity of ecological networks.
- 4.50 Paragraphs 54 to 61 of MTAN1 address international ecological designations (54-56), national designations (57-58) and European protected species (59-61); there is no guidance for locally important sites or habitats. However, paragraphs 26 to 29 of MPPW provide guidance for local interests.
- 4.51 Allied to this, detailed guidance is provided in TAN 5: *“Nature Conservation and Planning”* (1996). TAN 5 provides advice on the processes that Local Authorities are required to follow to ensure the protection of designated nature conservation sites and conservation of the natural environment.
- 4.52 Relevant policies in the LDP include **Strategic Policy PS 19** *“Conserving and where appropriate enhancing the natural environment”*; **Policy AMG 5** *“Local biodiversity conservation”*; **Policy AMG 6** *“Protecting sites of regional or local significance”*).
- 4.53 **Strategic Policy PS 19**, as noted above is an overarching policy, states that consideration needs to be given to:
- Safeguard the Plan area’s habitats and species;

- Protect or where appropriate enhance sites of international, national, regional and local importance and, where appropriate, their settings in line with National Policy;
- Have appropriate regard to the relative significance of international, national or local designations in considering the weight to be attached to acknowledged interests, ensuring that any international or national responsibilities and obligations are fully met in accordance with National Policy;
- Protect or enhance biodiversity within the Plan area and enhance and/or restore networks of natural habitats in accordance with the Local Biodiversity Action Plans and Policy AMG 5;
- Protect or enhance biodiversity through networks of green/ blue infrastructure;
- Safeguard internationally, nationally and locally protected species.

4.54 **Policy AMG 5** indicated that proposals must protect and, where appropriate, enhance biodiversity that has been identified as being important to the local area. In this respect, consideration is to be given to avoiding significant harmful impacts through the sensitive location of development and opportunities to create, improve and manage wildlife habitats and natural landscape. The policy also adds that development affecting sites of local biodiversity importance will be refused unless they can conform with all of the following criteria:

- that there are no other satisfactory alternative sites available for the development.
- the need for the development outweighs the importance of the site for local nature conservation;
- that appropriate mitigation or compensation measures are included as part of the proposal.

4.55 Finally **Policy AMG 6** indicates that *“proposals that are likely to cause direct or indirect significant harm to Local Nature Reserves (LNR), Wildlife Sites (WS) or regionally important geological / geomorphologic sites (RIGS) will be refused, unless it can be proven that there is an overriding social, environmental and/or economic need for the development, and that there is no other suitable site that would avoid having a detrimental impact on sites of local nature conservation value or local geological importance.”*

4.56 Chapter 7 of Volume 2 assesses the potential ecological impacts of the proposed development. The assessment concludes:

“The 2.26 ha extension area is wholly within Eryri SAC/SSSI but does not include any habitats that are qualifying features for the designated sites. It does, however, include grassland that may be used by foraging chough which are a notified feature of the SSSI, and contains boulders which support lichen species which are part of the notified lichen assemblage.

A detailed Habitat Regulations Screening Assessment is included as Appendix 7/4 of this chapter in relation to potential impacts at the SAC. No likely significant effects have been identified as a result of the proposals, either alone or in-combination with other plans or projects.

Loss of boulders supporting a notable lichen assemblage that count toward the qualifying feature of the SSSI would be subject to mitigation, but confidence in the success of the methods is low. However,

significant adverse effects to the designated feature are considered unlikely due to the very small extent of area affected.

The potential for hydrological impacts to the designated sites is avoided through the continued undisturbed presence of the existing leat. Monitoring of adjacent habitats would continue.

No changes to tipping arrangements are proposed, but tipping would continue for a further three years. This would assist in the continued presence of open mosaic habitat on previously disturbed ground (a Section 7 Priority Habitat) at Tip E2. No significant residual impacts are predicted.

Breeding birds and common lizard are likely to occur within the site and precautions outlined in the sections above aim to reduce the risk of harm to these species and avoid any offences under the governing legislation.”

- 4.57 Based on the assessment no significant adverse effect has been identified and accordingly it is considered that the proposals do not run contrary to the aims of the development plan or national planning policy in the context of natural heritage.

Heritage

- 4.58 Paragraph 5.14.38 of PPW states in the context of minerals that *“Mineral proposals within the setting of a scheduled ancient monument (SAM) may have an impact on its significance and should be carefully considered. The impact of mineral extraction on a SAM and its setting should be considered and where impacts cannot be satisfactorily mitigated, planning permission refused unless there are exceptional circumstances.”*
- 4.59 Overarching national policy for protecting the historic environment is set out in Section 6.1 of PPW (*“The Historic Environment”*). The Assembly Government’s objectives in this field are to:
- protect the Outstanding Universal Value of the World Heritage Sites;
 - conserve archaeological remains, both for their own sake and for their role in education, leisure and the economy;
 - safeguard the character of historic buildings and manage change so that their special architectural and historic interest is preserved;
 - preserve or enhance the character or appearance of conservation areas, whilst the same time helping them remain vibrant and prosperous;
 - preserve the special interest of sites on the register of historic parks and gardens; and
 - protect areas on the register of historic landscapes in Wales.
- 4.60 MTAN1 also provides guidance concerning the preservation of the historic environment and mineral extraction at paragraphs 62 to 63. Essentially, the policy states that future proposals for aggregates extraction that would result in a significant adverse impact on the historic environment should not be considered favourably.
- 4.61 Relevant policies in the LDP include **Strategic Policy PS 20** (*“Preserving and where appropriate enhancing heritage assets”*); **Policy AT 1** (*“Conservation Areas, World Heritage Sites and Registered*

Historic Landscapes, Parks and Gardens"); **Policy AT 3** ("Locally or Regionally Significant Non-Designated Heritage Assets"); and **Policy AT 4** ("Protection of Non-Designated Archaeological Sites and their Setting").

4.62 **Strategic Policy PS 20** adds that in seeking to support the wider economic and social needs of the Plan area, the Local Planning Authority will preserve and where appropriate, enhance its unique heritage assets. Proposals that will preserve and where appropriate enhance the heritage assets, their setting and significant views into and out of the building/area will be granted. The policy then lists seven types of heritage assets, including Scheduled Monuments, listed buildings, conservation areas, candidate World Heritage Sites registered Historic Landscapes and Buildings of architectural/ historic/ cultural merit.

4.63 **Policy AT 1** addresses Conservation Areas, World Heritage Sites and Registered Historic Landscapes, Parks and Gardens; of these only World Heritage Sites are relevant. The policy indicates that proposals within or affecting the setting and/ or significant views into and out of such designated areas must, where appropriate, have regard to the adopted Character Appraisals, Conservation Area Plans Delivery Strategies. and World Heritage Site Management Plans (as relevant). **Policy AT 3** then considers locally or regionally significant non-designated heritage assets indicating that "*Proposals will be required to conserve and seek opportunities to enhance buildings, structures and areas of locally or regionally significant non-designated heritage assets, which create a sense of local character, identity and variation across the Plan area*". Finally, **Policy AT 4** provides protection for non-designated archaeological sites and their setting. It provides that:

"Proposals which may have a significant adverse impact on sites that are of potential national archaeological importance and their setting, or are of acknowledged local heritage importance, including sites of industrial archaeology that are not scheduled and their settings will:

- 1. Be assessed in terms of the intrinsic importance of the 'site' and the potential extent of harm.*
- 2. Require, where appropriate, either an archaeological assessments and/ or field evaluation by an archaeological body or a professionally qualified archaeologist in order to determine the archaeological impact of the proposed development before the Planning Authority determines the application.*

A proposal which affects locally important archaeological remains will only be granted if the need for the development overrides the significance of the archaeological remains."

4.64 Chapter 8 of Volume 2 assesses the potential impacts of the proposals may have on heritage features. In particular, it provides the following conclusions in respect to the direct effects upon archaeology; effects upon designated heritage assets:

"Direct Effects upon Archaeology and Mitigation

The PEA lies within a landscape important for prehistoric and industrial archaeology, but without much evidence for the intervening period. The field-based evaluation within the PEA has successfully identified the archaeological potential and allowed a mitigation strategy to be designed.

In accordance with Planning Policy Wales (PPW) an appropriate approach to mitigation is to ensure preservation by record through archaeological excavation, recording, analysis and publication appropriate to significance of the archaeological resource.

This would involve archaeological excavation of a prehistoric settlement site with evidence of small-scale iron working, structural recording of a post-medieval sheepfold and a watching brief over the remainder of the PEA.

....

The direct effects upon archaeology are assessed as of medium sensitivity and medium magnitude. Taking into account the proposed mitigation the effects are not significant.

Effects upon Designated Heritage Assets

The PEA is situated in a rural landscape, with locally strong influences of ongoing quarrying. The quarry has had a long history dating back to at least 1782 and is of national importance as both an historical and economic resource.

An assessment of potential effects upon the designated heritage assets, landscapes and their setting within 3km of the PEA was undertaken that included consideration of:

- *visual impact of the PEA*
- *effects upon the World Heritage Site 'Slate Landscape of Northwest Wales'*
- *effects upon the Ogwen Valley and Dinorwig registered historic landscapes*
- *Effects upon scheduled monuments, listed buildings and other designated heritage assets*
- *potential for a cumulative or combined adverse effect upon a group of heritage assets in same visual envelope*

The assessments followed methodology set out in Guide to Good Practice on using the Register of Landscapes of Historic Interest in Wales in the Planning and Development Process (ASIDOHL2) and the 4-stage approach set out in PPW TAN 24 (2017) Setting of Historic Assets in Wales.

The ASIDOHL2 assessment concluded that the PEA would have a direct impact on one historic landscape character area (HLCA) within the registered Ogwen Valley landscape (Moel y Ci/Gwaen Gynfi unenclosed uplands) but that the loss would comprise a very small part of the HLCA (about 0.22%).

The effect of this impact was assessed under the EIA Regulations as of small magnitude and not significant.

Other than the Ogwen Valley historic landscape, the proposed development would not directly impact upon designated assets of the historic environment.

The vast majority of designated heritage assets within a 3km radius of the PEA were scoped out of assessment due to there being no visibility based upon the Zone of Theoretical visibility (ZTV) that analyses topography or, after verification by field survey, intervening development and vegetation.

There is no inter-visibility between the four scheduled monuments within 3km and the PEA, and at between 2.65km and 2.9km distance the settings of the scheduled monuments would not be affected. This is assessed as a neutral situation under the EIA regulations (i.e. no change to the existing situation).

The proposed development would have no direct impact on the World Heritage Site nor its Outstanding Universal Value. It would lie within its buffer zone where quarrying is permitted. Under the EIA Regulations, the effect of this impact was assessed as of small magnitude and not significant.

The proposed development would have slight or very slight indirect visual impacts on eleven HLCA within the registered landscapes of Ogwen Valley and Dinorwig. Under the EIA Regulations this is assessed as of small magnitude and not significant, with the exception of the impact upon Bethesda and Llanllechid HLCA which is assessed as moderately significant. This is a result of the high value of the historic character area, rather than the scale of indirect impacts or reduction in value, both of which are graded as 'very low'.

In respect to all offsite heritage assets, the PEA would merge into the existing mass of the quarry. This would keep the adverse effects on the setting of heritage assets and landscapes to a minimum”.

4.65 Overall the assessment concludes that having regard to the baseline conditions, *“the nature of the proposed development and the proposed measures that would be effective in mitigating the impacts of the scheme, there would be no significant residual effects (direct, indirect, cumulative or combined) upon known cultural heritage assets. The proposed development therefore fully accords with both local and national cultural heritage policy. It is supported by Objective 7 of the World Heritage Site Management Plan that promotes a sustainable slate industry.”*

4.66 Based on this assessment it is considered that the proposals would accord with policies aimed at protecting heritage assets and archaeology.

Water

4.67 PPW at paragraphs 5.14.39 and 40 state in the context of minerals:

“Planning authorities and the minerals industry should take into account the need to protect the quantity and quality of surface and groundwater supplies. Changes in the water table as a result of mineral extraction or the disposal of mineral wastes must not cause unacceptable impact or otherwise damage or adversely affect water resources or sources of water, in line with the principles contained in the Water Framework Directive. Such resources might be an integral part of sites of high landscape value or nature conservation importance, including protected habitats and species.

Changes in the water table may also cause significant geohazards such as the shrinkage of clay soils leading to subsidence or karstic collapse in limestone areas. The impact of changes to surface and groundwater are likely to require monitoring and require remedial measures to be introduced. Planning authorities must consult Natural Resources Wales on these complex issues and, where doubt exists, should adopt the precautionary principle in taking planning decisions on mineral development.”

4.68 Section 6.6 of PPW then provides more overarching policy and guidance. At paragraph 6.6.5 it states that the Welsh Government aims to secure the provision of water services whilst minimising adverse impacts on the environment, amenity, health and communities, in light of the consequences of climate change. It adds that the planning system should:

- protect and improve water resources by promoting and encouraging increased efficiency and demand management of water as part of new developments, particularly in those areas where water resources may be under pressure or may not be available;

- ensure that the infrastructure on which communities and businesses depend is adequate to accommodate proposed development so as to minimise risk to human health and the environment and prevent pollution at source;
- ensure sustainable drainage systems are an integral part of design approaches for new development; and
- ensure the protection of the quantity and quality of surface and ground water supplies is taken into account as part of development proposals.

4.69 There are no specific policies in the LDP aimed at safeguarding the water environment.

4.70 Chapter 9 of Volume 2 assesses the potential impacts the proposed development may have on the water environment. In this respect the assessment provides the following conclusions:

“The quarry including the proposed extension is underlain by Cambrian age strata predominantly comprising Llanberis Slate. The faulting, jointing; fracturing and cleavage planes in Slate affords it a secondary permeability. On the quarry scale, this secondary permeability is of limited significance. The Llanberis Slate Formation at the quarry is designated by the Environment Agency / Natural Resource Wales as a Secondary B aquifer.

In the vicinity of the quarry, scree and thin soil cover dominates the upper slopes but the lower slopes, including the proposed extension are covered with superficial deposits. The superficial deposits comprise a mixed sequence of clay or silt bound sands, outwash gravels, boulder clay (till) and peat deposits.

The distribution of water in the superficial deposits has been shown to be irregular, with both vertical and lateral movement inhibited by the presence of low permeability clays. Water flow through the bulk of the superficial deposits is very low; similar to that of the underlying geology. The coarser materials such as sands and clay bound gravels contain water that provide groundwater throughflow within the superficial deposits providing shallow and narrow groundwater pathways potentially of limited spatial extent.

The existing water management system at Penrhyn Quarry utilises a combination of drainage channels, open channels, pumped drainage, and surface water attenuation areas along with settlement lagoons. From a drainage perspective, the quarry can be split into the main quarry void; the processing area; the quarry haul road; the spoil tips; and the old quarry void. With the exception of parts of the spoil tips, the water within the quarry is directed to the old quarry void water body before being discharged to the Afon Ogwen. The Old quarry void water body provides a significant amount of dilution, storage, and settlement.

In November 2014, a new interceptor and recharge leat was completed for the westward expansion of the quarry. The leat is positioned to intercept and convey surface drainage water from up-slope of the permitted extraction area to the downgradient heathland which forms part of Gwaen Gynfi. The primary purpose of the leat is to compensate for the loss of hydrological catchment and maintain a source of water to the downgradient heathland. The proposed extension will not change or divert the existing leat allowing the compensation to continue.

There is no mains foul sewer associated with the Penrhyn Quarry. Foul sewage is managed by way of a package treatment plant that has been sized to accommodate the number of personnel at the quarry.

The package treatment plant condition and functionality are checked on a regular basis and maintained and serviced as and when required.

The quarry is considered not to be at 'high' risk from either fluvial or pluvial flooding and is not located in designated flood risk zones. Water and surface runoff within the quarry is managed in a manner that provides a significant amount of storm runoff attenuation. Flood risk will not be increased as a result of the proposed extension. Therefore, the quarry water management will not increase the flood risk elsewhere and provides a betterment to flood risk downstream.

This assessment has identified and evaluated any impacts due to the current quarry footprint, including those of the proposed extension. With the exception of Gwaen Gynfi heathland where the residual risk of impact is considered to be low, the general residual risk of impact to surface and groundwater features is considered to be none to very low, provided mitigation measures are in place and monitored; assessed and adjusted, if required. Although a residual risk is present, this is not considered to be significant."

- 4.71 Based on the assessment no significant adverse effect has been identified and accordingly it is considered that the proposals accord with the aims of the development plan or national planning policy in the context of the water environment.

Amenity

- 4.72 PPW at paragraph 5.14.42 indicated that *mineral workings should not cause unacceptable adverse environmental or amenity impact. Where this is not possible working needs to be carefully controlled and monitored so that any adverse effects on local communities and the environment are mitigated to acceptable limits. Any effects on local communities and the environment must be minimised to an acceptable standard.*
- 4.73 Section 6.7 considers air quality and soundscape indicating at paragraph 6.7.1 that *"Clean air and an appropriate soundscape, contribute to a positive experience of place as well as being necessary for public health, amenity and well-being. They are indicators of local environmental quality and integral qualities of place which should be protected through preventative or proactive action through the planning system. Conversely, air, noise and light pollution can have negative effects on people, biodiversity and the resilience of ecosystems and should be reduced as far as possible".*
- 4.74 MTAN1 notes that experience has shown that dust emissions can result from:
"Haulage, particularly on internal un-surfaces routes, on nearby roads which are not adequately wetted and if vehicles are un-sheeted; crushing and grading operations; blasting, including drilling operations prior to blasting; surface stripping, including soils and overburden storage; restoration operations" (para 72).
- 4.75 In relation to more general fugitive dust, MTAN1 notes that planning conditions can control certain activities to protect against dust emissions, although many of these are controlled under the Environmental Protection Act 1990, and care should therefore be taken to avoid duplication of controls (para 76). However, it highlights a number of issues which might be controlled by planning conditions, including the imposition of speed restrictions within the quarry; sheeting of vehicles; the design of working programmes to locate dust emission sources away from sensitive developments; and the timing of soil handling and overburden stripping to suit weather conditions (para 77). These planning conditions could readily be applied to operations.

- 4.76 In terms of noise, MTAN1 emphasises that the effects of noise should be fully considered in formulating future proposals for aggregates extraction and noise impact must be minimised to acceptable levels (ref para 85).
- 4.77 Technical Advice Note 11: Noise (1997) provides advice on how the planning system can be used to minimise the adverse impact of noise without placing unreasonable restrictions on development or adding unduly to the costs of administration burdens on businesses. TAN 11 focuses on noise generating development and requires that proposed development does not cause an unacceptable degree of disturbance. In the case of industrial development, the character of the noise should be taken into account as well as its level. Sudden impulses, irregular noise or noise which contains a distinguishable continuous tone will require special consideration.
- 4.78 At the local level, a number of overarching policies seek to protect the amenity of local communities. In particular **Policy MWYN 3** states that to be acceptable, proposals for mineral working should demonstrate that *“There is no unacceptable harm to the amenity or health of local residents in terms of visual impact, levels of dust, noise, vibration, and light as a result of the operation itself or the resulting traffic movements;”*.
- 4.79 Chapters 10, 11, 12 and 13 of Volume 2 assess the potential impacts associated with the proposed development on noise, air quality, vibration and wellbeing respectively. For each assessment no significant adverse effect has been identified. In this respect, in relation to both noise and vibration (from blasting) the assessments have shown that the development of the proposed extension can be undertaken without breaching any imposed limits. Turning to air quality, the assessment has concluded *“The risk of dust impact at residential receptors was assessed as insignificant considering the distance to onsite operations and frequency of exposure. The potential for dust impacts on the surrounding ecological sites is considered to be not significant”*.
- 4.80 Accordingly it is considered that the proposals accord with to the aims of the development plan or national planning policy.

APPENDIX 01

GWP Geotechnical Assessment

EUROPEAN OFFICES

United Kingdom

AYLESBURY

T: +44 (0)1844 337380

BELFAST

belfast@slrconsulting.com

BRADFORD-ON-AVON

T: +44 (0)1225 309400

BRISTOL

T: +44 (0)117 906 4280

CARDIFF

T: +44 (0)29 2049 1010

CHELMSFORD

T: +44 (0)1245 392170

EDINBURGH

T: +44 (0)131 335 6830

EXETER

T: + 44 (0)1392 490152

GLASGOW

T: +44 (0)141 353 5037

GUILDFORD

T: +44 (0)1483 889800

LONDON

T: +44 (0)203 805 6418

MAIDSTONE

T: +44 (0)1622 609242

MANCHESTER

T: +44 (0)161 872 7564

NEWCASTLE UPON TYNE

T: +44 (0)191 261 1966

NOTTINGHAM

T: +44 (0)115 964 7280

SHEFFIELD

T: +44 (0)114 245 5153

SHREWSBURY

T: +44 (0)1743 23 9250

STIRLING

T: +44 (0)1786 239900

WORCESTER

T: +44 (0)1905 751310

Ireland

DUBLIN

T: + 353 (0)1 296 4667

France

GRENOBLE

T: +33 (0)6 23 37 14 14

