



**STEPHENSON
HALLIDAY**

Planning, Landscape & Environment
an **RSK** company

MAES Y DROELL QUARRY

Landscape and Visual Impact Assessment

Silica Sand Mold Limited

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Document history

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1 INTRODUCTION

1.1 Background

- 1.1.1 Stephenson Halliday was commissioned in September 2023 to prepare a landscape and visual impact assessment (LVIA) of the proposed development at Maes y Droell Quarry on behalf of Silica Sand Mold Limited.
- 1.1.2 This LVIA defines the existing landscape and visual baseline environments; assesses their sensitivity to change; describes the key landscape and visual related aspects of the Proposed Development; and, describes the nature of the anticipated changes and assesses the effects arising during quarrying and restoration.
- 1.1.3 The LVIA considers the potential effects upon:
- landscape fabric;
 - landscape character;
 - the special qualities of any landscape designations; and
 - visual receptors including residential, transport and recreational receptors.
- 1.1.4 The LVIA has been undertaken in accordance with published best practice; namely the Guidelines for Landscape and Visual Impact Assessment (Third Edition), Landscape Institute and IEMA 2013 (GLVIA3) and associated technical guidance notes published by the Landscape Institute (referenced as appropriate in Appendix 1).
- 1.1.5 Although linked, landscape and visual effects are considered separately. Landscape effects derive from changes in the landscape fabric, which may result in changes to the character, whereas visual effects are the effect of these changes as experienced by people (visual receptors). Effects on the setting of any heritage assets are dealt with as part of a separate heritage report.

1.2 The Site and Proposals

- 1.2.1 Figure 2 places the proposed development within its local context. The site is currently a partially worked quarry, comprising a mixture of quarry working, aggregate stockpiles, and woodland. The proposal involves the resumption of working within the quarry in 4 phases to win high-grade silica sand and fine clay, as well as consolidating the complex existing planning situation within the Site. The site lies in two parts, separated by Denbighshire Bridleway 515/17. Within this report, the northern part of the site is called 'north site' and the southern (larger) part of the site is called the 'south site'.

1.3 Competence

- 1.3.1 This chapter along with the design and mitigation of the Proposed Development has been prepared by Chartered Landscape Architects at Stephenson Halliday. Key individuals working on this project have over 9 years of experience as chartered landscape architects.

- 1.3.2 The Practice is a Landscape Institute and IEMA registered practice and all work is prepared and reviewed internally by senior highly experienced landscape planners with Public Inquiry experience.
- 1.3.3 To inform the assessment, a site visit was made to various locations within the study area including, but not restricted to, representative viewpoints by Stephenson Halliday's assessment team during March 2025.

1.4 Stakeholder Consultation

- 1.4.1 The North Wales Minerals and Waste Planning Service (NWMWPS), Natural Resources Wales (NRW) and the Clwydian Range and Dee Valley National Landscape Partnership (CRDVNLP) were consulted in relation to the scope of the assessment; the selection of viewpoints; the methodology; and the extent of the LVIA study area at the pre-application stage, scoping stage and post scoping response. The key responses are detailed below in Table 1.1.
- 1.4.2 The final list of viewpoints agreed through consultation is described separately in Table 6.1.

Table 1.1 Summary of Stakeholder Consultation

Consultee / Stage	Issue	How this is addressed
NWMWPS / Pre-application	NWMWPS highlighted landscape related policies, and specific guidance, in the LDP to which the Proposed Development would be considered against.	Landscape related planning policies and associated guidance referred to by NWMWPS are included within this LVIA under Section 3.2. Policies also borne in mind during design development and the assessment of likely landscape and visual effects.
NWMWPS / Pre-application	NWMWPS stated that restoration of the site must be holistic, phased and landscape-led, presented alongside an aftercare plan. This restoration plan needs to include consideration of screening for surrounding properties and views from the National Landscape.	The phased restoration proposals for the proposed development have been prepared by landscape architects alongside a plan for aftercare. These proposals include provision for screening of surrounding properties and consideration of views from the National Landscape.
NWMWPS / Pre-application	NWMWPS also noted that any application needs to be accompanied by a full LVIA, alongside photomontages of the proposed development and detailed of subsequent restoration.	This report satisfies the requirement for an LVIA and both Type 1 photomontages showing the extent of the proposed development within baseline views and a restoration plan are provided.
CRDVNLP / Pre-application	CRDVNLP noted that part of the site is within the Clwydian Range and Dee Valley National Landscape and raised their objections to the proposal on the grounds that there would be a	The effect of the proposed development on the National Landscape is considered within Section 6.6.

	significant detrimental impact on matters including landscape and tranquillity within the National Landscape.	
NWMWPS / Scoping	NWMWPS states that Landscape and Visual effects need to be scoped into the Environmental Impact Assessment and include consideration of: landscape character impacts; impacts on the National Landscape and its setting; impacts on visual receptors; cumulative effects (e.g. with Graig Quarry); and lighting impacts on dark skies.	This report satisfies the requirement for an LVIA and includes consideration of the factors mentioned.
NRW / Scoping	NRW confirms that the National Landscape, its users and the wider setting of the protected landscape should be in-scope for the landscape and visual impact assessment. It notes that the LVIA should include assessment of effects at each phase of the development and its conclusion together with indication of duration of phases and intended lifespan of operations.	This report includes assessment of the potential effects of the proposed development on the special qualities of the National Landscape and visual amenity of its users. In addition, the LVIA includes consideration of the other factors mentioned.
NRW / Scoping	NRW advises that proposed mineral workings are likely to be visible from a number of sensitive areas inside the National Landscape. This includes from the immediately adjacent LANDMAP Aspect Area of 'Limestone Hills South of Loggerheads' which has an outstanding visual and sensory evaluation. Visibility may also be available from elevated viewpoints such as Mynydd Du, Moel Gyw, or Moel Llanfair.	The LANDMAP Aspect Area 'Limestone Hills South of Loggerheads' falls within both the B1: Gritstone Hills (Graianrhyd) LCA and C2: Limestone Farmlands (Llandegla to Maeshafn) LCA; these LCAs are assessed within this LVIA and the consideration of the outstanding visual and sensory evaluation is incorporated within the assessment of sensitivity of these landscape units. A viewpoint photograph has been added at Moel Gyw (viewpoint 11); the summits of Mynydd Du and Moel Llanfair are not publicly accessible, but these elevated areas are represented by viewpoints 1 and 10 respectively.
NRW / Scoping	NRW concur with the 5km proposed study area.	The 5km study area is used within this LVIA.
NRW / Scoping	NRW note the proposed use of the Conwy and Denbighshire Landscape Sensitivity and Capacity Assessment For Wind Energy Development alongside LANDMAP to establish landscape character for assessment, but advise that the LVIA should refer to NRW Guidance Note 46/GN46	Within this LVIA, NRW Guidance Note 46/GN46 Using LANDMAP in Landscape and Visual Impact Assessment has been referenced. In addition, the LANDMAP visual and sensory aspect areas, their evaluations and recommendations are used to inform the LVIA.

	Using LANDMAP in Landscape and Visual Impact Assessment and ensure that the LANDMAP visual and sensory aspect areas, their evaluations and recommendations are used to inform the LVIA.	
NRW / Scoping	NRW advise that visitors to the National Landscape (such as walkers on named footpath routes) would have a particularly high sensitivity to changes within their view. They recommend that additional viewpoints from elevated perspectives within the National Landscape are necessary. These might include local hills of Mynydd Du and Pen Llanerch and more distant upland views, such as Moel Gyw, and Moel Llanfair.	Additional viewpoint photographs have been obtained from the slopes of Moel Llanfair (viewpoint 10) – as the summit is not publicly accessible – and Moel Gyw (viewpoint 11); the summit of Mynydd Du is not publicly accessible, but this elevated area is represented by viewpoint 1. The ZTV does not suggest that the proposed development would be visible from Pen Llanerch. An attempt was made to access Bryn Alyn, which is to the north-east of Pen Llanerch and did show limited visibility on the ZTV. However, due to obstructed footpath conditions (including several fallen trees and mud) and diminishing daylight, it was not possible to reach the location safely during the site visit. The locations were reviewed through desk study; there is very limited visibility of the proposed scheme from Bryn Alyn / Pen Llanerch and it is considered that the effects from this location would be similar or lesser than to those identified at Moel Gyw.
NRW / Scoping	NRW agree that cumulative assessment needs to include consideration of Graig Quarry and notes that LVIA should screen for other potential cumulative developments.	Graig Quarry is considered within the baseline as it is an existing operational quarry, with permission for operation until 31 October 2032 ¹ . Effects of the proposed development on the baseline (including Graig Quarry) are considered within the landscape and visual effects in Section 6.
NRW / Scoping	NRW state that should lighting be required an assessment of its impact on dark skies should be included in the LVIA.	Consideration of the effects of lighting on dark skies is provided within the assessment in Section 6.
NRW / Scoping	NRW state that the LVIA will need to provide assessment of the impacts and the duration of	The assessments within Section 6 consider impacts at extraction, noting differences in effect between different

¹ Lafarge Aggregates (2007). Review of Mineral Planning Permission (No. 5/10743) – Environmental and Supporting Statement. Available at: <https://planning.denbighshire.gov.uk/w2webparts/Resource/Civica/Handler.ashx/Doc/pagestream?cd=inline&pdf=true&docno=162758>

	operations at each phase of works and at the end of the proposed quarrying and restoration.	phases of workings (Phases 1-4), as well as at the restoration stage.
NRW / Scoping	NRW advise that a full landscape restoration strategy and detailed planting plan would be required and these must be phased to demonstrate mitigation of each phase of extraction. Mitigation measures should relate clearly to the effects identified in the LVIA and to secure residual protections at the conclusion of works.	The phased restoration proposals for the proposed development have been prepared by landscape architects alongside a plan for aftercare. These proposals include provision for screening of surrounding properties and consideration of views from the National Landscape and the relationship of the mitigation proposals to the effects identified within the LVIA are explored in Section 5.2.
NWMWPS / Viewpoint agreement	NWMWPS advise that the viewpoints proposed (see Figures LVIA1-2) would be helpful in assessing the impacts of the proposal and recommended an additional viewpoint on one of the public rights of way to the south-east of Treuddyn.	An additional viewpoint photograph has been obtained from Treuddyn Footpath 10 (viewpoint 9).

1.5 Study Area

- 1.5.1 It is accepted practice within landscape and visual assessment work that the extent of the study area for a development proposal is broadly defined by the visual envelope of the proposed development. In this case a study area of 5km has been used (as shown by Figure(s) LVIA1-5). This study area is adequate to identify all non-negligible effects on landscape and views given that surrounding vegetation in practice filters visibility of the proposed development.

1.6 Chapter Structure and Terminology

- 1.6.1 This chapter is structured as set out in the table of contents.
- 1.6.2 Supporting appendices have been prepared that supplement the sections regarding methodology, planning policy and baseline. The appendices are important to the assessment and should be read alongside this chapter.
- 1.6.3 Key terms used within the assessment are described in Section 2 and Appendix 1 which set out the methodology. A glossary is provided within Appendix 1.

2 METHODOLOGY

- 2.1.1 This section provides a summary of the methodology adopted for the LVIA. Full details of the assessment methodology, including assessment criteria, are provided in Appendix 1.
- 2.1.2 In accordance with GLVIA3, the significance of landscape and visual effects is determined by considering, in tandem, the sensitivity of landscape and visual receptors (landscape

elements, landscape character areas, landscape designations and groups of people who may be affected by changes in visual amenity) and the magnitude of effect arising from the Proposed Development.

2.2 Sensitivity

2.2.1 Sensitivity (described as High, Medium or Low) is judged by combining component judgements about the value and susceptibility of the receptor, as illustrated in Table 2.1 and Table 2.2. An explanation of how susceptibility and value has been determined is provided in Appendix 1. Detailed susceptibility and value criteria for landscape receptors are established in Appendix 1 whilst detailed visual susceptibility and value criteria are set out in Appendix 1. It should be noted that intermediate assessments of value or susceptibility may be applied (e.g. High/Medium, Medium/Low or National/Regional, Regional/Community). Likewise, when combining susceptibility and value to determine sensitivity, an intermediate assessment is adopted where overall sensitivity is judged to lie between levels. In all instances, professional judgement is employed and the tables below should not be interpreted rigidly to give a specific answer. A slightly greater weight is given to susceptibility in judging the sensitivity of visual receptors.

Table 2.1 Landscape Sensitivity

LANDSCAPE RECEPTORS		Susceptibility		
		High	Medium	Low
Value	National	High	High/Medium	Medium
	Regional	High/Medium	Medium	Medium/Low
	Community	Medium	Medium/Low	Low

Table 2.2 Visual Sensitivity

VISUAL RECEPTORS		Susceptibility		
		High	Medium	Low
Value	National	High	High/Medium	Medium
	Regional	High/Medium	High/Medium	Medium/Low
	Community	High/Medium	Medium	Low

2.3 Magnitude

- 2.3.1 The magnitude of effect arising from the Proposed Development (described as Substantial, Moderate, Slight or Negligible) is assessed in terms of its scale, geographic extent of the area or receptor that is influenced and its duration.
- 2.3.2 Scale of change (expressed as Large, Medium, Small, Negligible) is the first and primary factor in determining magnitude. Geographical extent and duration of the effect are modifying factors to the overall magnitude judgement which may be higher if the effect is particularly

widespread and/or long lasting, or lower if it is constrained in geographic extent and/or timescale.

2.3.3 The diagrams presented below in Plate 1 below illustrate in outline how these two modifying factors are considered in a two-stage process and further explanation is provided in Appendix 1. Plate 1 is not intended to be interpreted rigidly as a chart to provide definitive answers; professional judgement is employed as appropriate to arrive at an overall judgement on the magnitude of effect. A definition of the terms used in the diagrams in Plate 1 is provided in Appendix 1.

2.3.4 Where magnitude of effect (or other judgements) is judged to lie between levels, an intermediate assessment is adopted and is expressed as e.g. Moderate/slight.

Plate 1 - Illustration of how Magnitude of Effect is Established

Stage 1 - Modifying Influence of Geographic Extent on Magnitude of Effect



Stage 2 - Modifying Influence of Duration on Magnitude of Effect



2.4 Significance of Effects

- 2.4.1 The significance of a landscape or visual effect (described as Major, Moderate, Minor or Negligible) is assessed using professional judgement, combining the sensitivity of the receptor with the predicted magnitude of effect, as summarised in Table 2.3. Table 2.3 is not used as a prescriptive tool and illustrates the typical outcomes, allowing for the exercise of professional judgement. In some instances, a particular parameter may be considered as having a determining effect on the analysis. Where significance is judged to lie between levels, an intermediate assessment will be adopted for example 'Moderate/Minor'. Such a judgement indicates that the significance of effect is less than Moderate but more than Minor.

Table 2.3 Significance

		Magnitude of Change			
		Substantial	Moderate	Slight	Negligible
Receptor Sensitivity	High	Major	Major/Moderate	Moderate	Minor
	Medium	Major/Moderate	Moderate	Moderate/Minor	Minor/Negligible
	Low	Moderate	Moderate/Minor	Minor	Negligible

- 2.4.2 Where the effect has been classified as Major or Major/Moderate, this is considered to be equivalent to a likely significant effect. Where 'Moderate' effects are predicted, professional judgement is applied to determine whether the effect is significant or not ensuring that the potential for significant effects to arise has been thoroughly considered and justification is provided for the judgement reached as appropriate. Effects of Moderate/ Minor, Minor, Minor/ Negligible or Negligible significance are considered to be not significant.

Beneficial/Adverse

- 2.4.3 Landscape and visual effects can be beneficial or adverse and in some instances may be considered neutral. Neutral effects are those which overall are neither adverse nor positive but may incorporate a combination of both. Whether an effect is beneficial, neutral or adverse is identified based on professional judgement.
- 2.4.4 However, for the avoidance of doubt, in this assessment it has been assumed that where new infrastructure is introduced into the landscape or views, this will generally constitute an adverse effect. Any variation from this stance will be clearly justified.

2.5 Future Baseline

- 2.5.1 As noted in Table 1.1 above, Graig Quarry is located within the study area, approximately 750m west of the site. The quarry is owned by Tarmac and the ROMP from 2009 shows that it has permission for operation until 31 October 2032, after which it is to be restored. From

desk-based research, it appears as though the quarry is currently not operational², but this is unable to be definitively confirmed. From aerial mapping, it appears that much of what was approved in the ROMP has been quarried, with the notable exception of the area of the northern extension. Therefore, within the assessment in Section 6, it is assumed that Graig Quarry is fully worked and under restoration by the time that the operations are underway on the site at Maes y Droell.

2.6 Cumulative Assessment

- 2.6.1 Cumulative assessment relates to the assessment of the effects of more than one development. The approach to cumulative assessment is set out within Appendix 1. It is not anticipated that any cumulative effects from additional consented or proposed quarry developments would be apparent; as noted above, the effects from Graig Quarry are considered as part of the future baseline.

2.7 Residential Amenity

- 2.7.1 As set out within LI Technical Guidance Note 02//19 'Residential Visual Amenity Assessment (RVAA)':

"Changes in views and visual amenity are considered in the planning process. In respect of private views and visual amenity, it is widely known that, no one has 'a right to a view.' ...

It is not uncommon for significant adverse effects on views and visual amenity to be experienced by people at their place of residence as a result of introducing a new development into the landscape. In itself this does not necessarily cause particular planning concern. However, there are situations where the effect on the outlook / visual amenity of a residential property is so great that it is not generally considered to be in the public interest to permit such conditions to occur where they did not exist before."

- 2.7.2 This chapter does not include an assessment of residential visual amenity as it is judged that the proposed development would not give rise to effects meeting the threshold described above.

2.8 Distances

- 2.8.1 Where distances are given in the assessment, these are approximate distances between the nearest part of the site and the nearest part of the receptor in question, unless explicitly stated otherwise.

2.9 Visual Aids

- 2.9.1 Annotated photographs of the existing views (Type 1) showing the Proposed Development have been prepared in accordance with Landscape Institute Technical Note 06/19 Visual

² Llanarmon yn Iâl Community Council (2023). Item 7 - Minutes for 6th December 2023 Ordinary Meeting of Llanarmon yn Iâl Community Council. Available online at: <https://www.llanarmon.com/wp-content/uploads/2023/12/December-2023-minutes.pdf>

representation of development. The methodology of production for the visualisations is described in Appendix 2.

2.10 Uncertainties

- 2.10.1 During the Site visit, viewpoint photography was undertaken from publicly accessible locations in line with the guidance at paragraph 6.16 of GLVIA3. No attempt was made to access private property. A site visit was undertaken in March 2025, with a second site visit undertaken in December 2025. During both site visits, the trees were bare of leaves; any assumed seasonal differences in view are noted within Appendix 9.5.
- 2.10.2 The assessment assumes that all new structural planting would consist of native, indigenous species and wherever possible of local provenance. It also assumes that all new planting would establish successfully and that any failures / defects would be replaced.
- 2.10.3 For the purposes of assessing landscape and visual effects, the following assumptions have been made about the growth rate of newly planted hedgerows and trees:
- Newly planted hedgerows and woodland/ shrub will be planted as young transplants or 'whips'. In Year 1 after construction the planting stock would typically be approximately 0.6m to 0.8m high and contained within tree protected tubes;
 - Hedgerows in Year 10 will be 3m in height. This makes an assumption that the plants do not put on much growth in the first planting season and then put on an average of 0.4m growth each subsequent year. This means that all new hedgerows are considered to be at full maturity in Year 10 and are maintained at 3m by ongoing management;
 - New woodland / scrub planting established as transplants will be 4m by Year 10 in height as it is not maintained at a lower height as is the case for hedgerows;
 - Where hedgerow trees are planted as taller specimens or where mature stock is planted elsewhere it is assumed that the trees will be planted as extra heavy standards and in Year 1 these will have a height of 3m to 3.5m. By Year 10, it is assumed that these trees will have a height of approximately 6m; and
 - Except where vegetation is managed at a specific height (e.g. hedgerows) it is assumed that trees and scrub will continue to grow naturally over the operational life of the Proposed Development and beyond.
- 2.10.4 In terms of vegetation removal, as shown on the phasing plans MDQ-SH-ELS-M2-LS003-007, vegetation is to be retained where possible within the red line boundary.
- 2.10.5 It is assumed that a detailed Landscape and Ecology Management Plan (LEMP) would be implemented under a suitably worded planning condition and this would cover the establishment and long-term management of all new structural planting as well as other habitats.

3 PLANNING POLICY

3.1 National Planning Policy

3.1.1 Relevant national planning policy is set out in Appendix 3.

3.2 Local Planning Policy

3.2.1 Current local planning policy is described in the following adopted and emerging policy documents:

- Denbighshire Local Development Plan 2006-2021 (June 2013)³;
- Flintshire Local Development Plan 2015-2030 (January 2023)⁴.

3.2.2 Policies of relevance to this assessment are outlined below:

Denbighshire Local Development Plan 2006-2021, June 2013

3.2.3 Relevant policies from the Denbighshire Local Development Plan 2006-2021⁵ include;

- **Policy RD1 Sustainable development and good standard design** – which aims to (*inter alia*) ensure good design in respect of the siting, layout, scale, form, character, design, materials, aspect, micro-climate and intensity of use of land / buildings; protect and where possible enhance the local natural and historic environment; incorporate existing landscape or other features; incorporate suitable landscaping measures; and does not unacceptably affect prominent public views.
- **Policy PSE 17 Future mineral extraction** – aims to ensure the appropriate location and operation of future mineral workings, including restoration and after-use. The policy specifically notes that ‘*Application for the working of minerals within the Area of Outstanding Natural Beauty will not be permitted unless exceptional circumstances can be demonstrated*’.
- **Policy VOE1 Key areas of importance** - outlines policy ensuring that areas such as those identified for their natural landscape are maintained and enhanced for their characteristics, distinctiveness and value.
- **Policy VOE2 Area of Outstanding Natural Beauty and Area of Outstanding Beauty** – states that development that would cause unacceptable harm to the character and

³ Denbighshire County Council (2013). Local Development Plan 2006-2021. Available at: <https://www.denbighshire.gov.uk/en/planning-and-building-regulations/local-development-plan/adopted-local-development-plan.aspx>

⁴ Flintshire County Council (2023). Flintshire Local Development Plan. Available at: <https://www.flintshire.gov.uk/en/Resident/Planning/Local-Development-Plan.aspx>

⁵ Denbighshire County Council (2013). Denbighshire Local Development Plan 2006-2021. Available at: <https://www.denbighshire.gov.uk/en/planning-and-building-regulations/local-development-plan/local-development-plan.aspx>

appearance of the landscape in the Clwydian Range and Dee Valley National Landscape (formerly Area of Outstanding Natural Beauty) and the reasons for designation will not be permitted.

Flintshire Local Development Plan 2015-2030, January 2023

3.2.4

The Proposed Development lies approximately 400m to the south-west of the border with Flintshire. As such, the Flintshire Local Development Plan 2015-2030⁶ is also relevant. Policies of relevance to this assessment include:

- **Policy STR4: Principles of Sustainable Development, Design and Placemaking** – aims to promote sustainable development including responding to local context and character;
- **Policy STR13: Natural and Built Environment, Green Networks and Infrastructure** – looks to identify, respect, protect, enhance and connect environmental assets to create a multifunctional network;
- **Policy STR16: Strategic Planning for Minerals** – aims to ensure sustainable management of minerals, including the need to minimise impacts of extraction on the environment;
- **Policy PC3: Design** – sets out the requirements for new developments in terms of providing a high-quality design which enhances the site and its surroundings;
- **Policy EN4: Landscape Character** – sets out the need for new development not to have a significant adverse impact on the character and appearance of the landscape. It also aims to ensure that landscape mitigation reduces and where possible enhances the landscape character;
- **Policy EN5: Area of Outstanding Natural Beauty** – states that within the Clwydian Range and Dee Valley National Landscape and its setting, development will only be permitted where it conserves or enhances the natural beauty of the designated area and its setting. The policy goes on to set out specific requirements such as being compatible with the character and not having an adverse impact on its special character and qualities; and
- **Policy EN7: Development Affecting Trees, Woodland and Hedgerows** – requires development proposals to maximise retention of trees, woodland and hedgerows; providing replacement planting where this is not possible.

⁶ Flintshire County Council (2023). Flintshire Local Development Plan 2015-2030. Available at: <https://www.flintshire.gov.uk/en/Resident/Planning/Local-Development-Plan.aspx>

Clwydian Range and Dee Valley Area of Outstanding Natural Beauty Supplementary Planning Guidance (SPG), April 2018

3.2.5 This SPG⁷ was produced jointly by Denbighshire, Flintshire and Wrexham County Councils, as well as the Clwydian Range and Dee Valley National Landscape Partnership. It aims ‘to heighten awareness of the importance of the National Landscape, and, in so doing, raise the standard of new development and landscape design’. It provides some general design principles for proposed development within or indirectly affecting the National Landscape.

3.2.6 Specifically in relation to mineral extraction, the SPD notes:

‘Key Characteristics

- *There are a number of relic quarries, rock outcrops, spoil mounds and trackbeds within the area which now after many years of weathering, naturalisation and in places restoration have become part of the historical and cultural story of the area.*
- *Active quarrying lies outside of the AONB, but close enough to influence views from the area, for example sand and gravel extraction at Aberwheeler.*

Development management considerations

- *There are a number of active quarries within and adjacent to the area. Long term planning for landscape integration along the boundaries of such developments is necessary, with landscape schemes implemented as part of advance works with ongoing management.*
- *The reuse of sites for waste management and industrial activities need to avoid impacts upon tranquillity.*
- *Recreational use of disused sites should promote the quiet enjoyment of the countryside.’ (Pages 13-14)*

Planning for the Dark Night Sky Supplementary Planning Guidance for lighting in the Clwydian Range and Dee Valley Area of Outstanding Natural Beauty, June 2022

3.2.7 This SPG⁸ was also produced jointly by Denbighshire, Flintshire and Wrexham County Councils, as well as the Clwydian Range and Dee Valley National Landscape Partnership. It provides ‘guidance to lighting design for the protection of the dark night sky of the Clwydian Range and Dee Valley AONB. The Guidance enables developers and planners to design,

⁷ Denbighshire, Flintshire and Wrexham County Councils, Clwydian Range and Dee Valley NL Partnership (2018). Clwydian Range and Dee Valley Area of Outstanding Natural Beauty SPG. Available at: <https://www.denbighshire.gov.uk/en/documents/planning-and-building-regulations/ldp/supplementary-planning-guidance/adopted-spg-documents/clwydian-range-and-dee-valley-area-of-outstanding-natural-beauty.pdf>

⁸ Denbighshire, Flintshire and Wrexham County Councils, Clwydian Range and Dee Valley NL Partnership (2018). Planning for the Dark Night Sky Supplementary Planning Guidance for lighting in the Clwydian Range and Dee Valley Area of Outstanding Natural Beauty. Available at: <https://www.flintshire.gov.uk/en/PDFFiles/Planning/Adopted-SPGNs/SPGN-Planning-for-Dark-Night-Skies.pdf>

submit and assess lighting schemes that are appropriate to the landscape, whether planning permission is a requirement or not’.

Denbighshire Trees and Landscaping SPG, July 2016

- 3.2.8 This SPG⁹ provides guidance on the incorporation of existing and new trees and other landscape treatments within new developments.

3.3 Local Guidance

- 3.3.1 In addition to the policy documents identified above, there are relevant local guidance and baseline documents as follows:

- LANDMAP¹⁰, 2024;
- Clwyd Landscape Assessment, 1995¹¹;
- Denbighshire Landscape Strategy, 2003¹²;
- Conwy and Denbighshire Landscape Sensitivity and Capacity Assessment For Wind Energy Development, May 2013¹³; and
- Wrexham Landmap Supplementary Planning Guidance, March 2007¹⁴.

LANDMAP (latest update March 2024)

- 3.3.2 LANDMAP has been produced by Natural Resources Wales (NRW) as a country-wide landscape resource; recording landscape characteristics, qualities and influences on the landscape in a nationally consistent dataset. Para 6.3.19 on Page 143 of PPW Edition 12 (Feb 2024) provides the following description of LANDMAP:

‘LANDMAP is an important information resource, methodology, and monitoring baseline for the landscapes of Wales, which can help inform planning for the sustainable management of resources in an area. LANDMAP describes and evaluates the physical, ecological, visual,

⁹ Denbighshire County Council (2016). Trees and Landscaping SPG. Available at: <https://www.denbighshire.gov.uk/en/documents/planning-and-building-regulations/ldp/supplementary-planning-guidance/adopted-spg-documents/trees-landscaping.pdf>

¹⁰ Natural Resources Wales (2024). Using LANDMAP in Landscape and Visual Impact Assessments GN46. Available at: <https://naturalresources.wales/guidance-and-advice/business-sectors/planning-and-development/evidence-to-inform-development-planning/using-landmap-in-landscape-and-visual-impact-assessments-gn46/?lang=en#>

¹¹ Clwyd County Council (1995). Clwyd Landscape Assessment. Not available online

¹² Denbighshire County Council (2003). Denbighshire Landscape Strategy. Not available online

¹³ Conwy County Council and Denbighshire County Council (2013). Conwy and Denbighshire Landscape Sensitivity and Capacity Assessment For Wind Energy Development. Available at: <https://www.denbighshire.gov.uk/en/documents/planning-and-building-regulations/ldp/evidence-monitoring-and-information/conwy-and-denbighshire-landscape-sensitivity-and-capacity-assessment-for-wind-energy-development.pdf>

¹⁴ Wrexham County Council (2007). Wrexham Landmap Supplementary Planning Guidance. Available at: https://www.wrexham.gov.uk/sites/default/files/2022-06/eng - wrexham_landmap.pdf

cultural and historic aspects of the landscapes of Wales, and provided the basis of a consistent, quality assured national approach to landscape assessment.'

3.3.3 LANDMAP Aspect Areas are a series of datasets which in combination, describe the landscape character baseline:

- Visual and Sensory;
- Landscape Habitats;
- Historic Landscape;
- Cultural Landscape; and
- Geological Landscape.

3.3.4 Of these (and as set out in related guidance on the usage of LANDMAP¹⁵), the Visual and Sensory dataset provides the greatest contribution to an LVIA report. Where other datasets contain information that assist in describing the local landscape character, these are referenced in the report and the supporting Appendix 4 which describes the landscape value, susceptibility and sensitivity of the host landscape receptor.

Clwyd Landscape Assessment, 1995

3.3.5 This landscape characterisation study predates LANDMAP and is currently unavailable online. However, it has been used to inform the Conwy and Denbighshire Landscape Sensitivity and Capacity Assessment For Wind Energy Development.

Denbighshire Landscape Strategy, 2003

3.3.6 Also predating LANDMAP, this study is currently unavailable online. However, it has been used to inform the Conwy and Denbighshire Landscape Sensitivity and Capacity Assessment For Wind Energy Development.

Conwy and Denbighshire Landscape Sensitivity and Capacity Assessment For Wind Energy Development, May 2013

3.3.7 Whilst primarily related to landscape sensitivity to wind development, as part of the assessment process this report synthesises landscape character information from studies which are not available online to form landscape units. These are presented alongside their key characteristics, which have been linked to the available LANDMAP data, thus updating the 1995 and 2003 studies. This forms the most up-to-date published landscape information for the county.

¹⁵ Natural Resources Wales (2024). Using LANDMAP in Landscape and Visual Impact Assessments GN46. Available at: <https://naturalresources.wales/guidance-and-advice/business-sectors/planning-and-development/evidence-to-inform-development-planning/using-landmap-in-landscape-and-visual-impact-assessments-gn46/?lang=en#>

Application of this guidance to this LVIA report

- 3.3.8 Landscape Units and corresponding key characteristics as set out within the Conwy and Denbighshire Landscape Sensitivity and Capacity Assessment For Wind Energy Development are adopted as appropriate baseline descriptors for the landscape within the Site and the part of the Study Area within Denbighshire. These Landscape Units are reviewed against current LANDMAP data and on-site conditions during baseline study, with any amendments recorded within section 6.4. This ensures that the key characteristics reflect the current landscape condition.
- 3.3.9 Within Flintshire, there is not a published local landscape character assessment. Therefore, within the part of the study area within Flintshire, the boundary for the landscape units for baseline description will be the Visual and Sensory aspect areas from LANDMAP. The characteristics of the other aspect areas will be used alongside those from the Visual and Sensory aspect area to build up key characteristics for the baseline study.

3.4 Local policy and guidance considerations

- 3.4.1 The design response to the considerations set out in the policies and guidance identified above is reviewed in section 5.2 of this assessment. Effects on landscape character and views (including Clwydian Range and Dee Valley National Landscape that the site lies within) are considered within sections 4 and 6 of this chapter.

4 BASELINE

4.1 Introduction

- 4.1.1 An overview of the baseline study results is provided in this section with the full baseline description of the individual landscape and visual receptors being provided alongside the assessment in section **Error! Reference source not found.** for ease of reference.
- 4.1.2 This section provides a review of the key local baseline studies and guidance documents and identifies those landscape and visual receptors which merit detailed consideration in the assessment of effects, and those which are not taken forward for further assessment as effects *“have been judged unlikely to occur or so insignificant that it is not essential to consider them further”* (GLVIA3, para. 3.19).
- 4.1.3 Both this baseline section and the effects section describe landscape character and visual receptors before considering designated areas as it is common for designations to encompass both character and visual considerations within their special qualities or purposes of designation.

4.2 ZTV study

- 4.2.1 A Zone of Theoretical Visibility (ZTV) study was generated based on the proposed design. This is shown on Figure LVIA2 and indicates areas of potential visibility. The analysis was carried out using a topographic model and including buildings and trees (buildings modelled with an assumed height of 7.5m and woodland with an assumed height of 15m) as visual barriers in order to provide a more realistic indication of potential visibility.

- 4.2.2 The ZTV study was used to aid the identification of those receptors that are likely to be most affected by the proposed development and those that do not require detailed consideration.
- 4.2.3 The ZTV for the proposed development (Figure LVIA2) shows that the main area of visibility is mostly confined to the area immediately surrounding the Site and out to approximately 2 km east, west and south. There would be very limited visibility to the north within 2 km of the Site boundary.
- 4.2.4 Beyond 2 km, visibility would extend in a more fragmented pattern to higher ground in the west, south and east (approximately 4-5 km from the Site boundary), with very little visibility elsewhere.
- 4.2.5 Existing tree cover and built form in the study area has a notable effect on visibility, limiting views of the Site. In places, site visit work indicated that screening by smaller trees and hedgerows has not been fully reflected by the modelling and that visibility is likely to be slightly less than indicated by the ZTV study.
- 4.2.6 Effects on landscape or visual receptors outside the areas of visibility shown on the ZTV study would be Negligible and are not assessed in detail.

4.3 Landscape Character

- 4.3.1 Landscape Units in the study area are shown on Figure LVIA5. As noted in section 3.3.8 above, character for the part of the study area in Denbighshire is described in Conwy and Denbighshire Landscape Sensitivity and Capacity Assessment For Wind Energy Development, May 2013. Relevant extracts from this document are included as Appendix 4 to this assessment. As noted in 3.3.9, the landscape character in Flintshire for this LVIA is based on the boundaries of Visual and Sensory aspect areas, taking into account key characteristics from across all aspect areas. Again, relevant extracts from LANDMAP are included within Appendix 4.
- 4.3.2 Within the Conwy and Denbighshire Landscape Sensitivity and Capacity Assessment For Wind Energy Development, the site shares boundaries with two individual character areas. It is located within the B1: Gritstone Hills (Graianrhyd) landscape unit; with the western edge of the Site situated within the C2: Limestone Farmlands (Llandegla to Maeshafn) landscape unit. B1: Gritstone Hills (Graianrhyd) is described as a medium scale landscape comprising gently undulating landform; a mosaic of pastures and broadleaved woodland; and man-made influence including scattered settlement, pylons and quarrying activities. By contrast, C2: Limestone Farmlands (Llandegla to Maeshafn) is a medium to large scale strongly undulating upland limestone landscape comprising undulating farmland, wooded hillside and small dispersed settlements; the LCA contains two quarries with limited local influence.
- 4.3.3 The ZTV shows visibility of the site within 5km from an additional four character areas in Denbighshire and nine LANDMAP Visual and Sensory aspect areas in Flintshire / Wrexham. These are:
- B4 Hill Slopes (Clwydian Range Hill Slopes);
 - D12 Moorland Plateau (Cym y Brain – Eglwyseg Mountains);
 - D13 Moorland Ridge (Clwydian Ridgeline);

- D14 Moorland Ridge (Llantysilio Ridgeline);
- FLNTVS094 (Maesgwyn limestone plateau/hill fringes);
- FLNTVS067 (Nercwys limestone edge);
- FLNTVS071 (Treuddyn rolling farmland);
- FLNTVS006 (unnamed);
- FLNTVS091 (Mold southern fringe farmland);
- WRXHMVS011 (Minera Limestone Scarp);
- WRXHMVS012 (West of Bwlchgwyn);
- WRXHMVS077 (Heatherfield west of Bwlchgwyn); and
- WRXHMVS078 (Minera Limestone Quarry).

4.3.4 Effects on the following character areas are considered within section 7, with baseline description provided alongside the assessment of effects for ease of reference:

- B1: Gritstone Hills (Graianrhyd); and
- C2: Limestone Farmlands (Llandegla to Maeshafn).

4.3.5 Apart from these two character areas, the presence of intervening vegetation and limited visibility mean that indirect landscape effects will diminish with distance; therefore, more distant character areas and aspect areas are not considered further.

4.4 Visual Receptors

4.4.1 Visual receptors are '*the different groups of people who may experience views of the development*' (GLVIA, 3rd edition, para 6.3). In order to identify those groups who may be significantly affected the ZTV study, baseline desk study and site visits have been used.

4.4.2 The different types of groups assessed within this chapter encompass local residents; people using key routes such as roads; cycle ways, people within accessible or recreational landscapes; people using Public Rights of Way; or people visiting key viewpoints. In dealing with areas of settlement, Public Rights of Way and local roads, receptors are grouped into areas where effects might be expected to be broadly similar, or areas which share particular factors in common.

4.4.3 Representative viewpoints have been selected to aid the assessment of effects on visual receptors.

Baseline Visual Environment

4.4.4 As shown on Figure LVIA3, the site is located immediately north of the village of Graianrhyd; it occupies two parcels of land to the east of the road linking Graianrhyd and Eryrys. The

area around the site is characterised by undulating pastoral farmland divided by hedgerows, with isolated and clustered settlement throughout the landscape. The former quarry workings within the site can be seen from locations to the south and west in particular, comprising partially regenerated woodland, exposed mineral faces and stockpiles. The study area includes multiple public rights of way, including the Offa's Dyke National Trail; as well as areas of open access land.

Visual Receptor Groups

4.4.5 The following visual receptor groups are located within the study area and are likely to have visibility of the proposed development, as shown on the ZTV study on Figures LVIA1-2 and are considered further in section 6.4.10:

- **Maes Y Droell and Mynydd Du** (0-0.3 km, north of the site)
- **Pen-y-Foel** (0-0.1 km, east of the site)
- **Graianrhyd** (0-0.5 km, south of the site)
- **Rhydtalog** (1-2 km, south-east of the site)
- **Llyn Cyfynwy and Moel Garegog open access land** (1-3 km, south of the site)
- **Clwydian Range** (3-5 km, west of the site)

4.4.6 There are also a number of receptor groups which are excluded from the detailed assessment, on the basis that visual effects are likely to be Negligible, for the reasons indicated below:

- **Treuddyn and Pant-y-ffordd** (2-4 km, north-east of the site) – Trees and hedgerows (not included in the ZTV study) in the landscape, including along roadsides limit views alongside terrain such that the proposals are unlikely to be seen except perhaps for glimpsed views from very limited locations.
- **Four Crosses** (4-5 km, south-east of the site) – Visibility towards the site would be largely prevented by a combination of trees and hedgerows (not included in the ZTV study) and terrain. In views where it is seen the proposed development would be a distant element filtered by intervening vegetation.

Key routes

4.4.7 As shown on Figure LVIA3, the following longer distance routes lie within the study area:

Recreational Routes

4.4.8 **Offa's Dyke Path National Trail** (3-5 km west of the site) - This route runs along the Clwydian Range within the study area and forms part of a wider 285 km route linking the Severn estuary to Prestatyn. It has associations with King Offa and the dyke that he had constructed in the 8th century. As shown by the ZTV study, there would be occasional sections of the route where visibility (within 5 km of site) is likely when the oblique and occasionally panoramic views from the path obtained on the hill slopes to the east of the Clwydian Range offer views of the site. The extent of this receptor within the study area largely correlates with the Clwydian Range receptor group outlined above; thus these receptors will be assessed together.

4.5 Landscape Designations and Value

Clwydian Range and Dee Valley National Landscape

- 4.5.1 As illustrated on Figure LVIA4, the northern part of the Site and much of the study area lies within the Clwydian Range and Dee Valley National Landscape (formerly Area of Outstanding Natural Beauty or AONB), which runs from Prestatyn in the north to Llangollen in the south. The National Landscape largely lies in Denbighshire, but its eastern fringe is in Flintshire and southern extent in Wrexham.
- 4.5.2 The Clwydian Range and Dee Valley National Landscape Partnership have prepared the Clwydian Range and Dee Valley AONB Management Plan Review 2020 – 2025 (2022)¹⁶; within this report they have set out the special qualities of the National Landscape. The following special qualities of the National Landscape are considered to be relevant to the Site and the Study Area:
- Landscape Character and Quality
 - Tranquillity
 - Remoteness and Wildness, Space and Freedom
 - Habitats and Wildlife
 - Heather Moorland and Rolling ridges
 - Broadleaved Woodlands and Veteran Trees
 - River Valleys and the River Dee
 - Limestone Grasslands, Cliffs and Screes
 - Historic Environment
 - Historic Settlement and Archaeology
 - Industrial Features and the World Heritage Site
 - Small historic features
 - Traditional boundaries
 - Access, Recreation and Tourism
 - The Offa's Dyke National Trail and Promoted Routes

¹⁶ Clwydian Range and Dee Valley National Landscape Partnership (2022). Clwydian Range and Dee Valley AONB Management Plan Review 2020 – 2025. Available at: <https://www.clwydianrangeanddeevalleyaonb.org.uk/wp-content/uploads/2024/09/Management-Plan-EN.pdf>

- Culture and People
 - The Built Environment

4.5.3 Due to the Site's partial location within – and proximity to – the Clwydian Range and Dee Valley National Landscape, effects of the proposed development upon its special qualities will be assessed further as part of this LVIA.

Proposed Glyndŵr National Park

4.5.4 In addition to the Clwydian Range and Dee Valley National Landscape, much of the study area is also under consideration for designation as part of the proposed Glyndŵr National Park. Within the study area, the boundary of the proposed National Park mirrors that of the National Landscape, as shown on Figure LVIA4.

4.5.5 At time of writing, the National Park proposal is at statutory consultation; several supporting evidence base documents have been produced including reports on proposed special qualities¹⁷, forces for change¹⁸ and evaluation areas¹⁹ (the latter used to refine the boundary of the proposed National Park).

4.5.6 The National Park is not currently designated, and the special qualities described for the National Landscape are considered to be of greater detail and more relevant to the study area than the proposed National Park special qualities. As such, those that relate to the National Landscape are taken forward to assessment as a representation of the effects on the both the National Landscape and the future National Park, should the latter be designated.

4.5.7 The following proposed special qualities of the proposed National Park are considered to be relevant to the Site and the Study Area:

- “An inspiring space that promotes mental, physical and spiritual health and wellbeing – this reflects the experience of the landscape and the access and recreation opportunities it provides.
- A place with cohesive communities and distinctive settlement patterns – this reflects the cultural associations, events and language of the area both past and present.
- A story of human interaction with the landscape over millennia – this reflects the historic features of the landscape, including physical features and associations.

¹⁷ Craggatak Consulting (2024). Identification of the special qualities of the area of search for a potential new National Park in North East Wales. Available online at: https://ymgyngghori.cyfoethnaturiol.cymru/north-east-gogledd-ddwyrain/new-national-park-proposal-information-page-wales/user_uploads/nrw-special-qualities-report.pdf

¹⁸ LUC (2024). Forces for Change for North East Wales National Park Area of Search. Available online at: https://ymgyngghori.cyfoethnaturiol.cymru/north-east-gogledd-ddwyrain/new-national-park-proposal-information-page-wales/user_uploads/luc---forces-for-change_final.pdf

¹⁹ Gillespies (2024). A Proposed National Park for Wales – Evaluation Report. Available online at: https://ymgyngghori.cyfoethnaturiol.cymru/north-east-gogledd-ddwyrain/proposed-national-park-statutory-consultation-2025/user_uploads/a-proposed-national-park-for-wales---evaluation-report---citizen-sp.pdf

- A home to internationally and locally important species and habitats – this reflects the diversity of species and habitats both in protected areas and in the wider landscape.
- A distinctive, complementary and contrasting landscape – this reflects the key landscape features and experiential qualities of the area.
- A landscape providing benefits beyond its borders – this reflects the ecosystem services provided by the area.”

4.5.8

In addition to the Special Qualities, Forces for Change have been identified within the Area of Search for the proposed National Park. Forces for Change which are relevant to the Site, Proposed Development and Study Area are set out in comparison to the Special Qualities in Table 4.1.

Table 4.1: Forces for Change compared to Special Qualities of the proposed Glyndŵr National Park

Special Quality	Relevant Forces for Change
An inspiring space that promotes mental, physical and spiritual health and wellbeing	• New development, depending on the location, scale and character can complement or detract from the landscape experience. • Incremental change can see traditional rural villages evolve and become more suburban and urban in character. Additional lighting, can also alter the dark sky character of the area.
A place with cohesive communities and distinctive settlement patterns	• Development may not always in sympathy with the local landscape character and settlement pattern.
A story of human interaction with the landscape over millennia	• n/a
A home to internationally and locally important species and habitats	• New development (... minerals) will in the main avoid or mitigate for direct, indirect and cumulative effects.
A distinctive, complementary and contrasting landscape	• New built development (housing, renewables, commercial, tourism transport and minerals) introduces change that can affect rural character, visual amenity, the settings of historic features and perceptions of tranquillity and wildness. Good siting, design and integration can resolve many of these issues ... large/extensive industrial type development are more difficult to integrate. Nighttime lighting can affect perceptions of dark skies and removal from developed areas.
A landscape providing benefits beyond its borders	• ...Development of ... mineral extraction and quarrying will enhance the provision of energy and raw materials/mineral resources. • Changes in land management, and associated changes to the landscape may impact on the recreational experience positively or negatively through increases or decreases in different land management activities...

5 THE PROPOSED DEVELOPMENT

5.1 The Proposal

5.1.1 The proposed quarrying within the site boundary is to take place in four phases, followed by restoration of the site. These phases are set out as follows:

- Phase 1 (both sites) – Extraction to take place in the southern half of the south site (continuing the existing void), with backfilling along the western slope of the void. Previous stockpiles in the north of the south site reworked/processed and material stockpiled. Stockpiling in the north of the south site and a processing area to the far north-east of the south site. Advance planting of screening vegetation (both sites) and creation of screening bunding (north site) undertaken for later phases. Habitat creation and protection measures undertaken in the far north-east of the south site and in the north-east of the north site.
- Phase 2 (south site only) – Extraction to take place in north-eastern part of south site, with processing area retained in the far north-east. Stockpiling area to north-west of south site; backfilling to take place along eastern, northern and south-western face of the Phase 1 void.
- Phase 3 (south site only) – Extraction to the north-west of the south site, with backfilling along the eastern and northern void faces of Phase 2. Processing area retained in the far north-east.
- Phase 4 (both sites) – Extraction in the western two-thirds of the north site, with backfilling on the eastern face of the Phase 2 void and within the lower slopes and base of the Phase 1 void in the south site. Restoration of the Phase 3 void in the south site with broadleaved woodland, wetland/ephemeral scrapes (with marginal zone), and heath and acid grassland mosaic.
- Restoration – Restoration to the base of the Phase 4 void and to the south-west of the north site with upland oak/birch scrub interspersed with patches of open wet heath and grassland mosaic, featuring occasional shallow waterbody scrapes. Restoration of the Phase 1 void in the south site with broadleaved woodland, wetland/ephemeral scrapes (with marginal zone), and heath and acid grassland mosaic. Restoration of the Phase 2 area in the south site with broadleaved woodland and wetland/ephemeral scrapes with marginal zone.

5.2 Design Approach and Mitigation

5.2.1 The design approach has prioritised minimising the visibility of the proposed development, impacts upon landscape character and views from nearby residents, road users, PRoW, and recreational users.

5.2.2 Mitigation to be implemented at the outset and during the operations includes:

- 4m high noise screening bunds along the eastern and north-western boundaries of the south site;
- Permanent screening bund along the southern boundary of the north site adjacent to the cemetery to mitigate these close-range views (to be implemented during initial operations)

in the south site). The bund would be seeded and planted with advance tree and shrub planting and as vegetation establishes on the bund, its appearance would be softened;

- Advance planting and gap planting of trees and shrubs along the northern, eastern and western boundaries of the south site to filter and screen views of the site and proposed development from surrounding residents and public rights of way;
- Lighting to be minimised across the site, designed to ensure minimal light-spill and used within working hours only primarily in the processing area, or task-specific lighting;
- Progressive restoration would be carried out throughout the proposed phased operations to minimise extent of operations within the landscape.

5.2.3 As an enhancement to the site and its context, it is also proposed to enhance the footpath on the south-eastern boundary of the south site (Denbighshire Footpath 515/15) by thinning adjacent scrub. This will improve access for users of the footpath, which at present is narrow and restricted in places by adjacent thorny vegetation as shown in Figure 5.1.

Figure 5.1 View along Denbighshire Footpath 515/15 showing restricted access



6 LANDSCAPE AND VISUAL EFFECTS

6.1 Introduction

- 6.1.1 This section sets out the effects that the proposed development would have on landscape and visual receptors.
- 6.1.2 Effects during each phase and for the restored site are considered for each landscape and visual receptor.

- 6.1.3 Where effects on receptors are judged to be not significant, they are described in detail in Appendix 5 and summarised in the relevant sections below.

6.2 Effects on Site Fabric

- 6.2.1 The mineral extraction activity within the site will alter both the south site and the north site during extraction and restoration. Some limited woodland and scrub vegetation would be removed to facilitate extraction, particularly along the eastern boundary of the south site and within the extent of the north site. The landform within the site would change and landcover would change from disturbed land with regenerative scrub and woodland to active quarry workings during the extraction phases. The addition of limited lighting to the site would slightly increase the amount of lighting within the site, but would be designed to be minimal and task-focused.
- 6.2.2 Progressive restoration would occur whereby working areas would be partially restored while allowing access to successive extraction phases. The restoration of the quarry void areas would involve regrading of the land profile alongside mitigation planting. This mitigation planting would restore some of the lost woodland and scrub, as well as adding new landscape fabric in the form of open wet heath and grassland mosaic, with occasional shallow waterbody scrapes. This new landscape fabric would typically be located within remaining voids.
- 6.2.3 Overall, whilst there would be a slight reduction in landform, there would be an increase in habitats including native woodland copses, tree planting, scrub and wet scrub and grassland. The restoration would tie in well with the surrounding landscape with species chosen to reflect the landscape character whilst providing foraging opportunities for invertebrates, birds and mammals. Permanent post restoration effects on the landscape fabric would be considered neutral to beneficial in nature, primarily as a result of the establishment of new habitats which would result in enhancements to amenity, character and biodiversity.

6.3 Viewpoint Analysis

- 6.3.1 Viewpoint analysis has been undertaken from a total of 11 viewpoints. The final list of viewpoints was prepared following consultation with NWMWPS and NRW. For details of the viewpoint locations suggested for inclusion by NWMWPS and NRW but excluded from our analysis, and the reasons why, please refer to Appendix 5.
- 6.3.2 The viewpoint locations are illustrated on Figures LVIA6.1 – LVIA6.11. The visualisations (comprising photographs of the existing view, wireframes and photomontages) are illustrated with reference to Viewpoints 1 to 11.
- 6.3.3 The full viewpoint analysis is contained within Appendix 5. The findings are summarised below in Table 6.1. In each case, distances are listed in relation to the nearest part of the site boundary.
- 6.3.4 Please note that Appendix 5 considers the nature and the scale of changes to character and views at each viewpoint location only. The sensitivity of receptors and wider extent of the effect (beyond the individual viewpoint location) and its duration are considered in the main body of the assessment text below as part of the consideration of the magnitude and significance of effects.

Table 6.1 Viewpoint analysis summary

Viewpoint No.	Viewpoint (Landscape Character Area / Unit)	Distance / direction	Scale of Landscape Effect	Scale of Visual Effect
1	Denbighshire Footpath 515/18 (C2 Limestone Farmlands (Llandegla to Maeshafn))	0 m to the north of the site	Phase 1: Negligible Phase 2: Negligible Phase 3: Negligible Phase 4: Large Restoration: Medium	Phase 1: Negligible Phase 2: Negligible Phase 3: Negligible Phase 4: Medium Restoration: Medium
2A	Denbighshire Bridleway 515/17 (looking north) (B1 Gritstone Hills (Graianrhyd))	0 m to the south of the site	Phase 1: Negligible Phase 2: Negligible Phase 3: Negligible Phase 4: Large Restoration: Medium	Phase 1: Negligible Phase 2: Negligible Phase 3: Negligible Phase 4: Large Restoration: Medium
2B	Denbighshire Bridleway 515/17 (looking south) (B1 Gritstone Hills (Graianrhyd))	0 m to the north of the site	Phase 1: Large Phase 2: Large Phase 3: Large Phase 4: Large Restoration: Medium	Phase 1: Large Phase 2: Large Phase 3: Large Phase 4: Large Restoration: Medium
3	Junction of Denbighshire Footpath 515/15 and Denbighshire Footpath 515/87 adjacent to eastern Site boundary (B1 Gritstone Hills (Graianrhyd))	25 m to the east of the site	Phase 1: Medium Phase 2: Medium Phase 3: Medium Phase 4: Medium Restoration:	Phase 1: Medium Phase 2: Medium Phase 3: Medium Phase 4: Medium Restoration:

Viewpoint No.	Viewpoint (Landscape Character Area / Unit)	Distance / direction	Scale of Landscape Effect	Scale of Visual Effect
			Small/ Negligible	Small/ Negligible
4	Denbighshire Bridleway 515/20 (C2 Limestone Farmlands (Llandegla to Maeshafn))	200 m to the north-west of the site	Phase 1: Small Phase 2: Small Phase 3: Small Phase 4: Small Restoration: Negligible	Phase 1: Small Phase 2: Small Phase 3: Small Phase 4: Small Restoration: Negligible
5	Denbighshire Footpath 515/10 (C2 Limestone Farmlands (Llandegla to Maeshafn))	425 m to the south-west of the site	Phase 1: Medium Phase 2: Medium Phase 3: Medium Phase 4: Medium Restoration: Small	Phase 1: Medium Phase 2: Medium Phase 3: Medium Phase 4: Medium Restoration: Small
6	Denbighshire Footpath 517/28, Llyn Cyfynwy (D12 Moorland Plateau (Cyrn y Brain – Eglwyseg Mountains))	1.3 km to the south of the site	Phase 1: Small Phase 2: Small Phase 3: Small Phase 4: Medium Restoration: Small	Phase 1: Small Phase 2: Small Phase 3: Small Phase 4: Medium Restoration: Small
7	Llanfynydd Bridleway 42 (FLNTVS071)	2.6 km to the south-east of the site	Phase 1: Negligible Phase 2: Negligible Phase 3: Negligible Phase 4:	Phase 1: Small Phase 2: Small Phase 3: Negligible Phase 4:

Viewpoint No.	Viewpoint (Landscape Character Area / Unit)	Distance / direction	Scale of Landscape Effect	Scale of Visual Effect
			Negligible Restoration: Negligible	Negligible Restoration: Negligible
8	Offa's Dyke Path (Denbighshire Footpath 521/73) (D13 Moorland Ridge (Clwydian Ridgeline))	4.8 km to the west of the site	Phase 1: Small Phase 2: Small Phase 3: Small Phase 4: Small Restoration: Negligible	Phase 1: Small Phase 2: Small Phase 3: Small Phase 4: Small Restoration: Negligible
9	Treuddyn Footpath 10 (FLNTVS071)	2.7 km to the north-east of the site	Phase 1: Negligible Phase 2: Negligible Phase 3: Negligible Phase 4: Negligible Restoration: Negligible	Phase 1: Negligible Phase 2: Negligible Phase 3: Negligible Phase 4: Negligible Restoration: Negligible
10	Denbighshire Footpath 515/88 on Moel Llanfair (D13 Moorland Ridge (Clwydian Ridgeline))	4.4 km to the west of the site	Phase 1: Small Phase 2: Small Phase 3: Small Phase 4: Small Restoration: Negligible	Phase 1: Small Phase 2: Small Phase 3: Small Phase 4: Small Restoration: Negligible
11	Summit of Moel Gyw (D13 Moorland Ridge (Clwydian Ridgeline))	4.4 km to the north-west of the site	Phase 1: Small Phase 2: Small Phase 3: Small Phase 4:	Phase 1: Small Phase 2: Small Phase 3: Small Phase 4:

Viewpoint No.	Viewpoint (Landscape Character Area / Unit)	Distance / direction	Scale of Landscape Effect	Scale of Visual Effect
			Small Restoration: Negligible	Small Restoration: Negligible

6.3.5 Each of the viewpoints is a 'sample' of the potential effects, representing a wide range of receptors - including not only those actually at the viewpoint, but also those nearby, at a similar distance and/or direction. From these viewpoints it can be seen that the distribution of effects would be as follows:

6.3.6 Effects on character:

- Large scale effects from the addition of mineral extraction, as well as changes to landform and removal of regeneration vegetation would be limited to within the site itself and within 100 m of the site boundary, where the proposed development would become a prominent feature of the landscape. How rapidly effects diminish beyond the site depends on the scale of development, the context and visibility of the proposal.
- Effects would reduce to a maximum of medium scale within up to 1.5 km from the site boundary. In this area, the addition of mineral extraction (including associated movement and loss of tranquillity) would be notable at most.
- Effects on landscape character are judged to be either small or negligible beyond 1.5 km these areas there would be less intervisibility with the site and the prominence of the proposed development within the wider landscape character would diminish with distance.
- Effects on character, outside of the site itself, would generally be more pronounced at the beginning of each phase, becoming less so as the quarrying moves into the void. At restoration, proposed planting reflects the character of other vegetation in the existing landscape and integrates the site into its surroundings. There would, however, be permanent effects on landform and some skylines.
- At night, there would be minimal addition of lighting over and above that within the baseline, which would give a limited increase in the perception of lighting and built form in the site and up to 500m from its boundary.

6.3.7 Effects on views:

- The extent of large-scale visual effects, where the proposed development would form a major alteration to key elements, features, qualities and characteristics of the view such that the baseline will be fundamentally changed, would generally be limited to locations within or on roads and public rights of way immediately adjacent to the site.
- Beyond this area, medium scale visual effects would arise within up to 1.5 km, decreasing to small scale beyond as the proposed quarry generally forms a smaller element of these views and is increasingly filtered and screened by intervening vegetation.
- Beyond approximately 1.5 km from the site boundary, the proposed development is increasingly only seen from higher ground such as the Clwydian Range and typically

screened or filtered by a combination of landform and vegetation elsewhere. Visual effects reduce to between Small and Negligible in scale.

- At night, there would be the addition of further minimal lighting within the site to some views.

6.4 Effects on Landscape Character

6.4.1 Descriptions for each of the assessed character areas are briefly summarised below, along with further observations from site-based work.

6.4.2 Effects on the following character areas and LANDMAP Visual and Sensory Units are assessed to be not significant and are described where appropriate within Appendix 5;

- **B4 Hill Slopes (Clwydian Range Hill Slopes)** (2.5 km+ west of the site) – some limited intervisibility between the LCA and the site, however distance of LCA from the site means indirect effects are limited;
- **D12 Moorland Plateau (Cym y Brain – Eglwyseg Mountains)** (1 km+ south of the site) – some limited intervisibility between the LCA and the site, however presence of intervening landform and vegetation (and in places, distance from the site) means indirect effects are limited;
- **D13 Moorland Ridge (Clwydian Ridgeline)** (3.5 km+ west of the site) - some intervisibility between the LCA and the site, however distance of LCA from the site means indirect effects are limited;
- **D14 Moorland Ridge (Llantysilio Ridgeline)** (3 km+ south of the site) – some limited intervisibility between the LCA and the site, however distance of LCA from the site means indirect effects are limited;
- **FLNTVS094 (Maesgwyn limestone plateau/hill fringes)** (0.5-1.5 km north-east of the site) - some limited intervisibility between the LANDMAP Visual & Sensory Unit and the site, however presence of intervening landform and vegetation means that indirect effects are limited;
- **FLNTVS067 (Nercwys limestone edge)** (1 km+ north-east of the site) - some intervisibility between the LANDMAP Visual & Sensory Unit and the site, however presence of intervening landform and vegetation (and in places, distance from the site) means that indirect effects are limited;
- **FLNTVS071 (Treuddyn rolling farmland)** (1.5 km+ east of the site) - some intervisibility between the LANDMAP Visual & Sensory Unit and the site, however presence of intervening landform and vegetation (and in places, distance from the site) means that indirect effects are limited;
- **FLNTVS006 (unnamed)** (1.5 km+ south-east of the site) - some intervisibility between the LANDMAP Visual & Sensory Unit and the site, however presence of intervening landform and vegetation (and in places, distance from the site) means that indirect effects are limited;

- **FLNTVS091 (Mold southern fringe farmland)** (3 km+ north-east of the site) - some intervisibility between the LANDMAP Visual & Sensory Unit and the site, however distance of LANDMAP Visual & Sensory Unit from the site means indirect effects are limited;
- **WRXHMVS011 (Minera Limestone Scarp)** (4.5 km+ south-east of the site) - some limited intervisibility between the LANDMAP Visual & Sensory Unit and the site, however distance of LANDMAP Visual & Sensory Unit from the site means indirect effects are limited;
- **WRXHMVS012 (West of Bwlchgwyn)** (3.5-4.5 km south-east of the site) - some intervisibility between the LANDMAP Visual & Sensory Unit and the site, however distance of LANDMAP Visual & Sensory Unit from the site means indirect effects are limited;
- **WRXHMVS077 (Heatherfield west of Bwlchgwyn)** (4.5 km+ south-east of the site) - some intervisibility between the LANDMAP Visual & Sensory Unit and the site, however distance of LANDMAP Visual & Sensory Unit from the site means indirect effects are limited; and
- **WRXHMVS078 (Minera Limestone Quarry)** (4.5 km+ south-east of the site) - some limited intervisibility between the LANDMAP Visual & Sensory Unit and the site, however distance of LANDMAP Visual & Sensory Unit from the site means indirect effects are limited.

B1: Gritstone Hills (Graianrhyd)

- 6.4.3 As shown on Figure LVIA5, this character area includes the eastern three-quarters of both the south site and the north site; it extends up to approximately 1 km to the south and east.
- 6.4.4 Key characteristics are identified within the Conwy and Denbighshire Landscape Sensitivity and Capacity Assessment for Wind Energy Development as:
- *'Medium scale landscape*
 - *Scattered settlement'*
- 6.4.5 The document then goes on to set out characteristics of the landscape unit; these comprise:
- *'Medium scale landscape*
 - *Gently undulating landform*
 - *Landcover comprises a mosaic of pastures and broadleaved woodland*
 - *Man-made influences include the local road network, scattered settlement pattern, pylon lines and quarrying activities*
 - *This landscape unit is not seen as a skyline feature. Pylon lines interrupt skylines in places*
 - *Infrequent road traffic and quarrying activities bring occasional movement to this relatively still landscape unit*

- *Views are typically enclosed and filtered by landform and vegetation. There are some longer views to and from the Clwydian Range and Gritstone Hills*
- *Typical receptors ... include occupiers, users and visitors to the following:*
 - *Scattered properties*
 - *Open Access Areas in adjacent landscape units*
 - *Local attractions and public rights of way*
 - *The local road network*
- *There is a strong association between this landscape unit and the Clwydian Range and Gritstone Hills*
- *Views to and from important landscapes and cultural heritage features ... include:*
 - *The Clwydian Range and Dee Valley AONB [(National Landscape)]*
 - *Open Access Areas*
- *Scenic Quality and Character - Typical Moderate LANDMAP evaluation with some areas Outstanding.*
- *An attractive rural landscape unit with some modern development and human activity. The presence of a quarry lessens the sense of remoteness.'*

- 6.4.6 As identified within Appendix 4, the susceptibility of this character area is judged to be Medium/Low. The key considerations within the landscape which are more susceptible to the proposed development than others are the sense of openness/enclosure, the rural settlement pattern, and the intervisibility and long views between the LCA and the Clwydian Range. As described within Appendix 4, the value of the landscape within this character area/type is judged to be Regional/Community. Elements in the LCA of particular landscape value are the distinctive association with the Clwydian Range; moderate scenic quality; perceptions of wildness and tranquillity; and green infrastructure function. Considering susceptibility and value together the sensitivity is judged to be Medium/Low.
- 6.4.7 As described above in section 6.3 above and in detail within Appendix 5, during extraction, Large scale effects would occur across the site itself; with Medium scale effects taking place in close quarter (within 250 m of the site boundary). These effects would be as a result of the removal of characteristic broadleaved woodland and changes to the undulating landform within the site, as well as an increase to the recorded infrequent quarrying activities in the landscape. The extraction effects would be apparent across a localised extent of the LCA and would be long term in duration. The magnitude of change would be Substantial/Moderate within the site, reducing to Moderate within 250 m of the site boundary. Beyond 250 m from the site boundary, the magnitude of landscape effects would noticeably reduce.
- 6.4.8 Combining the Medium/Low landscape sensitivity and the Substantial/Moderate magnitude of change within the site, the significance of effect during extraction would be

Major/Moderate, significant and, on balance, Adverse. These would reduce to Moderate Adverse within 250 m of the site boundary, and not significant beyond this distance.

- 6.4.9 By restoration, the scale of effects within this LCA in the site boundary would reduce to Medium, with the scale of effects within 250 m of the site boundary reducing to Small/Negligible. In turn, (alongside the permanent nature of the restoration), this would reduce the magnitude of change to Moderate within the site boundary and Slight/Negligible up to 250 m from the site boundary. This would give a significance of effect of Moderate Beneficial within the site and Minor Beneficial within 250 m of the site boundary – neither of these effects would be significant. The effects at restoration are beneficial as restoration would reinforce the characteristic broadleaved woodland and undulating landform, as well as reducing the effect of quarrying on perceived tranquillity.

C2: Limestone Farmlands (Llandegla to Maeshafn)

- 6.4.10 As shown on Figure LVIA5, this character area includes the western quarter of both the south site and the north site; it extends up to approximately 2.5 km to the west, as well as over 5km to the north-west and south-west.
- 6.4.11 Key characteristics are identified within the Conwy and Denbighshire Landscape Sensitivity and Capacity Assessment for Wind Energy Development as:
- *‘Medium to large scale*
 - *Upland limestone landscape*
 - *Undulating farmland’*
- 6.4.12 The document then goes on to set out characteristics of the landscape unit; these comprise:
- *‘Medium to large scale landscape*
 - *Landform is strongly undulating*
 - *Wooded hillside and complex mosaic of outcrops, woodland and fields. A golf course also covers a part of this landscape unit*
 - *A rural landscape with small dispersed settlements and individual farms and cottages linked by a network of minor lanes. Two quarries have limited local influence and one pylon line crosses the very south eastern extremity of the landscape unit*
 - *This landscape is rarely seen as a skyline feature due to the surrounding higher hills, the majority of which form distinctive skylines in the backdrop of views from this landscape unit*
 - *Local traffic introduces some infrequent movement into the landscape*
 - *Visibility is restricted in some places by landform and woodland; however, there are far ranging views from more open and elevated parts (such as Moel Findeg). Moel Famau Jubilee Tower forms a distant focal point along the Clwydian Ridge*

- *These include occupiers, users and visitors to the following:*
 - *Dispersed settlements*
 - *Long distance routes including Offa's Dyke Path national trail, the Clwydian Way and Brenig Way*
 - *Open Access Areas*
 - *Loggerheads Country Park and other local attractions including Moel Famau Jubilee Tower*
 - *Public rights of way*
 - *The local road network*
- *Intervisibility between this landscape unit and the adjacent upland landscapes of the Clwydian Range, Llantysilio Mountain, Bryn Alyn and Moel Gareog is significant. These uplands form distinctive skylines and contain views from the unit; there are many opportunities for long distant views to and from these areas. Landform and woodland within the unit screen views in places*
- *Views to and from Important Landscapes and Cultural Heritage Features ... include:*
 - *The Clwydian Range and Dee Valley AONB*
 - *Offa's Dyke Path national trail.*
 - *Open Access Areas*
 - *Dyffryn Clwyd (The Vale of Clwyd) and Dyffryn Llangollen ac Eglwyseg (Vale of Llangollen and Eglwyseg) Registered Historic Landscapes*
 - *Hillforts*
- *Aesthetic, Perceptual and Experiential Scenic Quality and Character - Typical High-Outstanding LANDMAP evaluation*
- *The sense of remoteness and tranquillity varies across the area. There are some distinct pockets of remoteness and tranquillity, which in other places are reduced by the presence of settlement, the road network and quarrying'*

6.4.13 As identified within Appendix 4, the susceptibility of this character area is judged to be Medium/Low. The key considerations within the landscape which are more susceptible to the proposed development than others are the strongly undulating landform, the sense of openness/enclosure, the rural settlement pattern, and the intervisibility and long views between the LCA and the Clwydian Range. As described within Appendix 4, the value of the landscape within this character area/type is judged to be National. The LCA largely falls within the Clwydian Range and Dee Valley National Landscape. Elements in the LCA of particular landscape value are the National Landscape itself; intervisibility with adjacent upland areas; strong network of public rights of way; High-Outstanding scenic quality; and

green infrastructure function. Considering susceptibility and value together the sensitivity is judged to be Medium.

- 6.4.14 As described above in section 6.3 above and in detail within Appendix 5, during extraction, Large scale effects would occur across the part of the LCA within site itself; with Medium scale effects taking place in close quarter (within 500 m of the site boundary). These effects would be as a result of the change to the characteristic strongly undulating landform and mosaic woodland within the site; within the wider landscape there would also be a perceived increase in quarrying activity and a reduction in perceived tranquillity in the landscape. The extraction effects would be apparent across a limited extent of the wider LCA and would be long term in duration. The magnitude of change would be Moderate within the site, reducing to Moderate/Slight within 500 m of the site boundary. Beyond 500 m from the site boundary, the magnitude of landscape effects would noticeably reduce.
- 6.4.15 Combining the Medium landscape sensitivity and the Moderate magnitude of change within the site, the significance of effect during extraction would be Moderate and, on balance, both significant and Adverse. These would reduce to Moderate/Minor Adverse (not significant) within 500 m of the site boundary, and further reduced and not significant beyond this distance.
- 6.4.16 By restoration, the scale of effects within this LCA in the site boundary would reduce to Medium, with the scale of effects within 500 m of the site boundary reducing to Small/Negligible. In turn, (alongside the permanent nature of the restoration), this would reduce the magnitude of change to Moderate/Slight within the site boundary and Slight/Negligible up to 500 m from the site boundary. This would give a significance of effect of Moderate/Minor Beneficial within the site – a non-significant effect - and Minor Beneficial non-significant effect within 500 m of the site boundary. The effects at restoration are beneficial as restoration would reinforce the mosaic woodland and strongly undulating landform, as well as reducing the effect of quarrying on perceived tranquillity, beyond that within the baseline.

6.5 Visual Effects

- 6.5.1 Effects on the following visual receptors are assessed to be not significant and are described within Appendix 5;
- **Treuddyn and Pant-y-ffordd** (2-4 km, north-east of the site) – The presence of intervening landform and vegetation limits views of the Proposed Development from this receptor group; views would be glimpsed at most from very limited locations.
 - **Four Crosses** (4-5 km, south-east of the site) – The Proposed Development would largely be screened by a combination of intervening vegetation and landform. Where views are possible, the Proposed Development would appear as a small and distant element which would be filtered by intervening vegetation.

Visual Receptor Groups

- 6.5.2 This assessment focuses on effects on groups of visual receptors, incorporating effects on views from public spaces and streets within neighbourhoods. The assessment of effects focuses on the visual amenity of public spaces, though views from groups of dwellings will also be noted in the descriptions. Effects on private residential amenity are a separate

matter, and as set out at section 2.7 above do not merit detailed assessment in respect of this development.

Maes Y Droell and Mynydd Du (0-0.3 km, north of the site)

- 6.5.3 The receptor group comprises a mixture of residents and users of recreational routes within relatively close proximity to the north of the site; it includes the farmhouse at Maes Y Droell Farm, the cemetery adjacent to the north site, and the public rights of way in and around the north site / northern part of the south site. The receptor group is represented by viewpoints 1, 2, and 4. Whilst some of these receptors are located within the Clwydian Range and Dee Valley National Landscape, the views experienced by them are not promoted, nor are there facilities for enjoyment of the views and thus are considered to be of Community value. These receptors are typically focussed on their environment and would be of High susceptibility to changes within these Community value views. They would be of High/Medium sensitivity overall.
- 6.5.4 The changes to the visual environment during extraction would be of Large scale close to the site boundaries (particularly during Phase 4), reducing to Small scale beyond 150 m from the site boundaries. These views would include some vegetation removal, extraction activity, processing equipment and associated minimal lighting. The effects would be apparent across a Limited extent, and during extraction would be long term. The effects would be of Moderate magnitude within close proximity to the site, reducing rapidly to Slight/Negligible beyond 150 m from the site boundaries. Taking into account the visual sensitivity and magnitude of change, the worst-case significance of the effect would be Major/Moderate Adverse and significant in the immediate proximity to the site during extraction, reducing to Minor Adverse at most and not significant beyond 150 m from the site boundaries. These effects would vary where vegetation is retained along the site boundaries, and where noise attenuation bunds are present.
- 6.5.5 By restoration, the scale of effects would reduce to Medium in the immediate vicinity of the site, and to Negligible beyond 150 m. In turn, in the immediate vicinity of the site boundary, this would reduce the magnitude of change to Moderate/Slight and the significance of effect to Moderate Neutral (not significant) as a worst-case. Beyond 150 m from the site boundary, the effects would be of Negligible magnitude and Minor/Negligible Neutral significance (not significant) at most. The effects in these instances would be neutral as the elements of the view at restoration such as quarry faces and associated planting would replicate existing elements within the baseline. The effects would vary and reduce where there is retained planting or mitigation planting within the site boundaries.

Pen-y-Foel (0-0.1 km, east of the site)

- 6.5.6 This receptor group is located to the east of the site, comprising a mixture of residents and users of recreational routes. It is represented by Viewpoint 3. These views are of Community value, and the receptors would be of High susceptibility to changes within their visual environment. The value and susceptibility would be combined to give an overall High/Medium sensitivity.
- 6.5.7 During extraction, the changes within the receptor group would be of Medium scale, occurring in the long term across a limited area. The effects would primarily occur during Phase 1 and, to a lesser extent, Phase 3 and relate to the removal of vegetation and addition of noise bunding to views. The magnitude of change during extraction for this receptor group would therefore be Moderate/Slight. Combining the High/Medium sensitivity and the Moderate/Slight magnitude, the overall significance of effect would, as a worst-case, be

Moderate Adverse and significant. The effects would vary where retained vegetation is present on the site boundaries, as well as where noise attenuation bunds or fencing is present.

- 6.5.8 Following restoration, the wooded backdrop to the baseline view would be restored alongside retained noise bunding, resulting in a Small scale of effect for a limited extent on a permanent basis. The resulting magnitude of change would be Slight/Negligible; and the significance of effect would reduce to Minor Neutral at most. The effects at restoration would be neutral as the restored elements would replicate those within the existing view. Where retained vegetation or landscape mitigation planting is present, these effects would reduce.

Graianrhyd (0-0.5 km, south of the site)

- 6.5.9 This receptor group comprises residents and users of recreational footpaths in and around Graianrhyd, who experience views of Community value. The viewpoint illustrating these views is Viewpoint 5. These receptors are of High susceptibility to changes within their visual environment due to their focus on their surroundings; the receptor group is of High/Medium sensitivity.
- 6.5.10 For much of the receptor group within 300 m of the site boundary, views of the proposed development would be obscured by a combination of vegetation and landform – these effects would be Negligible in magnitude and of Negligible significance at extraction and restoration.
- 6.5.11 Beyond 300 m from the site boundary, rising landform allows views from the receptors towards the Proposed Development, particularly the changes within Phases 1, 2 and 4. This would include views of vegetation removal / landform alteration, extraction activity, and potentially some views of the processing area and associated lighting. The scale of change in these views would be Medium at most. The changes would be apparent across a limited extent, as well as long-term. The magnitude of change at extraction would be Moderate/Slight. When combined with the High/Medium sensitivity, the overall significance of effect would be Moderate Adverse (significant). The effect is significant due to the changes in the middle ground and background of the view to the landform within the site, as well as associated vegetation losses.
- 6.5.12 By restoration, the scale of change would reduce to Small, with the wooded landform of the site again becoming apparent, but some differences in landform present compared to the baseline view. The permanent effects would remain limited in extent, with the magnitude of change reducing to Slight/Negligible. Combined with the sensitivity to change, the overall significance of effect would be Minor Neutral. The effect would be neutral rather than adverse as the elements of the baseline view would be replicated, albeit in a slightly different configuration.

Rhydtalog (1-2 km, south-east of the site)

- 6.5.13 Receptors at Rhydtalog include residents and users of recreational routes; their view is illustrated by representative Viewpoint 7. These receptors are of High susceptibility to changes within their view, which are of Community value. The value and susceptibility combine to give an overall High/Medium sensitivity.
- 6.5.14 During extraction, the effects of the Proposed Development upon this receptor group would be Small at most (during Phases 1 and 2 only); there is intervening vegetation and landform which locally reduces the scale of effect. The changes during extraction would be long-term, and a limited extent of the receptor group would be affected. The magnitude of change at this

stage of development would be, at most, Slight/Negligible. The significance of effect would be Minor Adverse, which is not significant.

- 6.5.15 At restoration, the baseline elements of the views would be replicated by the restoration landform and planting, thus reducing the scale of change to Negligible. In turn, this permanent effect would be of Negligible magnitude and Minor/Negligible Neutral significance. The effect would be neutral rather than adverse given the replication of baseline elements in the view.

Llyn Cyfynwy and Moel Garegog open access land (1-3 km, south of the site)

- 6.5.16 The receptors experiencing this view would primarily be recreational receptors, including those using public rights of way, open access land, and the fishing lakes at Llyn Cyfynwy – as illustrated within Viewpoint 6. The view is located within the Clwydian Range and Dee Valley National Landscape. These receptors are of High susceptibility to changes within their visual environment. Whilst not promoted for tourism or appearing in guidebooks, the views are valued by visitors, as apparent by the provision of facilities for their enjoyment such as the fishing lakes and associated amenities. The views are of Regional value. Overall, the sensitivity to change for these receptors is High/Medium.
- 6.5.17 The scale of change during extraction is Small at most for these receptors – the effects also diminish further with distance. The extent of change is localised due to the open moorland terrain and would occur over a long-term period. The magnitude of change is therefore Slight. Taking into account the Slight magnitude of change and the High/Medium sensitivity, the significance of effect for these receptors would be Moderate/Minor Adverse, which is not significant.
- 6.5.18 By restoration, much of the exposed quarry faces (which are the catalyst for the scale of change perceived in the views during extraction) would be softened in appearance by the restoration vegetation, reducing the perceived scale of change further to Negligible. This in turn would combine with the permanent duration and localised extent to give a Slight/Negligible magnitude of effect. The magnitude of effect and sensitivity would combine to give an overall Minor Neutral significance of effect (not significant) at restoration. As the restored view would replicate the elements of the baseline, the effect would be neutral rather than adverse.

Clwydian Range / Offa's Dyke Path National Trail (3-5 km, west of the site)

- 6.5.19 The receptors within this receptor group are primarily users of the recreational routes and open access land along the Clwydian Range within the Clwydian Range and Dee Valley National Landscape. The views available for this receptor group are illustrated in Viewpoints 8, 10 and 11. The value of the views from these receptors is National as the hilltops from which the views are experienced are a key part of the Clwydian Range and Dee Valley National Landscape and also are followed by the route of Offa's Dyke Path National Trail. The receptors would be of High susceptibility to changes within their visual environment. Combining the value and susceptibility, the overall sensitivity of these receptors is also High.
- 6.5.20 Changes within these views during extraction would occur in the distance and would be of Small scale, however it should be noted that the proposed development would also be seen in the context of the existing Graig Quarry. The effects would be long-term, occurring over a localised area. The magnitude of change would therefore be Moderate/Slight. Combining this with the High sensitivity, the overall effect would be of Major/Moderate significance.

- 6.5.21 Following restoration, the scale of change would reduce to Negligible, in turn reducing the magnitude of change for the permanent effects to Negligible. The significance of effects at restoration would overall be Minor Neutral – the restoration would replicate the baseline elements within the view, thus would be neutral rather than adverse.

6.6 Designated Areas

- 6.6.1 As set out in **Error! Reference source not found.** above, effects on the proposed Glyndŵr National Park are considered to be the same as those upon the Clwydian Range and Dee Valley National Landscape. The special qualities of the National Landscape only are carried forward to assessment below.
- 6.6.2 Table 6.2 considers effects on each of the agreed Special Qualities of the National Landscape as set out within section 4.5.2 and described in greater detail in **Appendix 5**.

Table 6.2 Effects on National Landscape special qualities

Quality	Stage	Susceptibility	Nature of effect	Scale and extent of effect
Landscape Character and Quality				
Tranquillity	Extraction	High – high degrees of tranquillity are likely to be affected by noise and movement from extraction.	Movement and noise from extraction would locally reduce perceived tranquillity within the National Landscape, particularly during the works in Phase 4, which would directly affect it. The addition of limited lighting to the site would also locally disrupt perceived tranquillity.	Large scale within the site, reducing to Small within 500 m and negligible beyond.
	Restoration	Low – the restored site is unlikely to affect this special quality.	The restored site would retain the perceived tranquillity in the National Landscape.	Negligible.
Remoteness and Wildness, Space and Freedom	Extraction	Medium – movement and noise during extraction would be likely to affect the remoteness and wildness aspects of this special quality.	Movement and noise from extraction would locally reduce perceived remoteness and wildness within the National Landscape, particularly during the works in Phase 4, which would directly affect it.	Medium scale within the site, reducing to Small within 500 m and negligible beyond.
	Restoration	Low – the restored site is unlikely to affect this special quality.	The restored site would retain the perceived remoteness and wildness in the National Landscape.	Negligible.

Quality	Stage	Susceptibility	Nature of effect	Scale and extent of effect
Habitats and Wildlife				
Heather Moorland and Rolling ridges	Extraction / Restoration	No change		
Broadleaved Woodlands and Veteran Trees	Extraction	High – removal of vegetation within the extraction period would mean that effects on this special quality are likely.	During extraction, areas of self-set woodland would be removed; no veteran trees are proposed for removal.	Large scale within the site, negligible beyond.
	Restoration	Low – the restored site is unlikely to affect this special quality.	The addition of broadleaved woodland to the restored site would reinstate this special quality where it was lost.	Negligible.
River Valleys and the River Dee	Extraction / Restoration	No change		
Limestone Grasslands, Cliffs and Screes	Extraction / Restoration	No change		
Historic Environment				
Historic Settlement and Archaeology	Extraction / Restoration	No change		
Industrial Features and the World Heritage Site	Extraction / Restoration	No change		
Small historic features	Extraction / Restoration	No change		
Traditional boundaries	Extraction / Restoration	No change		
Access, Recreation and Tourism				
The Offa's Dyke National Trail and Promoted Routes	Extraction	High – views from the Offa's Dyke Path National Trail could be affected by the presence of extraction activity.	Extraction activity within the site would be visible from sections of the Offa's Dyke Path National Trail.	Small scale from the Offa's Dyke Path National Trail, negligible elsewhere.

Quality	Stage	Susceptibility	Nature of effect	Scale and extent of effect
	Restoration	Low – the restored site is unlikely to affect this special quality.	The restored site would largely restore views from the Offa's Dyke Path National Trail to their baseline conditions.	Negligible.
Culture and People				
The Built Environment				
	Extraction / Restoration	No change		

- 6.6.3 Based on the detailed considerations set out above, long-term effects during extraction upon a select number of the purposes of designation of the National Landscape would be large and medium scale in the Limited area of the site and its immediate surroundings up to approximately 500 m. These purposes of designation are Tranquillity; Remoteness and Wildness, Space and Freedom; and Broadleaved Woodlands and Veteran Trees. The effects would be at most of **Substantial/Moderate magnitude, Major (significant) and Adverse**. Beyond 500 km, the effects upon these specific special qualities would be **Negligible**.
- 6.6.4 At restoration, the permanent effects of the restored site upon the Tranquillity; Remoteness and Wildness, Space and Freedom; and Broadleaved Woodlands and Veteran Trees purposes of designation would be **Negligible**.
- 6.6.5 Small scale effects would arise along the Offa's Dyke Path National Trail during extraction. The effects during extraction would be long-term, affect a localised extent and would be of **Slight magnitude, Moderate (not significant) and Adverse**. The effects are not considered to be significant due to the Proposed Development forming a small extent of wider panoramas, which are often 360°. At restoration, these effects would reduce to negligible.
- 6.6.6 Effects on all other special qualities would be Negligible for both extraction and restoration stages. Distant views of the quarry may arise but will not affect the special qualities or purposes of designation; effects would only be indirect and on perceptual qualities such as views.

6.7 Summary of Landscape and Visual Effects

- 6.7.1 Effects on the receptors assessed are summarised in the table overpage.
- 6.7.2 The Proposed Development is located on an existing silica sand quarry site near Graianrhyd in Denbighshire. The Site comprises two parts, separated by a bridgeway. Together the two parts of the site have an extensive history of extraction and associated extant permissions. The north Site lies within the Clwydian Range and Dee Valley National Landscape, which is also part of the proposed Glyndŵr National Park. The proposed extraction would comprise four phases and culminate in restoration of the site to a mixture of habitats including broadleaved woodland, rhôs grassland, and wetland scrapes. Extraction would involve the

reworking of existing stockpiles, including associated removal of regeneration vegetation, followed by continuing extraction of the remainder of the site.

- 6.7.3 The Proposed Development would therefore result in notable landscape and visual change during the extraction phases within the Site and its immediate surroundings albeit in the context of existing features associated with historic minerals extraction and associated activities. The most pronounced effects would occur within the Site itself and in close proximity to the Site boundaries, where quarrying activity, changes to landform and the removal of existing vegetation would be most apparent. Beyond this limited area, the scale of effects would rapidly reduce as a result of distance, landform and the filtering influence of existing vegetation.
- 6.7.4 During extraction, adverse landscape and visual effects would largely be confined to nearby receptors, including public rights of way and isolated residents adjacent to the Site. The scale of change on wider landscape character (through indirect effects on perceptual qualities) and for more distant visual receptors, including elevated viewpoints within the Clwydian Range and Dee Valley National Landscape, would generally be small or less, reflecting the contained nature of visibility and the presence of existing quarrying influences within the landscape. Effects for such receptors would not be Significant.
- 6.7.5 The Proposed Development would give rise to some localised significant adverse effects during extraction, particularly in relation to landscape character within the Site and generally up to 250 m from its boundary, and views experienced by receptors in close proximity to the Site. However, these effects would not extend across the wider landscape and, aside from localised effects, would not overall undermine the special qualities of the Clwydian Range and Dee Valley National Landscape.
- 6.7.6 At restoration, the landscape and visual effects would substantially reduce. The proposed restoration strategy, including progressive backfilling, landform regrading and the establishment of new woodland, heath and grassland habitats, would integrate the Site back into the surrounding landscape. Post-restoration effects on landscape character and views would be neutral to beneficial, with the restored landscape reflecting and, in some respects, enhancing baseline characteristics.
- 6.7.7 Overall, the assessment concludes that while the Proposed Development would result in localised significant adverse effects during extraction, these would be limited in extent and no more than long-term in duration. Following restoration, the landscape would have the capacity to accommodate the Proposed Development without giving rise to significant adverse long-term landscape or visual effects.

Table 6.3 Summary of Effects

Only effects of greater than Negligible magnitude and/or Negligible significance are included in the summary table, **significant effects are underlined**.

Receptor	Description	Sensitivity	Magnitude	Significance	Beneficial /Neutral /Adverse
Landscape Character					
B1: Gritstone Hills (Graianrhyd)	Effects on the site during extraction	Medium/Low	Substantial/Moderate	<u>Major/Moderate</u>	Adverse
B1: Gritstone Hills (Graianrhyd)	Effects on the area within 250 m of the site during extraction	Medium/Low	Moderate	Moderate	Adverse
B1: Gritstone Hills (Graianrhyd)	Effects on the site during restoration	Medium/Low	Moderate	Moderate	Beneficial
B1: Gritstone Hills (Graianrhyd)	Effects on the area within 250 m of the site during restoration	Medium/Low	Slight/Negligible	Minor	Beneficial
C2: Limestone Farmlands (Llandegla to Maeshafn)	Effects on the site during extraction	Medium	Moderate	<u>Moderate</u>	Adverse
C2: Limestone Farmlands (Llandegla to Maeshafn)	Effects on the area within 500 m of the site during extraction	Medium	Moderate / Slight	Moderate / Minor	Adverse
C2: Limestone Farmlands (Llandegla to Maeshafn)	Effects on the site at restoration	Medium	Moderate / Slight	Moderate / Minor	Beneficial
C2: Limestone Farmlands (Llandegla to Maeshafn)	Effects on the area within 500 m of the site at restoration	Medium	Slight / Negligible	Minor	Beneficial
Visual Receptor Groups					
Maes y Droell and Mynydd Du	Effects in the immediate vicinity of the site during extraction	High / Medium	Moderate	<u>Major / Moderate</u>	Adverse
Maes y Droell and Mynydd Du	Effects beyond 150 m of the site during extraction	High / Medium	Slight / Negligible	Minor	Adverse

Maes y Droell and Mynydd Du	Effects in the immediate vicinity of the site at restoration	High / Medium	Moderate / Slight	Moderate	Neutral
Maes y Droell and Mynydd Du	Effects beyond 150 m of the site at restoration	High / Medium	Negligible	Minor / Negligible	Neutral
Pen-y-Foel	Effects on the receptor group during extraction	High / Medium	Moderate / Slight	<u>Moderate</u>	Adverse
Pen-y-Foel	Effects on the receptor group at restoration	High / Medium	Slight / Negligible	Minor	Neutral
Graianrhyd	Effects beyond 300 m of the site during extraction	High / Medium	Moderate / Slight	<u>Moderate</u>	Adverse
Graianrhyd	Effects beyond 300 m of the site at restoration	High / Medium	Slight / Negligible	Minor	Neutral
Rhydtalog	Effects on the receptor group during extraction	High / Medium	Slight / Negligible	Minor	Adverse
Rhydtalog	Effects on the receptor group at restoration	High / Medium	Negligible	Minor / Negligible	Neutral
Llyn Cyfynwy and Moel Garegog open access land	Effects on the receptor group during extraction	High / Medium	Slight	Moderate / Minor	Adverse
Llyn Cyfynwy and Moel Garegog open access land	Effects on the receptor group at restoration	High / Medium	Slight / Negligible	Minor	Neutral
Clwydian Range / Offa's Dyke Path National Trail	Effects on the receptor group during extraction	High	Moderate / Slight	<u>Major / Moderate</u>	Adverse
Clwydian Range / Offa's Dyke Path National Trail	Effects on the receptor group at restoration	High	Negligible	Minor	Neutral

Key Routes

Offa's Dyke Path National Trail	As per Clwydian Range / Offa's Dyke Path National Trail receptor group outlined above.
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Landscape Designations

Clwydian Range and Dee Valley National Landscape	Effects on the Tranquillity; Remoteness and Wildness, Space and Freedom; and Broadleaved Woodlands and Veteran Trees special qualities of the National Landscape	High	Substantial / Moderate at most	<u>Major</u> at most	Adverse
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	within the site and within 500 m of the site boundary during extraction				
Clwydian Range and Dee Valley National Landscape	Effects on the Tranquillity; Remoteness and Wildness, Space and Freedom; and Broadleaved Woodlands and Veteran Trees special qualities of the National Landscape beyond 500 km of the site boundary during extraction	High	Negligible	Negligible	N/A
Clwydian Range and Dee Valley National Landscape	Effects on all other special qualities of the National Landscape during extraction	High	Negligible	Negligible	N/A
Clwydian Range and Dee Valley National Landscape	Effects on the National Landscape at restoration	High	Negligible	Negligible	N/A

