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9 LANDSCAPE AND VISUAL

9.1 Introduction

- 9.1.1 This chapter presents a Landscape and Visual Impact Assessment (LVIA) which considers the likely landscape and visual amenity effects arising from the Proposed Development during construction and operation.
- 9.1.2 The location of the Proposed Development is illustrated on **Volume 3, Figure 9.1**.
- 9.1.3 A full description of the main Proposed Development's components is presented in **Volume 2, Chapter 1: Introduction, Table 2.1**; however from a landscape and visual impact perspective the key elements of the proposals are the expansion of the area occupied by industrial structures and a proposed flue gas stack structure, with a maximum height of approximately 117.9m.
- 9.1.4 The LVIA considers the potential impacts upon:
- Landscape fabric;
 - Landscape character;
 - The special qualities of any landscape designations; and
 - Visual receptors including residential, transport and recreational receptors.
- 9.1.5 The LVIA has been undertaken in accordance with published best practice; namely the [Guidelines for Landscape and Visual Impact Assessment \(Third Edition\)](#)¹, Landscape Institute and IEMA 2013 (GLVIA3) and associated technical guidance notes published by the Landscape Institute (reference as appropriate in **Volume 4, Technical Appendix 9.1**).
- 9.1.6 This chapter should be read in conjunction with the following appendices and figures:
- Volume 4, Technical Appendix 9.1: Landscape and Visual Impact Assessment Methodology;
 - Volume 4, Technical Appendix 9.2: LANDMAP Datasets
 - Volume 4, Technical Appendix 9.3: Viewpoint Photosheets and Visualisations (Figures 9.12 – 9.25);
 - Volume 4, Technical Appendix 9.4: Landscape and Habitat Mitigation Strategic Proposals
 - Volume 3, Figure 9.1: Site Context;
 - Volume 3, Figure 9.2: Zone of Theoretical Visibility and Viewpoint Locations;
 - Volume 3, Figure 9.3: Landscape Designations and Access;
 - Volume 3, Figure 9.4: Topography and Landcover;
 - Volume 3, Figure 9.5: Landscape Character Areas;
 - Volume 3, Figure 9.6: LANDMAP Visual Sensory;
 - Volume 3, Figure 9.7: LANDMAP Historic;
 - Volume 3, Figure 9.8: LANDMAP Landscape Habitats;

¹ <https://www.landscapeinstitute.org/technical/glvia3-panel/>

- Volume 3, Figure 9.9: LANDMAP Geological;
- Volume 3, Figure 9.10: LANDMAP Cultural;
- Volume 3, Figure 9.11: Visual Receptor Groups;
- Landscape and Habitat Mitigation Strategic Proposal (Eastern Area) - 0242-SH-XX-XX-DR-L-1001 (Draft);
- Landscape and Habitat Mitigation Strategic Proposal (North West Area) - 0242-SH-XX-XX-DR-L-1002 (Draft); and
- Landscape and Habitat Mitigation Strategic Proposal (South West Area) - 0242-SH-XX-XX-DR-L-1003 (Draft).

9.1.7 This chapter should be read in conjunction with the following chapters:

- Volume 2, Chapter 2: Description of Proposed Development;
- Volume 2, Chapter 4: Approach to EIA;
- Volume 2, Chapter 5: Biodiversity; and
- Volume 2, Chapter 8: Cultural Heritage.

9.2 Statutory and planning context

9.2.1 Relevant national and local planning policy and legislation is outlined in the Planning Statement which accompanies this EIA. The paragraphs below provide a brief context specifically with respect to landscape and visual amenity.

9.2.2 At the international level, the European Landscape Convention (ELC) is the principal statutory instrument concerned with the consideration of landscape in the planning and decision-making processes. A central tenet of the ELC is the recognition that all landscapes (and by implication townscapes) are of value to their communities, irrespective of designation or quality. The ELC also puts forward a dynamic approach to the consideration of landscape in the planning and decision-making processes, seeking to protect valued landscapes and landscape characteristics, whilst planning for and managing change positively in ways which respond to character.

National planning context

9.2.3 At the national level current planning policy in Wales is set out within the Welsh Government's [Planning Policy Wales Edition 12² \(PPW\)](#). Relevant aspects of PPW are detailed below:

Green Infrastructure

9.2.4 Paragraph 6.2.4 states, '*Green infrastructure plays a fundamental role in shaping places and our sense of well-being, and is intrinsic to the quality of the spaces we live, work and play in. The planning system must maximise its contribution to the protection and provision of green infrastructure assets and networks as part of meeting society's wider social and economic objectives and the needs of local communities*'.

9.2.5 Paragraph 6.2.12 states, '*A green infrastructure statement should be submitted with all planning applications. This will be proportionate to the scale and nature of the*

² <https://www.gov.wales/planning-policy-wales>

development proposed and will describe how green infrastructure has been incorporated into the proposal.”

A green infrastructure statement has been prepared and submitted as part of this planning application.

Landscape

9.2.6 Paragraph 6.3.3 states, ‘*All the landscapes of Wales are valued for their intrinsic contribution to a sense of place, and local authorities should protect and enhance their special characteristics, whilst paying due regard to the social, economic, environmental and cultural benefits they provide, and to their role in creating valued places.*’

9.2.7 It continues, ‘*Collaboration and engagement with adjacent planning authorities, Natural Resources Wales, Cadw and the third sector will be necessary to draw on a wide range of expertise and evidence. This means:*

- ensuring Wales contributes to meeting international responsibilities and obligations for landscapes;
- ensuring statutorily designated sites are properly protected and managed;
- ensuring that the value of all landscapes for their distinctive character and special qualities is protected; and
- ensuring the opportunities landscapes provide for tourism, outdoor recreation, local employment, renewable energy and physical and mental health and well-being are taken into account and multiple well-being benefits for people and communities secured.’

Landscape Information

9.2.8 Paragraph 6.3.20 advocates the use of LANDMAP assessments to inform green infrastructure assessments, development management decisions, landscape character assessment, special landscape areas, local distinctiveness, design, and landscape sensitivity studies. Paragraph 6.3.21 states the LANDMAP assessments should be published (inferred by PPW to be by the relevant planning authority).

Local Planning Policy

9.2.9 The Local Planning Authority (LPA) responsible for the protection of landscape within the planning system and the formulation of policies to support this obligation is Flintshire County Council.

9.2.10 Flintshire County Council landscape planning policy is within the [Flintshire Local Development Plan 2015 – 2030](#)³ (adopted January 2023). The policies relevant to landscape planning are:

- **Policy STR4: Principles of Sustainable Development, Design and Placemaking** which seeks to promote new sustainable places and that all development is designed to a high standard;

³ <https://www.flintshire.gov.uk/en/PDFFiles/Planning/Examination-Library-Documents/LDP-Version-8.pdf>

- **Policy STR13: Natural and Built Environment, Green Networks and Infrastructure** which directs developments to identify, respect, protect, enhance and connect Flintshire’s environmental assets;
- **Policy STR14: Climate Change and Environmental Protection** which seeks to mitigate the effects of climate change and to ensure appropriate environmental protection measures;
- **Policy EN2: Green Infrastructure** developments proposals will be required to protect, maintain and enhance the extent, quality and connectivity of the green infrastructure network;
- **Policy EN4: Landscape Character** new development must not have a significant adverse impact on the character and appearance of the landscape. Any landscaping and other mitigation measures should seek to reduce landscape impact and where possible bring enhancement; and
- **Policy EN7: Development Affecting Trees, Woodland and Hedgerows** developments that affect trees, woodland or hedgerows is acceptable if the development maximises their retention through sensitive design measures and if trees are removed they are replaced elsewhere within the Site.

9.2.11 Consideration of these policies has been undertaken throughout the LVIA.

9.3 Consultation undertaken

9.3.1 A Scoping Report, dated 04 November 2022, was prepared and submitted to Planning and Environment Decisions Wales and an EIA Scoping Direction, reference DNS CAS-02009-W1R127, dated 21 April 2023 was provided.

9.3.2 Matters of particular relevance to the LVIA are detailed in **Table 9.1**.

Table 9.1 LVIA Consultation

Issue	Consultee	Detail	Outcome
LVIA Study Area	Flintshire County Council/Planning and Environment Decisions Wales	The Scoping Report submitted to Planning and Environment Decisions Wales suggested a detailed Study Area for the LVIA extending to 3km from the Site boundary. Flintshire County Council considered that because a detailed design had not been finalised that it was <i>‘premature to restrict the radius... to 3km.’</i>	A detailed Study Area of 5km has been used for the LVIA, increasing that initially recommended in the Scoping Report.
Viewpoint Selection	Flintshire County Council/Planning and Environment Decisions Wales	Flintshire County Council requested the inclusion of two additional viewpoints to those proposed in the Scoping Report – on Padeswood	Both additional viewpoints have been included.

Issue	Consultee	Detail	Outcome
		Lake Road and Mold Bypass.	
Visualisations	Flintshire County Council/Planning and Environment Decisions Wales	<p>The Scoping Report submitted to Planning and Environment Decisions Wales explained that a selection of photomontages for key viewpoints would be provided.</p> <p>The photomontages would be produced using the same base photographs as per the annotated photographs and accord with guidance for 'Type 3' visualisations as defined in TGN 06/19⁴.</p>	No comment was provided by consultees, it is therefore assumed Type 3 visualisations are acceptable and these are presented in Volume 4, Technical Appendix 9.3 .
Access and temporary construction compounds	Planning and Environment Decisions Wales	The EIA Scoping Direction from Planning and Environment Decisions Wales stated that the compounds should be included in any assessment and this should include potential vegetation clearance.	Fully considered in LVIA and referenced where relevant.
Residential Visual Amenity Assessment (RVAA)	Flintshire County Council/Planning and Environment Decisions Wales	Flintshire County Council stated we should establish whether a full RVAA should be included for Dyke Farm (the closest property to the Site).	RVAA was not deemed necessary, because impacts on the property would not be so severe as to require an RVAA. In support of this position, an assessment of the likely significant effects on Dyke Farm have been included in the LVIA (refer to Table 9.6); and it was deemed that the effects were not significant.

⁴ https://www.n-somerset.gov.uk/sites/default/files/2022-05/E2%20-%20%20LI_TGN-06-19_Visual_Representation.pdf

Issue	Consultee	Detail	Outcome
Connection to HyNet AGI at Northop Hall	Planning and Environment Decisions Wales	The EIA Scoping Direction from Planning and Environment Decisions Wales stated to be included in assessment.	The pipeline connection is not part of the DNS application and is being applied for separately by another party. The connection is included in the cumulative assessment work, based on what is known at this stage.
Bryniau Clwyd a Dyffryn Dyfrdwy/Clwydian Range and Dee Valley Area of Outstanding Natural Beauty (AONB)	Flintshire County Council/Planning and Environment Decisions Wales	The Scoping Report submitted to Planning and Environment Decisions Wales stated the intention to scope out Bryniau Clwyd a Dyffryn Dyfrdwy/Clwydian Range and Dee Valley AONB due to the distance from the Site. No comments made.	Scoped out of LVIA based on distance (9.1km) from the Site.
Plume from CHP	Flintshire County Council/Planning and Environment Decisions Wales	Flintshire County Council scoping response states, <i>'It is queried whether the CHP plant will emit plumes from stacks and whether this element should be scoped in.'</i>	Visual effects arising from a plume have been scoped out of the LVIA. The plume is not a physical structure, would only be visible under specific climatic conditions and therefore would only result in temporary and intermittent visual effects which are highly unlikely to be significantly adverse.
BS5837:2012 arboricultural survey	Flintshire County Council/Planning and Environment Decisions Wales	A BS5837:2012 should be provided unless otherwise justified.	Refer to Arboricultural Impact Assessment, submitted with this application.

9.4 Approach to the assessment

Study Area

Spatial Scope of Study Area

- 9.4.1 [LANDMAP Guidance Note 46](#)⁵, 'Using LANDMAP in Landscape and Visual Impact Assessments' provides advice on how information contained within LANDMAP should be used in LVIA. The note differentiates between a 'search area' and 'Study Area'. The former is the area over which initial baseline studies should be undertaken to identify potential receptors and any other projects which may need to be considered in a cumulative assessment. The latter is the area over which detailed assessment may be required as significant landscape and visual effects may occur within this area.
- 9.4.2 [Guidance Note 46](#)⁶ contains a table which sets out suggested distances as the starting point for discussion with regulators and stakeholders with regards to identifying a search area and Study Area for tall structures (e.g. wind turbines, masts, chimneys) of various heights. The guidance suggests that for a structure with a height of between 80m and 108m the initial search area might be 12km-17km and the detailed Study Area should be 8km-11km. A preliminary Zone of Theoretical Visibility (ZTV) extending out to 12km was prepared and included with the Scoping Report dated 04 November 2022.
- 9.4.3 During the process of writing the EIA, and following receipt of the Scoping Opinion, the design of the Proposed Development was updated and the tallest structure, the gas flue, may now reach a maximum height of 117.9m. This height would take the identifying search area and Study Area into the next band with respect to the guidance from Natural Resources Wales i.e. an initial search area of 17km to 23km and a Study Area of 11km to 20km. It should be noted that the guidance, whilst referencing all tall structures such as chimneys and industrial stacks, was primarily written with respect to larger scale wind farm developments. In this instance the tall structure is a single new narrow gas flue within an existing industrial site which is already visible from the surrounding landscape. It is also noted that a key guiding principle for both LVIA and EIA is 'proportionality'; and (as detailed in **Section 9.5** of this chapter) whilst this LVIA has identified significant adverse effects on the landscape and visual receptors, that there are no significant adverse effects on visual amenity greater than 1.3km from the Proposed Development. It is therefore reasonable to state that there would be no significant effects on any receptor further than 5km from the Proposed Development; and it is reasonable and proportionate to retain the 5km Study Area, and not increase the Study Area to between 11km and 20km based upon the height of the gas flue stack increasing to 117.9m.
- 9.4.4 In the case of the Proposed Development the immediate baseline context is a relevant factor in determining the detailed Study Area. Given that the Proposed Development lies within an existing cement manufacturing complex with structures

⁵ <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>

⁶ <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>

of a comparable height it is unlikely that significant landscape and visual impacts would occur beyond 3km of the Site. However, it is noted that Flintshire County Council considered it may be premature to limit the Study Area to 3km until a final design was available. The Study Area was therefore extended to 5km from the Site boundary for the purposes of the LVIA, in order to ensure all potential significant effects on landscape character and visual amenity are identified and properly assessed.

- 9.4.5 Therefore the detailed Study Area and the main focus of the LVIA extends to 5km from the Site boundary. The Site survey work included visiting and surveying the landscape surrounding the 5km Study Area as a further check that there would not be any significant effects on the landscape or visual amenity arising from the Proposed Development beyond 5km. The Study Area, landscape receptors, landscape character, LANDMAP datasets and visual receptor groups are presented on **Volume 3, Figures 9.1 – 9.11**.

Temporal Scope

- 9.4.6 The assessment will take account of the effects of the Proposed Development at the following points in time:
- Construction Phase – short term phase (less than 2 years) at which the construction works would be visible;
 - Operation Phase Year 1 to Year 10 – medium term operational phase during which the Proposed Development would be visible in its entirety up to year 10; and
 - Operation Phase Year 10 onwards – long term operational phase during which the Proposed Development would be visible, following establishment of mitigation planting and further growth of any existing or new vegetation within the landscape.

Desk Based Research and Data Sources

- 9.4.7 Assessments of the baseline landscape and visual conditions have been undertaken in parallel and have been informed by a combination of desk and field-based techniques. Identification, description and evaluation of the existing landscape character and visual amenity of the Study Area involved a desk-based review and consideration of the following information sources:
- Ordnance Survey mapping and aerial photography relating to existing landform, vegetation, settlement patterns, promoted viewpoints and drainage regimes;
 - Plans and GIS datasets containing information relating to landscape designations, sensitive landscape receptors and landscape related policies at the local and national level;
 - Schematic plans relating to the Proposed Development;
 - [National Landscape Character Area \(NLCA\) Profile 13 – Deeside and Wrexham \(Natural Resources Wales, 2014\)](https://cdn.cyfoethnaturiol.cymru/media/682570/nlca13-deeside-and-wrexham-description.pdf?mode=pad&rnd=131550580272430000)⁷;

⁷ <https://cdn.cyfoethnaturiol.cymru/media/682570/nlca13-deeside-and-wrexham-description.pdf?mode=pad&rnd=131550580272430000>

- Landscapes Working for Wales, A Landscape Strategy for Flintshire Volume 1 – The Landscape Strategy Policies and Proposals (Flintshire County Council, 1996);
- LANDMAP the all-Wales Geographical Information System (GIS) (Natural Resources Wales); and
- Responses from consultees through the pre-application process.

Field Survey Work

- 9.4.8 Field surveys from public vantage points in the area surrounding the existing cement works have been undertaken to confirm and ground truth the desk-based findings; and to verify the extent of potential visibility.
- 9.4.9 Field survey work for the landscape and visual impact assessment was undertaken in November 2022, April 2023 and December 2023.

Assessment of Impacts

- 9.4.10 The detailed methodology for LVIA is presented in **Volume 4, Technical Appendix 9.1**. It is based on best practice and information in [GLVIA3](#)⁸, which is the established industry-standard guidance for landscape and visual impact assessment.
- 9.4.11 Landscape and Visual Assessments are separate, though linked processes which [GLVIA3](#)⁹ notes are “*related but very different considerations*”. The assessment of the potential effect on the landscape is carried out as an effect on the environmental resource (i.e. the landscape). Visual effects are assessed as an inter-related effect on people.
- 9.4.12 Landscape effects derive from changes in the physical landscape elements which may give rise to changes in its distinctive character and how this is experienced, including consideration of aesthetic and perceptual aspects.
- 9.4.13 Visual effects relate to changes that arise in the composition of available views as a result of changes to the landscape, to people’s responses to the changes and to the overall effects with respect to visual amenity.

Summary of LVIA Methodology

Sensitivity

- 9.4.14 Sensitivity described as ‘High’, ‘Medium’ or ‘Low’) is judged by combining component judgments about the value and susceptibility of the. An explanation of how susceptibility and value has been determined is provided in **Volume 4, Technical Appendix 9.1**. Detailed susceptibility and value criteria for landscape and visual receptors are established in **Volume 4, Technical Appendix 9.1**.
- 9.4.15 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

⁸ <https://www.landscapeinstitute.org/technical/glvia3-panel/>

⁹ <https://www.landscapeinstitute.org/technical/glvia3-panel/>

sensitivity is judged to lie between levels. In all instances, professional judgement is employed and **Table 9.2** and **Table 9.3** should not be interpreted rigidly to give a specific answer. A slightly greater weight is given to susceptibility in judging sensitivity of visual receptors as indicated below:

Table 9.2 Landscape Sensitivity

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

Table 9.3 Visual Sensitivity

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

Magnitude of change

- 9.4.16 The magnitude of change 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.
- 9.4.17 Scale of change (expressed as 'Large', 'Medium', 'Small' or '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.
- 9.4.18 The diagrams presented in **Image 9.1** illustrate in outline how these two modifying factors are considered in a two-stage process. A judgement is first formed about the scale of the change to the landscape or visual receptor. The geographic extent of the effect is then considered as a modifying influence in the first part of **Image 9.1** (Stage 1).
- 9.4.19 The result or outcome of Stage 1 is then considered again in relation to the duration of the effect as illustrated in the second part of **Image 9.1**. The outcome of Stage 2 is the overall magnitude of effect judgement reported in the assessment. **Image 9.1** 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 change. A definition of the terms used in the diagrams in **Image 9.1** is provided in **Volume 4, Technical Appendix 9.1**.

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

		Scale of Change			
		Large	Medium	Small	Negligible
Geographic Extent	Wide	Substantial			
	Intermediate		Moderate		
	Localised			Slight	
	Limited				Negligible

Stage 2 - Modifying Influence of Duration on Magnitude of Effect

		Stage 1 Result			
		Substantial	Moderate	Slight	Negligible
Duration	Permanent	Substantial			
	Long-term		Moderate		
	Medium-term			Slight	
	Short-term				Negligible

Image 9.1 Illustration of how magnitude of change is established

- 9.4.20 Where magnitude of change (or other judgements) is judged to lie between levels, an intermediate assessment is adopted and is expressed as e.g. 'Moderate/Slight'.

Significance of effects

- 9.4.21 The significance of a landscape or visual effect is assessed through professional judgement, combining the sensitivity of the receptor with the predicted magnitude of change, as summarised in **Table 9.4**. **Table 9.4** is not used as a prescriptive tool and illustrates the typical outcomes, allowing for the exercise of professional judgement.

Table 9.4 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

9.4.22 Where the effect has been classified as ‘Major’ or ‘Major/Moderate’, this is considered to be equivalent to likely significant effects. Where ‘Moderate’ effects are predicted, professional judgement will be applied to determine whether the effect is significant or not and justification provided for the judgement reached. Effects of ‘Moderate/Minor’, ‘Minor’, ‘Minor/Negligible’ or ‘Negligible’ significance are considered to be not significant.

Difficulties and Uncertainties

9.4.23 A number of assumptions and limitations were made in relation to the information presented in this chapter:

- All assessment work applied a precautionary principle and a realistic worst-case scenario was assessed e.g. effects on visual amenity were considered during winter months following the autumn leaf fall;
- Given the type of development being proposed it is assumed that predicted effects would be adverse (negative) unless otherwise stated; and
- The curtilage of private residential properties was not accessed during site survey work, therefore the assessment of potential effects on the visual amenity of residents was undertaken from nearby roads and footpaths.

Cumulative Landscape and Visual Impacts Assessment

9.4.24 The Proposed Development would require an underground pipeline connection to the proposed Hynet Carbon Dioxide Pipeline (planning application EN070007). The connection point is likely to be close to Northop Hall approximately 6.2km north east of the Site. The development of the pipeline and planning application is being undertaken by a separate party and at this stage the route has not been confirmed. It is a reasonable assumption, however, that construction impacts would be temporary and short-term and once operational the pipeline would be underground and therefore it is highly unlikely that any residual visual impacts would be created.

9.4.25 Should the pipeline require the removal of landscape elements such as hedgerows or mature trees it is anticipated that these would be reinstated where practicable and trees replaced elsewhere if need be. At this stage it is not possible to comment further on likely cumulative landscape and visual impacts arising from the pipeline connection in addition to the Proposed Development, other than to reiterate that an underground pipeline of this scale is very unlikely to create long-term operational cumulative impacts on landscape character and visual amenity.

- 9.4.26 Full detail on potential cumulative environment effects, including details of other planning applications within the Study Area, is provided in **Volume 2, Chapter 15: Cumulative Assessment**.

9.5 Existing environment

- 9.5.1 The landscape baseline establishes the character of the area, based on reference to published characterisation studies, designated landscapes, and other sensitive landscape receptors identified via GIS datasets and other desk-based research. The landscape baseline also references the physical landscape elements within the Site.
- 9.5.2 The visual baseline establishes the areas from where the Proposed Development may be visible, the different groups of people who may experience views of the Proposed Development, the locations or viewpoints where they will be affected and the nature of the views at those locations.
- 9.5.3 Field surveys have been undertaken to confirm and ground truth the desk-based findings; and to verify the extent of potential visibility.

Landscape Baseline

- 9.5.4 **Volume 3, Figures 9.1-9.5** illustrate the landscape character, designations and constraints within the Study Area referenced in this section of the chapter.

The Site

- 9.5.5 The location of the Proposed Development is presented on **Volume 2, Figure 9.1**. The Site is centred around the existing Padeswood Cement Works which is a major operational industrial complex with utilitarian mills, chimneys, domes, silos, packing bays and storage facilities; the cement works are enclosed by undeveloped areas of grass fields and woodland. The bulk of the Proposed Development would be located directly to the south west of the existing infrastructure. The Site is approximately 1.1km south of the southern edge of Buckley. A description of the Site is provided in the 'Landscape Assessment' of this chapter.

Study Area Settlements and Residential Receptors

- 9.5.6 The main settlements within the Study Area are Mold, Buckley, Connah's Quay, Broughton and Penyffordd (including Penymynydd); and whilst separate settlements there is some overlap and connection particularly with settlement adjacent to connecting roads. Within the south of the Study Area the landscape is more rural, but there are a number of villages, including Padeswood, Leeswood, Hope, Pontblyddyn, Higher Kinnerton and Treuddyn. Within the more rural landscape there are numerous scattered properties, particularly along the extensive local road connections.
- 9.5.7 Other residential receptors close to the Site include the houses on Padeswood Drive on the northern boundary of the Site, Dyke Farm 180m south west of the Site and properties along Bannel Lane 380m east of the Site.

Study Area Transport and Access Routes

- 9.5.8 The main transport routes within the Study Area are the A5118 directly north of the Site, the A55 North Wales Expressway within the north east of the Study Area and the A541 within the south and west of the Study Area. In addition there are further A-roads within the Study Area connecting the numerous towns and villages, including the A550, A5104, A549, and a busy network of B and local roads.
- 9.5.9 The Borderlands railway line runs north to south through the centre of the Study Area and a section of the line forms the eastern boundary of the Site.
- 9.5.10 Within the Study Area and ZTV are a number of Public Rights of Way (PRoW) and these are presented on **Volume 3, Figure 9.3**. Those within 500m of the Site are also presented, and labelled where relevant, on **Volume 3, Figure 9.1**.
- 9.5.11 PRoW Buckley 301/55 and Buckley 301/56 are adjacent to the Site boundary, and Buckley 301/56 also crosses the south west corner of the Site. PRoW Hawarden 303/103 cuts across the north east corner of the Site.
- 9.5.12 The Wat's Dyke Way Heritage Trail runs through the Study Area from north east to south east, passing 130m south of the southern boundary of the Site. The trail is formed by linking existing PRoW including Leeswood 408/73 and 408/75 close to the southern boundary of the Site. In addition to these footpaths, PRoW Leeswood 408/74 and 408/77 are also connected near the south of the Site.
- 9.5.13 PRoW Buckley 301/41, 301/42 and 301/43 all run north to south directly north of the Site connecting Padeswood Drive to Buckley.
- 9.5.14 PRoW Hawarden 303/100, 303/103, 303/105 and 303/108 are all connected in close proximity in the landscape between the eastern boundary of the Site and Penyffordd.
- 9.5.15 There are no National Cycle Network routes within the Study Area.
- 9.5.16 Likely impacts on transport and access routes have been included within relevant Visual Receptor Groups, unless the route has been deemed a Key Route and assessed in its own right.

Landscape Character

- 9.5.17 Published landscape character documents which are relevant to the Study Area have been reviewed and these documents have helped to inform the description of the existing baseline. The following documents have been reviewed:
- [National Landscape Character Area \(NLCA\) 13: Wreccsam a Glannau Dyfrdwy/ Deeside and Wrexham](#)¹⁰; and
 - [Landscapes Working for Wales, A Landscape Strategy for Flintshire Volume 1 – The Landscape Strategy Policies and Proposals](#)¹¹
- 9.5.18 At the national character area level, the Site and majority of the Study Area are located within NLCA 13 Wreccsam a Glannau Dyfrdwy/ Deeside and Wrexham. Extending south from the mouth of the River Dee and including several centres of

¹⁰ <https://cdn.cyfoethnaturiol.cymru/media/682570/nlca13-deeside-and-wrexham-description.pdf?mode=pad&rnd=131550580272430000>

¹¹ <https://www.flintshire.gov.uk/en/PDFFiles/Planning/Topic-papers/Landscaping.pdf>

population, the NLCA has been heavily industrialised and is an economic hub of the Welsh and regional English economy. Natural Resources Wales lists the key characteristics of the NLCA as:

- “Lowland, foothills and levels - sloping down to the lower Dee and Dee Estuary. Carboniferous Coal Measures interspersed with outcrops of Millstone Grit, Holywell shales and Cefn-y-Fedw sandstones. Glacial till, fluvio-glacial and river terrace drift overlay in parts of the valley floor, giving rise to localised gentle land form variation.
- A single large river, the Dee, traverses the area. The Dee opens out into a broad estuary with tidal sand and mud flats. A number of minor rivers dissect the landscape, for example, the Alyn and Eitha, and associated streams.
- A broad flat flood plain adjacent to the Dee Estuary – with wide open views to Wirral.
- Narrow, incised, wooded tributary valleys – many running down from the west.
- Mixed pasture and some arable - and farm woodland cover.
- Archaeology - variety of historic sites indicate the former strategic importance of the coastal route and the turbulent history of the Marchlands, including Offa’s Dyke and Wat’s Dyke. Late Medieval parklands and ecclesiastical / funerary sites.
- Urban settlements - a strongly settled character is apparent in the central and southern parts of the area, with the relatively large, almost linked settlements of Holywell-Connah’s Quay-Mold-Wrexham-Ruabon.
- An industrial character - evident in the line of coalesced settlements at Connah’s Quay and Holywell, associated both with the Chester to Holyhead railway line, mining and large scale power generation and industrial plants. Include landmark scale structures such as Broughton aircraft factory, Shotton Steel works and Connah’s Quay power station. Industry tends to dwarf historic settlement and features e.g. Flint and it’s castle.
- Small settlements – outside urban areas, compact villages associated with landed estates and isolated farmsteads, or coalesced ribbon developments and encroachment upon commons, which are the legacy of the former coal and lead mining industries.
- Culturally many connections to Chester and Merseyside.”

9.5.19 Within the very east of the Study Area, 4km from the Site boundary, are very small areas of landscape within NLCA 14 Maelor Saesneg/ Maelor and the English National Character Area (NCA) 61 Shropshire, Cheshire and Staffordshire Plain. In addition a very small area of the Study Area in the south west of the Study Area, at a minimum distance of 3.7km from the Site boundary, is within NLCA 12 Bryniau Clwyd/ Clwydian Range.

9.5.20 Whilst the NLCA profiles help to provide national context the focus of assessment in this LVIA is on the more detailed LANDMAP datasets outlined below.

9.5.21 At the local level, within A Landscape Strategy for Flintshire, the Study Area straddles two Landscape Character Areas (LCA): LCA 4 Eastern Lowland Plain and LCA 5 Buckley Lowland Hills:

- LCA 4 Eastern Lowland Plain is described as “a gently undulating lowland landscape under localised development and infrastructure pressure.”; and

- LCA 5 Buckley Lowland Hills is described as “elevated, undulating hills of rich rolling pasture land divided by shallow, often dry valleys with a patchwork of mixed woodland and a largely irregular field pattern supporting an overall abundance of mature hedgerow trees.”

9.5.22 These local LCA, whilst providing useful landscape character descriptions, have been superseded for planning purposes by Natural Resources Wales LANDMAP datasets (see paragraphs below) and are no longer available on the Flintshire County Council website or elsewhere online. Therefore the local LCA are not considered further in this assessment; in favour of relevant LANDMAP datasets.

LANDMAP

9.5.23 LANDMAP is an all-Wales GIS based landscape resource where landscape characteristics, qualities and influences on the landscape are recorded and evaluated into a nationally consistent data set. In Wales, LANDMAP is the formally adopted methodology for landscape assessment as directed by PPW.

9.5.24 LANDMAP is comprised of five spatial datasets of information known as Landscape Habitat, Visual & Sensory, Historic Landscape, Cultural Landscape and Geological Landscape aspect areas. With the exception of Cultural Landscape, aspect areas are given an overall evaluation classification, by Natural Resources Wales, of low, moderate, high or outstanding.

9.5.25 LANDMAP Guidance Note 46: Using LANDMAP in Landscape and Visual Impact Assessments, provides information on what LANDMAP information should be used in LVIA. **Volume 4, Technical Appendix 9.2** details those aspect areas that should be included in the LVIA in accordance with guidance set out in Guidance Note 46. **Volume 4, Technical Appendix 9.2** also presents the landscape effects on LANDMAP datasets scoped in to the assessment.

Landscape Designations

9.5.26 The Site is not within any recognised landscape designations. The boundary of the Bryniau Clwyd a Dyffryn Dyfrdwy/ Clwydian Range and Dee Valley National Landscape (formerly known as AONB) is approximately 9.1km from the Site. It is noted that the Welsh Government are considering changing the status of the Clwydian Range and Dee Valley National Landscape, to a National Park. A decision on the new designated status is expected in 2026.

9.5.27 The following heritage designations are within the 5km Study Area, and at least partially in the ZTV i.e. the Proposed Development is potentially visible from at least one location within the receptor landscapes:

- Hartsheath Registered Park and Garden (RPG) (910m south, south west);
- Plas Teg RPG (1.9km south, south west);
- Leeswood Hall Conservation Area (2.6km west);
- Leeswood Hall RPG (3km west);
- Pentrehobyn RPG (3.5km west);
- Tower RPG (4.5km west); and
- Caergwrlle Conservation Area (4.6km south, south east)

- 9.5.28 Hawarden Castle RPG, Hawarden Conservation Area, Bryn Lorcyn RPG and Nerquis Hall RPG are also heritage designations within 5km of the Site, but are fully outside the ZTV.
- 9.5.29 Impacts on heritage designations, if relevant, are considered within **Volume 2, Chapter 8: Cultural Heritage**. However, it is useful to identify them here because they can be an indicator of heritage values when considering landscape character.
- 9.5.30 Within the wider Study Area, environmental designations include Coed Talon Marsh Site of Special Scientific Interest (SSSI) 4km south of the Site and a series of SSSI known as 'Buckley Claypits and Commons' and Special Areas of Conservation (SAC) known as Deeside and Buckley Newt Sites to the east and north of Buckley. These ecological designations can provide a rounded understanding of the ecological values associated with the landscape character in the Study Area, but likely impacts on them are appropriately assessed within **Volume 2, Chapter 5: Biodiversity**.

Study Area Summary

- 9.5.31 The land use immediately around the Padeswood Cement Works is predominantly agricultural comprising of fields varying in size and shape, in use for both arable and pastoral farming.
- 9.5.32 Within 3km of the Site boundary, settlements to the north (Buckley) and east (Penyffordd and Penymyndd) occupy large portions of the Study Area. Between 3km and 5km from the Site boundary, in the northern half of the Study Area, further areas of the landscape are occupied by almost continuous settlement encompassing areas of Mold, Buckley, Connah's Quay and Broughton. Between 3km and 5km from the Site boundary in the southern half of the Study Area the landscape is more rural, but does include the villages of Hope and Higher Kinnerton.
- 9.5.33 Padeswood and Buckley Golf Club occupies an area of land between 1.1km and 2.3km west of the Site.
- 9.5.34 The Study Area is crossed by a busy highway network including a series of A-roads, most notably the A5118 which passes directly north of the Site, the A55 North Wales Expressway within the north-east of the Study Area and the A541 within the south and west of the Study Area.
- 9.5.35 The topography and land cover (surface water and woodland) of the Study Area is presented on **Volume 3, Figure 9.4**. The topography across the Study Area is undulating with small localised areas of higher ground and lower ground, but is generally between 95-140m above ordnance datum (AOD).
- 9.5.36 With the eastern extents of the Study Area (+3km from the Site), the landform is lower lying and generally around 20-40m AOD, and there are numerous drainage channels within the landscape associated with the River Dee.
- 9.5.37 Within the south west of the Study Area (over 3km from the Site) the landform rises to 280m AOD at Waun-y-Llyn (the Waun-y-Llyn Country Park is an area of land classified as Countryside Rights of Way Open Access Land) and 321m AOD at Hope Mountain, at the edges of the Clwydian Range. Within the west and south of the Study Area there are numerous streams and waterways cutting through the landscape associated with the Rivers Terrig and Alyn.

9.5.38 There is a large area of woodland, Bilberry Wood, within the north east of the Study Area and smaller scattered areas of woodland throughout the wider Study Area, particularly within the south west and north of the Study Area.

Visual Baseline

9.5.39 A computer-generated ZTV map has been produced to help establish the likely area of visibility of the Proposed Development. The ZTV is presented on **Volume 3, Figure 9.2**. Field survey work has also been undertaken to ground truth the ZTV and help establish the actual visual envelope of the Proposed Development.

9.5.40 The ZTV illustrates the potential visibility of the following pieces of infrastructure and maximum heights:

- CO₂ Compressor (20m);
- Absorber and Gas Wash Tower buildings (50m);
- Regenerator and Quencher buildings (70m); and
- Flue Gas Stack (117.9m).

9.5.41 The purpose of the ZTV is to identify the maximum possible extents of visibility and to help identify potential visual receptors. The ZTV takes account of the screening effect of significant blocks of woodland and also buildings, but does not take account of walls, hedgerows, tree lines, or smaller tree groups. The ZTV indicates if any section of the buildings listed above is visible; i.e. it does not differentiate between only the highest 1m of the building being visible; or the entire building. As is typical for all such ZTVs the visibility shown on the plan is exaggerated and the actual extent of visibility of the development would be more constrained than is indicated on the ZTV.

9.5.42 Potential visibility of the Proposed Development is limited to the open landscape within 1 km of the Site boundary, and up to 3km from the Site boundary to the south, west and south east of the Site. There would potentially be visibility of the gas flue stack within the development from further afield to the west and south (including on the higher ground outside the 5km Study Area); and also the level open countryside over 5km east of the Site. However from these distances the likely visual effects of a new tall structure adjacent to the existing kiln within the cement works would be Negligible.

9.5.43 The ZTV indicates that there would be no visibility of the Proposed Development within the north of the Study Area beyond the southern boundary of Buckley, approximately 900m north of the Site, except for glimpsed views from occasional and scattered areas of open landscape.

9.5.44 Whilst the ZTV indicates potential visibility site survey work has helped ground truth the ZTV and the following points are relevant.

9.5.45 Generally there would also be no views of the Proposed Development from within the settlement areas of Mold, Buckley, Connah's Quay or Broughton; with very occasional glimpsed views of the taller structures possible, primarily from where the existing kiln is visible, or from the upper floors of buildings.

9.5.46 There would be occasional glimpsed views of the Proposed Development from within the village of Penyffordd (including Penymynydd) to the east of the Site.

- 9.5.47 Within the Study Area the A5118 and the A541 are predominantly in the ZTV, in reality, however, roadside vegetation (not picked up in the ZTV mapping) would often screen views towards the Site. The A55 North Wales Expressway, within the north-east of the Study Area, is entirely outside the ZTV.
- 9.5.48 When visible, for all identified receptors, the Proposed Development would be viewed within the context of the existing cement works which is a prominent vertical structure in the existing visual baseline of the Study Area.

Visual Receptors

- 9.5.49 Visual receptors are “*the different groups of people who may experience views of the development*” (GLVIA, 3rd edition, paragraph 6.3). The ZTV study, baseline desk study and site visits have been considered in order to identify those receptors which may be significantly affected.
- 9.5.50 The different types of receptor groups assessed within this report encompass local residents; people using key routes such as roads; people within accessible or recreational landscapes; people using PRow or bicycle routes; or people visiting key viewpoints. In dealing with areas of settlement, PRow 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.
- 9.5.51 Representative viewpoints have been selected to aid the assessment of effects on visual receptors.

Visual Receptor Groups

- 9.5.52 Visual Receptor Groups are presented on **Volume 3, Figure 9.11**. The figure gives an idea of the geographic area covered by each group, but the boundaries are indicative and should not be interpreted as hard-boundaries between groups.
- 9.5.53 The following visual receptor groups are focused on residential properties in close proximity to the Site as standalone receptors.
- **Padeswood Drive East** – northern boundary of the Site (and includes PRow Hawarden 303/103 which cuts across the north east corner of the Site);
 - **Padeswood Drive West** – 170m north west of the Site; and
 - **Dyke Farm** – 180m south west of the Site.
- 9.5.54 The following visual receptor groups are located within the Study Area and are likely to have some visibility of the Proposed Development, as indicated on **Volume 3, Figure 9.2**.
- **Pen-yr-allt** – covering the landscape to the west and south of the Site boundary and extending for approximately 800 m (excludes PRow Buckley 301/55 and 301/56 and PRow Leeswood 408/73, 408/74, 408/75 and 408/77);
 - **Bannel Lane** – covering the landscape to the east and north east of the Site boundary and extending for approximately 900m;
 - **Spon Green** – covering the landscape to the north of the Site boundary and extending for approximately 900m to the southern edge of Buckley;

- **Penyffordd** – covering the landscape around the settlements of Penyffordd and Penymyndd, between approximately 300m and 1.3km east and south east of the Site;
- **Padeswood** – covering the landscape around the settlement of Padeswood and Padeswood Golf Course, between approximately 700m and 2.7km west and south west of the Site;
- **Rose Lane** – covering the landscape to the east of Padeswood Road South and north of the A5118, between approximately 1.2km and 3.3km north east of the Site;
- **Leeswood** – covering the landscape around the settlement of Leeswood and the surrounding area, between approximately 850m and 3.4km south west of the Site;
- **Waun-y-Llyn** – covering the landscape on higher ground between Leeswood and Caergwrle, between approximately 2.4km and 4.9km south-south west of the Site;
- **PRoW Buckley 301/55 and Buckley 301/56** – these PRoW are considered together as they are connected footpaths directly adjacent to the to the west of the Site, and technically cross the south west of the Site; and
- **PRoW Leeswood 408/73 and 408/75 (incorporating Wat’s Dyke Way)** – these PRoW are connected to each other around the south of the Site, including a 500m stretch adjacent to the southern boundary of the Site.

9.5.55 Effects on all the visual receptor groups listed above are considered in **Table 9.6**. Effects on all PRoW in the Study Area not named above are considered within the visual receptor group areas they lie within.

9.5.56 The following receptor groups are excluded from the detailed assessment, on the basis that visual effects are likely to be Negligible:

- **Buckley** (excluding southern edge i.e. Spon Green visual receptor group);
- Mold;
- Connah’s Quay;
- Broughton;
- Hope;
- Higher Kinnerton; and
- Treuddyn.

9.5.57 The majority of areas within these receptor groups are outside the ZTV, with views towards the Site screened by intervening built form, woodland blocks, other vegetation and occasionally landform. Within both Buckley and Mold there would be isolated locations from where the Proposed Development is visible; but these would be glimpsed views, usually from an urban setting, and only where the existing kiln and stack structure is visible in the cement works. There are also likely to be isolated views from small areas within Hope, Treuddyn and Higher Kinnerton, but these would all be from at least 3.5km distance from the Site and only where the existing kiln structure is visible in the cement works.

Key Routes – Roads and Rail

9.5.58 The following road and rail routes lie within the Study Area and effects on users are considered as stand-alone receptors in **Table 9.7**:

- **A5118** – A busy road which runs east to west through the centre of the Study Area, directly passing the northern boundary of the Site. The road is within the ZTV from approximately 500 m east of the Site to approximately 3km west of the Site.

9.5.59 The following road and rail routes lie within the Study Area and have sections within the ZTV, but the roads are generally not in close proximity to the Site, and are considered within the visual receptor group areas they lie within:

- **A5104** – the road runs east to south west through the Study Area and considered within receptor groups Penyffordd, Pen-yr-allt, Padeswood and Leeswood;
- **A541** – within the west of the Study Area and considered within receptor groups Padeswood, Leeswood and Hope;
- **A550** – within the east of the Study Area and considered within receptor groups Penyffordd and Hope; and
- **B5444** – within the west of the Study Area and considered within receptor groups Leeswood and Mold.

9.5.60 Other local roads in the Study Area are more likely to be used for local journeys and are also considered within the visual receptor group areas they lie within.

9.5.61 The following road and rail routes lie within the Study Area, but are largely outside the ZTV. For any very short sections within the ZTV there may be very occasional glimpsed views of the Proposed Development but these would usually be heavily screened by intervening roadside vegetation, built form or other woodland blocks, and in the context of the existing views of the cement works. Any visual effects on users of the following road and rail routes would be no more than negligible and are not considered further in this LVIA.

- **A55 North Wales Expressway** – the main vehicular route within the Study Area;
- A494;
- A549; and
- **Borderlands Railway Line** – runs north to south through the centre of the Study Area and a section of the line forms the eastern boundary of the Site however the rail-line is tree lined and in a low cutting as it passes through the Study Area; meaning any potential views of the Proposed Development would be very brief, heavily screened, glimpsed and at high-speed and as such are not considered further in this assessment.

Key Recreational Routes

9.5.62 The Wat's Dyke Way Heritage Trail is a long-distance trail which passes through the Study Area from Caergwrle, 5km south-south-east of the Site, to Soughton, 5km north west of the Site. The trail falls within the ZTV for approximately 7km, and passes 130m south of the Site boundary at its closest point. The trail is formed by connecting a series of existing PRoW, the closest of which to the Site are PRoW Leeswood 408/73 and 408/75. In these circumstances the effects on Wat's Dyke Way have not been considered individually and the worst-case impacts on users of the trail are those defined for PRoW Leeswood 408/73 and 408/75; away from these footpaths the effects on walkers would lessen.

Viewpoints, Wirelines and Photomontages

- 9.5.63 A series of viewpoints representative of the visual amenity within the Study Area were visited and are presented in **Volume 4, Technical Appendix 9.3**. The selected viewpoints and their location are listed below in **Table 9.5** and presented on **Volume 3, Figure 9.1** and **Volume 3, Figure 9.2**. The viewpoints were identified in consultation with Flintshire County Council, with viewpoints 13 and 14 recommended by Flintshire County Council at scoping.
- 9.5.64 Panoramic photographs, wireline diagrams and photomontages (in some cases) are provided to illustrate the existing view at each viewpoint location and the likely extent of the Proposed Development within the view.
- 9.5.65 Viewpoint analysis is presented below in **Section 9.6**, it informs the assessment of the scale of change in the view and likely significance of landscape and visual effects arising as a result of the Proposed Development, on different receptors. The individual viewpoints do not have significance of effect assessed.
- 9.5.66 This viewpoint analysis considers the nature of the predicted view and the scale of change. The wider extent of the impact (beyond the individual viewpoint considered), and its duration, are not captured in the viewpoint analysis (as a single viewpoint cannot capture extent or duration), and are considered in the main body of the assessment. Extent and duration are factors in the overall judgement on magnitude of change, therefore judgements on magnitude of change and overall level of effect and significance are also provided in the main assessment.
- 9.5.67 The method of assessment used for the viewpoint analysis, which is described in **Volume 4, Technical Appendix 9.1**, accords with current best-practice guidance for LVIA. Observations are made of the baseline landscape and visual characteristics at each of the representative viewpoints. Observations, computer modelling and professional judgement are applied to determine the scale of change attributable to the Proposed Development (**Large, Medium, Small and Negligible**) upon visual amenity at each individual viewpoint in order to help determine the scale of effect on identified visual receptors.

Table 9.5 Viewpoint Location

No.	Name	Location	Approx. Distance & Direction from proposed Flue Gas Stack	Relevance & Visual Receptor Group
1	PRoW Buckley 301/55	E328761, N362108	160m west (on-Site boundary)	Walkers Pen-yr-allt
2	Wat's Dyke Way	E328591, N361873	390m south west	Walkers and residents Dyke Farm
3	A5118 (north-west) and PRoW Buckley 301/43	E328491, N362478	595m north west	Motorists, residents and walkers Padeswood Drive West
4	A5118 (north-east)	E329695, N362834	1.1km north east	Motorists, residents and walkers Bannel Lane
5	Penyffordd Train Station	E329546, N361085	1.2km south east	Residents and train users Penyffordd
6	Junction of A5104 and Padeswood Lake Road and PRoW Leeswood 408/74	E328571, N361178	940m south, south west	Motorists, residents and walkers Padeswood/ Pen-yr-allt
7	Roundabout junction of A550, A5119 and A5104	E330332, N362820	1.6km east, north east	Motorists and residents Penyffordd
8	Bannel Lane, Spon Green	E329060, N363503	1.5km north, north east	Motorists and residents Spon Green
9	Meg's Lane and PRoW Buckley 301/42	E328550, N363349	1.3km north	Motorists, residents and walkers Spon Green
10	Padeswood and Buckley Golf Club, Padeswood Lake Road	E327613, N361848	1.3km west	Motorists, golf course Padeswood
11	A5188 near Rose Lane	E326854, N362473	2.1km west, north west	Motorists Rose Lane/ Padeswood
12	A541 near Tir Y Fron Lane	E329369, N358974	3.1km south	Motorists Hope

No.	Name	Location	Approx. Distance & Direction from proposed Flue Gas Stack	Relevance & Visual Receptor Group
13	The Old Barn, Padeswood Lake Road	E328130, N361526	940m south west	Residents, motorists Pen-yr-allt
14	Mold Bypass	E323372, N362640	5.6km west	Motorists Mold

Assessment against future baseline

9.5.68 If the Proposed Development does not go ahead, the existing operational cement works would continue to operate and the natural evolution of the existing baseline would occur.

9.6 Predicted Impacts

Sources of Construction Effects

9.6.1 The construction of the project would take place over an approximately 37-month period. It would involve an initial period of site clearance and earthworks (7 months months) followed by construction of the Proposed Development, and would include the use of large plant and scaffolding.

9.6.2 The likely landscape and visual impacts arising from construction are identified as:

- Temporary adverse impacts due to the introduction of construction activity to the landscape; and
- Temporary impacts on visual amenity due to the introduction of construction activities.

9.6.3 Typical activities with the potential to affect landscape character and visual amenity include:

- Site clearance;
- Introduction of temporary storage facilities, site compounds and temporary parking areas;
- Earth movement;
- Erection of structures;
- Lighting associated with construction activities; and
- Vehicular and large plant movement on and off-site.

Sources of Operational Effects

9.6.4 The main effect of the Proposed Development during its operational life would be the presence of new large-scale structures within the Site. A detailed description of those structures is presented in **Volume 2, Chapter 2: Description of Proposed Development** and on **Volume 3, Figure 1.2**. The maximum heights of the largest components of the Proposed Development would be:

- CO₂ Compressor (20m);

- Absorber and Gas Wash Tower buildings (50m);
- Quencher building (65m);
- Regenerator building (70m); and
- Flue Gas Stack (117.9m)

9.6.5 The likely landscape and visual impacts arising during the operation of the Proposed Development are identified as:

- Direct impacts on landscape pattern through the permanent loss or alteration of landscape components such as trees, scrub, other vegetation and landform which could lead to residual effects;
- Direct and indirect impacts on landscape character through a change in existing land use;
- Direct and indirect impacts on PRow directly adjacent to the proposed works and across the Site, including the closure of a section of one PRow within the Site boundary and its replacement with a new PRow outside the Site boundary;
- Potential impacts of localised landscape enhancements as part of the mitigation scheme, in particular within the north east of the Site boundary;
- Additional lighting, including night-time lighting, associated with the infrastructure during operation; and
- Visual impacts on nearby residents and users of PRow created by the introduction of a large-scale industrial facility, albeit adjacent to the existing cement works.

Landscape Assessment

9.6.6 The assessment of landscape effects follows the methodology presented in **Volume 4, Technical Appendix 9.1**. The LVIA reports on effects which will occur during the construction and operational phases separately.

9.6.7 The criteria for helping to identify landscape 'value', landscape 'susceptibility' and landscape 'sensitivity' is within **Volume 4, Technical Appendix 9.1**. The significance of landscape effects assessed assumes implementation of all the mitigation measures outlined in **Section 9.7**.

9.6.8 An analysis of LANDMAP datasets, as prescribed in LANDMAP Guidance Note 46: Using LANDMAP in Landscape and Visual Impact Assessments, has been undertaken for the Study Area and is presented in **Volume 4, Technical Appendix 9.2**.

Decommissioning phase

9.6.9 As discussed in the introductory sections of the draft Environmental Statement, the Carbon Capture Plant is intended to operate for as long as the existing operational cement works, and therefore decommissioning is not proposed until the ultimate decommissioning of the cement works site. However, as per the request in PEDW's Scoping Direction to consider decommissioning effects, a brief consideration is provided in the event that decommissioning on an earlier timescale were to be required.

- 9.6.10 The majority of the effects associated with decommissioning would be similar in nature to, but at a reduced scale to construction phase effects. There would be fewer materials, plant, labour and vehicles required during decommissioning when compared to construction. Decommissioning would take place over a shorter duration, and activities would be focused on areas of the Site which at that point would already be developed. Consequently, the magnitude and significance of effects associated with decommissioning would not differ in nature from nor exceed those assessed elsewhere in this chapter in respect of construction. It is therefore not considered necessary to provide a separate detailed assessment of decommissioning related effects.
- 9.6.11 Decommissioning, if required, would be conducted in accordance with the regulatory and policy environment in place at the time with all required permits and consents being obtained prior to commencement.

The Site

Location and baseline description (See viewpoint 1)

- 9.6.12 The Site is centred around the existing Padeswood Cement Works an existing major operational industrial complex with utilitarian mills, chimneys, domes, silos, packing bays and storage facilities; the cement works are enclosed by undeveloped areas of grass fields and woodland, particularly within the south-east of the Site. The bulk of the Proposed Developed would be located directly to the south-west of the existing infrastructure. The Site is approximately 1.1km south of the southern edge of Buckley.
- 9.6.13 The area of the proposed works, in the south west of the Site, is currently occupied by:
- Semi-improved grassland;
 - Small areas of dense scrub, ephemeral/short perennial and ruderal vegetation;
 - Broadleaved plantation woodland;
 - Mixed plantation woodland;
 - Neutral grassland; and
 - Four ponds.
- 9.6.14 There are large areas of tree planting and woodland enclosing the Site on all sides. The eastern boundary of the Site is defined by a section of railway line running between Wrexham and Deeside and the southern boundary is defined by the line of a dismantled railway. PRow Buckley 301/56 runs along the north western boundary of the Site, separated from the Site by a woodland belt and ditch; it then crosses the south-western corner of the Site. PRow Buckley 301/55 runs along the south-western boundary of the Site, separated from the Site by a low post and wire fence.
- 9.6.15 The topography around the majority of the Site within the north, central and eastern areas is generally level between approximately 105m and 112m AOD. However, a man-made raised landform separates the developed areas of the Site from the south west corner where the bulk of the development works would occur. To the south west of this raised earthworks the landform drops away and at its lowest is approximately 95m AOD in the south west corner of the Site.

9.6.16 There are drainage channels and ditches along the western and southern boundaries of the Site and further ditches within the east and south east of the Site. There is regularly standing water, as well as the drainage ponds, on the lower ground within the south west corner of the Site.

Value, susceptibility and sensitivity

9.6.17 **Table 9.6** lists the LANDMAP datasets coincident with the Site and the overall evaluation of those datasets given by Natural Resources Wales. Greater detail on each of the LANDMAP datasets is provided in **Volume 4, Technical Appendix 9.2**.

Table 9.6 LANDMAP datasets coincident with the Site

Dataset Aspect ID Name	Natural Resources Wales description and evaluation notes	Overall LANDMAP Evaluation
Geological Landscape FLNTGL752 Northop-Buckley-Broughton	<p><i>“Forms part of the extensive glacial drift cover of eastern Flintshire.</i></p> <p><i>Extensive boulder clay blanketed terrain; stepped down towards the sea in the north-west due to the influence of buried scarps of Carboniferous sandstone units, but forming a gentle more even slope in the south-east. Scattered outcrops of Carboniferous and Permian rocks (the latter in the south-east only) locally show through the glacial cover.</i></p> <p><i>Overall area typical of widespread glacial deposit cover of the county, although locally important sites do exist (Kinnerton potential RIGS [Regionally Important Geodiversity Sites] site - type locality of Kinnerton Sandstone Formation)”.</i></p>	Moderate
Landscape Habitats FLNTLH038 Buckley Mosaic	<p><i>“This is a mosaic of pasture land and arable land, the field sizes are small to moderate and many fields have hedges. There are several areas of ribbon woodlands which add to the biodiversity of the area. This area comprises pasture land, temporary grass leys for silage and some arable land; and has a few areas of locally significant woodland, several thicker hedges and therefore a moderate value”.</i></p>	Moderate
Cultural Landscape Services FLNTCLS021 N/A (region Flintshire)	<p>Answers/evaluations to the LANDMAP survey questions regarding cultural interest in the aspect area are generally ‘moderate’ or ‘no answer’, but with some higher quality landscape habitat and historical elements.</p>	N/A (but answer to individual survey questions predominantly moderate)
Visual and Sensory	<p><i>“Farmland Fringe - gently rolling lowland farmland with a mixture of small traditional fields, larger more improved fields and urban</i></p>	Moderate

Dataset Aspect ID Name	Natural Resources Wales description and evaluation notes	Overall LANDMAP Evaluation
FLNTVS009 N/A (region Flintshire)	<p><i>and fringe uses including currently unused quarries and golf courses. There is a large cement works in the southern part of the area. This has large structures, which are locally prominent, rising out of the predominantly rural landscape.</i></p> <p><i>There are attractive and detractive views in and out of the aspect area. The cement works is a detractor”.</i></p>	
Historic Landscapes FLNTHL636 Padeswood	<p><i>“Area of predominantly irregular fieldscapes south of Buckley, probably representing piecemeal clearance and enclosure of farmland since at least the early medieval period onwards, between a height of 80-100m AOD. Early settlement and land use suggested by Bronze Age burial mounds and possible ceremonial sites in the western part of the aspect area. Medieval high-status settlement indicated by dispersed earthen castle sites possibly marking early manorial centres. Wat’s Dyke, an early medieval linear earthwork boundary, runs across the centre of the area. Dispersed 19th-century industrial remains including the Sites of former coalmines, brickworks, lead mines, smelt mills and limekilns. Small 17th-century and later parks and gardens associated with Pentrehobyn and Leeswood Hall, two high-status halls on the western side of the aspect area. The central part of the area is visually dominated at the modern Padeswood cement works. The growth of recreation in modern times is represented by the large Old Padeswood Golf Club.</i></p> <p><i>A mixed fieldscape with a diverse historical content but no single or overriding focus. Its value is potentially slightly increased by the passage of Wat’s Dyke and some post medieval gentry houses”.</i></p>	Moderate

- 9.6.18 The industrial nature of the Site has a significant baseline impact on the character of the surrounding landscape and the existing tall elements of the cement works are widely visible from the surrounding landscape. The landscape around the cement works, including where the majority of the development would be undertaken, has many positive natural landscape elements, but all within the context of the adjacent industrial features.
- 9.6.19 The Site is not within any designated landscape and also has no cultural heritage interest. PRow border the western edge of the Site and cross the south west of the

Site providing it with some recreational value, though the majority of the Site is private land under industrial use.

- 9.6.20 The landscape of the Site is considered to have a 'Community' value and a 'Medium' susceptibility to the Proposed Development. Taking account the judgements on value and susceptibility, the overall sensitivity of the Site to the Proposed Development is 'Medium/ Low'.

Assessment of construction effects

- 9.6.21 Construction impacts on the Site would be direct and short-term. The impacts would include the loss of landscape elements (as detailed below in 'Assessment of operational effects') and earthworks within the south west of the Site. Construction activity would have a temporary and limited impact on local landscape character, but would not be a completely incongruous feature in the landscape due to the existing cement works operation.
- 9.6.22 The scale of impact on the landscape character of the Site is considered to be large over an intermediate area, and therefore is assessed as substantial. The duration is considered to be short-term and therefore the overall magnitude of change on the landscape character of the Site during construction is assessed as 'Moderate'.
- 9.6.23 Taking account of the 'Moderate' magnitude of change and the 'Medium/ Low' sensitivity of the Site the significance of the effect on landscape character is assessed as **Moderate Adverse** during construction. Noting that moderate adverse effects could be either significant or not significant, the determining factor in this instance is that the short-term nature of the effects mean they are considered to be **Not Significant**.

Assessment of operational effects

- 9.6.24 Direct effects arising from the Proposed Development would be focused within the south west corner of the Site. There would be changes to the landform of the Site; and there would be a loss of the existing grassland, scrub and woodland landcover. The effects on existing landcover and landscape elements would be localised and well contained by the surrounding industrial features and woodland around the periphery of the Site.
- 9.6.25 The Proposed Development would introduce new large-scale structures to an undeveloped area, albeit within the boundary of an existing cement works and adjacent to existing large-scale structures which are prominent in the landscape. Whilst there would be a change in landscape use it would not be introducing new or contrasting elements into the landscape. The location of the Site means that the Proposed Development would be reasonably well contained by surrounding vegetation which already encloses the existing cement works and not incongruous within the wider area. However, the scale of the Proposed Development means it would be noticeable from the surrounding landscape.
- 9.6.26 PRoW Buckley 301/56, which crosses the south west corner of the Site, would be diverted around the Site boundary. Agreement has been reached to add a new PRoW adjacent to the south of the Site boundary to connect the two points closed off by the

diversion of PRow Buckley 301/56. The new PRow would be designed to be accessible and well maintained.

- 9.6.27 There would be a loss of existing, naturally regenerated landscape elements, including open mosaic grassland and scrubland. However, mitigation proposals, as presented on **Drawing no's.: Landscape and Habitat Mitigation Strategic Proposal (Eastern Area) - 0242-SH-XX-XX-DR-L-1001 (Draft), Landscape and Habitat Mitigation Strategic Proposal (North West Area) - 0242-SH-XX-XX-DR-L-1002 (Draft), and Landscape and Habitat Mitigation Strategic Proposal (South West Area) - 0242-SH-XX-XX-DR-L-1003 (Draft)**, include for new areas of rough grassland, deciduous woodland and new ponds. The three aforementioned **Landscape and Habitat Mitigation Strategic Proposal drawings** are also provided in **Volume 4, Technical Appendix 9.4** and in the planning drawings pack submitted as part of this DNS application. Greater detail on the proposals is provided in **Section 9.7**.
- 9.6.28 The scale of impact on the landscape character of the Site is considered to be large over an intermediate area, and therefore is assessed as substantial. The duration is considered to be long-term and therefore the overall magnitude of change on the landscape character of the Site is assessed as 'Substantial'.
- 9.6.29 Taking account of the 'Substantial' magnitude of change and the 'Medium/ Low' sensitivity of the Site the significance of the effect on landscape character is assessed as **Major/ Moderate Adverse (tending towards Moderate) and Significant** during years one to 10 of operations.
- 9.6.30 The Landscape and Habitat Mitigation Strategic Proposals would reduce the overall impacts on the landscape character of the Site. Whilst adverse effects would remain, it is considered these would be partially offset by the new woodland and pond areas within the north-east of the Site, which would have a beneficial impact on landscape character. The overall assessment of the level of effects at year 10 and onwards on the landscape character of the Site are assessed as **Moderate Adverse and Significant**.

LANDMAP Datasets

- 9.6.31 Effects are considered on LANDMAP datasets as identified as per the guidance set out in LANDMAP Guidance Note 46: Using LANDMAP in Landscape and Visual Impact Assessments. The level of effects on those LANDMAP datasets host to the Site are provided below in **Table 9.7**. Greater detail on the assessment and identified effects on LANDMAP datasets not coincident with the Site is presented in **Volume 4, Technical Appendix 9.2**.

Table 9.7 Effects on LANDMAP datasets coincident with the Site

Effects on LANDMAP datasets coincident with the Site	
Geological Landscape FLNTGL752 Northop-Buckley-Broughton	
Location and Natural Resources Wales description, evaluation and other notes	<p><i>“Occupies the bulk of the centre, north and east of the Study Area and hosts the Site. Extends over the landscape to the north-west of the Study Area.</i></p> <p><i>Forms part of the extensive glacial drift cover of eastern Flintshire.</i></p> <p><i>Extensive boulder clay blanketed terrain; stepped down towards the sea in the north-west due to the influence of buried scarps of Carboniferous sandstone units, but forming a gentle more even slope in the south-east. Scattered outcrops of Carboniferous and Permian rocks (the latter in the south-east only) locally show through the glacial cover.</i></p> <p><i>Overall area typical of widespread glacial deposit cover of the county, although locally important sites do exist (Kinnerton potential RIGS site - type locality of Kinnerton Sandstone Formation).</i></p> <p><i>Guidelines/ Management – Ensure that potential RIGS site is assessed and consequently safeguarded using Local Plan policies and constraint mapping. And over the long term ensure that other significant features of geological or geomorphological significance in the area (including former coal mine sites) are not lost/damaged due to development.”</i></p>
Summary of Effects	There would be earthworks to accommodate the foundations and infrastructure of the Proposed Development; however the proposals would not damage notable geological features and there would be no change to the Natural Resources Wales description and evaluation of the dataset.
Value, susceptibility and sensitivity	LANDMAP Overall Evaluation – Moderate Susceptibility – Medium Sensitivity – Medium/Low
Scale, extent and duration of change	Construction – Medium and localised – Moderate/Slight short-term Years 1-10 – Medium and localised – Moderate/Slight medium-term Year 10 onwards – Medium and localised – Moderate/Slight long-term
Magnitude of Change	Construction – Slight Years 1-10 – Moderate Year 10 onwards – Moderate
Level of effect	Construction – Minor adverse Years 1-10 – Moderate/ Minor adverse Year 10 onwards – Moderate/ Minor adverse and Not Significant
Landscape Habitats FLNTLH038 Buckley Mosaic	

Effects on LANDMAP datasets coincident with the Site	
Location and Natural Resources Wales description, evaluation and other notes	<p><i>“A large aspect area (2,293 ha) which occupies the centre of the Study Area, and hosts the Site of the Proposed Development.</i></p> <p><i>This is a mosaic of pasture land and arable land, the field sizes are small to moderate and many fields have hedges. There are several areas of ribbon woodlands which add to the biodiversity of the area. This area comprises pasture land, temporary grass leys for silage and some arable land; and has a few areas of locally significant woodland, several thicker hedges and therefore a moderate value.</i></p> <p><i>Guidelines/ Management – Many of the hedges are not stockproof in their own right and would benefit by maintenance work and replanting of gaps with native species. Management of grasslands where there are native species present by reducing agricultural inputs to allow more native species to regenerate will enhance the biodiversity.”</i></p>
Summary of Effects	<p>There would be loss of woodland and grassland within the Site boundary where the main development is located.</p> <p>Whilst there would be a medium to small scale impact on landscape habitats within the Site there would be no discernible change to the aspect area or its evaluation. The impacts would be limited to the Site.</p> <p>Mitigation proposals within the north-east of the Site would introduce areas of rough grassland, deciduous woodland and four new ponds. In addition there would be new planting introduced around the development area.</p>
Value, susceptibility and sensitivity	<p>LANDMAP Overall Evaluation – Moderate</p> <p>Susceptibility – Medium</p> <p>Sensitivity – Medium</p>
Scale, extent and duration of change	<p>Construction – Medium and intermediate – Moderate short-term</p> <p>Years 1-10 – Medium and localised – Moderate/Slight medium-term</p> <p>Year 10 onwards – Medium and localised – Moderate/Slight long-term</p>
Magnitude of Change	<p>Construction – Moderate</p> <p>Years 1-10 – Moderate</p> <p>Year 10 onwards – Moderate</p>
Level of effect	<p>Construction – Moderate/ Minor adverse</p> <p>Years 1-10 – Moderate/ Minor adverse</p> <p>Year 10 onwards – Moderate/ Minor adverse and Not Significant</p>
Cultural Landscape Services FLNTCLS021 Unnamed (region Flintshire)	

Effects on LANDMAP datasets coincident with the Site	
Location and Natural Resources Wales description, evaluation and other notes	Occupies a large area of land within the centre and north of the Study Area and encloses the town of Buckley (which is not in the aspect area). The Site is within this aspect area. Answers/evaluations to the LANDMAP survey questions regarding cultural interest in the aspect area are generally 'moderate' or 'no answer', but with some higher quality landscape habitat and historical elements.
Summary of Effects	Within the south of the aspect area the Proposed Development would appear as an extension of the existing Padeswood Cement Works in a semi-urban landscape. There would be no discernible change to the aspect area.
Value, susceptibility and sensitivity	LANDMAP Overall Evaluation – N/A; Value – Community Susceptibility – Low Sensitivity – Low
Scale, extent and duration of change	Construction – Negligible and localised –Negligible short-term Years 1-10 – Negligible and localised –Negligible medium-term Year 10 onwards – Negligible and localised – Negligible long-term
Magnitude of Change	Construction – Negligible Years 1-10 – Negligible Year 10 onwards – Negligible
Level of effect	Construction – Negligible adverse Years 1-10 – Negligible adverse Year 10 onwards – Negligible adverse and Not Significant
Visual and Sensory FLNTVS009 Unnamed (region Flintshire)	
Location and Natural Resources Wales description, evaluation and other notes See viewpoints 1, 3, 4, 7, 8, 9 and 11	<i>“Occupies a large area of land within the centre and north of the Study Area and encloses the town of Buckley (which is not in the aspect area). The Site is within this aspect area.</i> <i>Farmland Fringe - gently rolling lowland farmland with a mixture of small traditional fields, larger more improved fields and urban and fringe uses including currently unused quarries and golf courses. There is a large cement works in the southern part of the area. This has large structures, which are locally prominent, rising out of the predominantly rural landscape.</i> <i>There are attractive and detractive views in and out of the aspect area. The cement works is a detractor.</i> <i>Guidelines/ Management – Improve screening of cement works to at least reduce the visibility of low level infrastructure. Encourage hedgerow and tree management on farms to improve enclosure and biodiversity. Restore quarries if now redundant with recreational and biodiversity benefits if possible.”</i>

Effects on LANDMAP datasets coincident with the Site	
Summary of Effects	Publicly accessible views of the Proposed Development from large areas of the aspect area to the east, west and north. However, existing vegetation would screen much of the lower level of the development. When visible the proposed flue gas stack would be viewed within the context of the existing cement works. The Proposed Development would increase the geographic area occupied by the cement works and also slightly increase the mass and bulk of visible utilitarian structures; but the new structures would not be out of scale with the existing structures and would not be an incongruous feature in the landscape.
Value, susceptibility and sensitivity	LANDMAP Overall Evaluation – Moderate Susceptibility – Medium Sensitivity – Medium/ Low
Scale, extent and duration of change	Construction – Medium and intermediate – Moderate short-term Years 1-10 – Medium and intermediate – Moderate medium-term Year 10 onwards – Medium and intermediate – Moderate long-term
Magnitude of Change	Construction – Moderate Years 1-10 – Moderate Year 10 onwards – Moderate
Level of effect	Construction – Moderate adverse Years 1-10 – Moderate adverse Year 10 onwards – Moderate adverse and Significant
Historic Landscapes FLNTHL636 Padeswood	
Location and Natural Resources Wales description, evaluation and other notes	<i>“A large aspect area that hosts the bulk of the central area of the Study Area, including the Site. Area of predominantly irregular fieldscapes south of Buckley, probably representing piecemeal clearance and enclosure of farmland since at least the early medieval period onwards, between a height of 80-100m AOD. Early settlement and land use suggested by Bronze Age burial mounds and possible ceremonial sites in the western part of the aspect area. Medieval high-status settlement indicated by dispersed earthen castle sites possibly marking early manorial centres. Wat's Dyke, an early medieval linear earthwork boundary, runs across the centre of the area. Dispersed 19th-century industrial remains including the Sites of former coalmines, brickworks, lead mines, smelt mills and limekilns. Small 17th-century and later parks and gardens associated with Pentrehobyn and Leeswood Hall, two high-status halls on the western side of the aspect area. The central part of the area is visually dominated at the modern Padeswood cement works. The growth of</i>

Effects on LANDMAP datasets coincident with the Site	
	<p><i>recreation in modern times is represented by the large Old Padeswood Golf Club.</i></p> <p><i>A mixed fieldscape with a diverse historical content but no single or overriding focus. Its value is potentially slightly increased by the passage of Wat's Dyke and some post medieval gentry houses.</i></p> <p><i>Guidelines/ Management – None.”</i></p>
Summary of Effects	There would not be any effects on the identified historic elements (Scheduled Ancient Monuments (SAM), Sites and Monuments Records (SMR), Listed Buildings and Registered Parks and Gardens (RPG)) within the aspect area. There would be no direct impacts on Wat's Dyke. There would be no discernible change to the aspect area or its evaluation.
Value, susceptibility and sensitivity	LANDMAP Overall Evaluation – Moderate Susceptibility – Medium Sensitivity – Medium/ Low
Scale, extent and duration of change	Construction – No change Years 1-10 – No change Year 10 onwards – No change
Magnitude of Change	Construction – No change Years 1-10 – No change Year 10 onwards – No change
Level of effect	Construction – None Years 1-10 – None Year 10 onwards – None

Visual Assessment

9.6.32 The assessment of visual effects follows the methodology presented in **Volume 4, Technical Appendix 9.1**.

Viewpoint Analysis

9.6.33 This section provides further details and commentary on the representative viewpoints illustrated in **Volume 4, Technical Appendix 9.3**. The viewpoints are not receptors in their own right and overall effects on each viewpoint are not assessed. The viewpoints are representative of the visual amenity in the Study Area and they illustrate (with the accompanying wirelines, photomontages and analysis) how visual amenity would be impacted by the Proposed Development. In order to assist the assessment of effects on visual amenity the scale of change in view, for each viewpoint, is recorded. All viewpoints are from publicly accessible locations.

9.6.34 The ground levels of the Proposed Development would not be visible from anywhere within the Study Area, with the exception of the PRow which are directly adjacent to the Site. Once structures reach 20m in height then some visibility above and through the intervening vegetation is possible.

- 9.6.35 The primary structures visible would be the proposed flue gas stack structure and proposed regenerator building. However, a key consideration is that the proposed new structures would generally only be visible from locations where the existing cement works is already visible and the kiln is a prominent vertical feature in the existing visual baseline.
- 9.6.36 The Proposed Development would be seen as a part of the Padeswood Cement Works complex and not as a separate isolated large-scale industrial development.

Viewpoint 1 (PRoW Buckley 301/55)

- 9.6.37 This viewpoint is located on PRoW Buckley 301/56, along the south western boundary of the Site.
- 9.6.38 This viewpoint immediately adjoins and overlooks the area of the Site where the bulk of the Proposed Development would occur, the view encompasses scrub grassland, a lagoon and the strip of trees which enclose the existing cement works. The existing kiln tower is a prominent vertical structure in the landscape; and the upper levels of some of the other industrial buildings are visible above the treeline.
- 9.6.39 From this viewpoint there would be a large scale of change to the immediate foreground view, including a loss of grassland and trees to be replaced by an intensified industrial built environment. The proposed flue gas stack structure would be of a similar height to the existing kiln; and the scale and mass of the Proposed Development would generally be similar to the existing cement works infrastructure.
- 9.6.40 The change in visual amenity is greater from this location than any other location around the Study Area, and is representative of this PRoW for 290m. There would be a large scale of change to the view.

Viewpoint 2 (Wat's Dyke Way)

- 9.6.41 This viewpoint is located on PRoW Leeswood 408/75, which also forms a section of the Wat's Dyke Way Heritage Trail, 40 m south of the Site boundary and 390m south-west of the proposed location of the flue gas stack. The viewpoint is located within the Pen-yr-allt visual receptor group area. The landform drops away immediately behind the viewpoint to Dyke's Farm, which is on lower lying ground.
- 9.6.42 The existing view illustrates the foreground woodland belt on lower lying ground between the viewpoint and the Site; created by Wat's Dyke. In views towards the Site, through the intervening vegetation, elements of the cement works are visible; in particular the kiln is a prominent vertical structure in the landscape rising above the treeline. Agricultural fields and woodland belts typical of the Study Area are visible in the wider landscape.
- 9.6.43 The Proposed Development would be partially screened from this area, by the foreground vegetation. However, the taller structures and some of the lower level structures would be clearly visible above and through the treeline and would appear in the foreground to the existing works. The Proposed Development would extend the visible extents of industrial buildings for the receptor. Whilst the Proposed Development would be visible it would not be an incongruous feature in the landscape or appear out of scale with the existing industrial features in the view. There would be a large to medium scale change in the view.

Viewpoint 3 (A5118 (north-west))

- 9.6.44 This viewpoint is located on the A5118 at the southern end of PRow Buckley 301/43, 360m west of the Site boundary and 595m north west of the proposed location of the flue gas stack. The viewpoint is located within the Padeswood Drive West visual receptor group area and is representative of views from the A-road and nearby residential properties at Padeswood Lodge, Laburnum Cottage and neighbouring properties. Although it is noted that the properties often have mature vegetation in their curtilage which provide an extra level of screening towards the Site and there are generally not direct lines of view as open as the one in the viewpoint.
- 9.6.45 The existing view is of an agricultural landscape, with hedgerow field boundaries, and occasional woodland belts typical of the Study Area with the existing cement works a visually prominent and contrasting feature in the landscape. The higher ground around Caergwrlle is visible 5 km to the south east of Site.
- 9.6.46 A photomontage visualisation has been prepared for this viewpoint and it illustrates that the new development would appear in the landscape as an extension to the existing works; almost doubling the extent of industrial structures in view. The proposed flue gas stack structure would be of a similar height to the existing stack; and the scale and mass of the Proposed Development would generally be similar to the existing cement works infrastructure. Whilst the new structures would be very prominent in view and extend the horizontal extent of the industrial landscape when viewed from this location, they would be viewed within the context of the existing cement works and would not be an incongruous feature in the landscape. There would be a large to medium scale of change to the view.

Viewpoint 4 (A5118 (north-east))

- 9.6.47 This viewpoint is located on the A5118, 145 m east of the Site boundary and 1.1km north east of the proposed location of the flue gas stack. The viewpoint is located within the Bannel Lane visual receptor group area and is representative of views from the A-road and nearby residential properties around the junction of Bannel Lane and A5118.
- 9.6.48 The existing view is of an agricultural landscape, with hedgerow field boundaries, and occasional woodland belts typical of the Study Area with the existing cement works a visually prominent and contrasting feature in the landscape. The woodland strip which borders the railway line along the eastern boundary of the Site, is visible in the view, as is the bridge where the rail line crosses the A5118. The higher ground at the edge of the Clwydian Range is visible above the tree line in the far distance of the view.
- 9.6.49 A photomontage visualisation has been prepared for this viewpoint and it illustrates that the new development would appear in the landscape as an extension to the existing works. The new built form would not appear to noticeably extend the horizontal extent of the cement works, but would increase the number of tall structures visible. The proposed flue gas stack structure would be of a similar height to the existing stack; and the scale and mass of the Proposed Development would generally be similar to the existing cement works infrastructure. Whilst the new structures would be clearly visible in view, they would be viewed within the context of

the existing cement works and would not be an incongruous feature in the landscape. There would be a medium to small scale of change to the view.

Viewpoint 5 (Penyffordd Train Station)

- 9.6.50 This viewpoint is located on the southbound platform of Penyffordd Train Station, 465m south of the Site boundary and 1.2km south-east of the proposed location of the flue gas stack. The viewpoint has been selected as potential views towards the Site from the A550 were screened by roadside vegetation and from within Penyffordd by foreground buildings and vegetation.
- 9.6.51 The existing view is of a small local train station, with a strip of trees adjacent to either side of the railway lines; an agricultural landscape with woodland belts is visible through the gap in the treeline. The existing cement works is generally screened by the treeline, however the existing kiln tower is a visually prominent and contrasting feature in the landscape.
- 9.6.52 The Proposed Development would be heavily screened from this viewpoint, although the roof line of the lower level structures would be visible through the gap in the vegetation and the proposed flue gas stack, in the centre of the view, would appear above the vegetation at a similar height to the existing kiln. The new stack would be a new and prominent vertical structure in the view, but within the context of the existing stack and would not be an incongruous feature in the landscape. There would be a small scale of change to the view.

Viewpoint 6 (Junction of A5104 and Padeswood Lake Road and PRow Leeswood 408/74)

- 9.6.53 This viewpoint is located at the junction of the A5104 and Padeswood Lake Road; and the southern end of ProW Leeswood 408/74, 760m south of the Site boundary and 940m south west of the proposed location of the flue gas stack. The viewpoint is representative of views for road users, walkers on ProW Leeswood 408/74 and nearby residential properties including Toll Bar Cottage and Camfa-Rhinalt Farm.
- 9.6.54 The existing view is of a well-managed agricultural landscape with arable fields, maintained hedgerow field boundaries, scattered trees and occasional woodland belts typical of the Study Area. A low voltage overhead line crosses the foreground fields. The built structure of the existing cement works is visible through the intervening vegetation and the existing kiln tower is a visually prominent and contrasting feature in the landscape.
- 9.6.55 A photomontage visualisation has been prepared for this viewpoint and it illustrates that the new development would largely be screened by the intervening woodland. The tall structures of the proposed flue gas stack and regenerator building, plus the tops of two other structures, would be prominent in view above the treeline. Whilst the new structures would be visible and increase slightly the horizontal extent of the industrial landscape, they would be viewed within the context of the existing cement works and would not be an incongruous feature in the landscape. There would be a medium to small scale of change to the view.

Viewpoint 7 (Roundabout junction of A550, A5119 and A5104)

- 9.6.56 This viewpoint is located at the roundabout junction of the A550, A5119 and A5104 adjacent to Cross Farm, 840m east of the Site boundary and 1.6km east, north east of the proposed location of the flue gas stack. The viewpoint is representative of views for road users and nearby residential properties.
- 9.6.57 The well-maintained roadside hedgerow screens the view of the majority of the nearby and middle-distance landscape. Scattered trees and occasional woodland belts typical of the Study Area are visible rising above the hedgerow. The higher ground at the edge of the Clwydian Range is visible in the distance of the view. Across the landscape steel electricity pylons are visible vertical structures. The built structure of the existing cement works is a visually prominent feature in the landscape.
- 9.6.58 The tall structure of the proposed flue gas stack would be visible as would the upper section of another structure, however the majority of the remaining development would be located behind the existing structures and vegetation and heavily screened. Whilst the flue gas stack would be visible it would not be out of scale with the existing built form and it would not be an incongruous feature in the landscape. There would be a medium to small scale of change to the view.

Viewpoint 8 (Bannel Lane, Spon Green)

- 9.6.59 This viewpoint is located on Bannel Lane at the south-eastern periphery of Buckley, 840m north of the Site boundary and 1.5km north, north east of the proposed location of the flue gas stack. The viewpoint is representative of the settlement at Spon Green on the edge of Buckley.
- 9.6.60 The existing view is of a well-managed semi-agricultural landscape, including intermittent residential properties, overhead electricity lines, well-maintained hedgerows and occasional woodland belts visible across the view. The built structure of the existing cement works is visible above the intervening vegetation and the existing tower is a visually prominent and contrasting feature in the landscape. The high ground at Caergwrle is visible beyond the cement works.
- 9.6.61 A photomontage visualisation has been prepared for this viewpoint and it illustrates that the new development would appear in the landscape as an extension to the existing works; the new structures would be prominent. The proposed flue gas stack would be of a similar height to the existing tower and break the skyline above the high ground beyond. Whilst the new structures would be prominent in view and extend the horizontal extent of the industrial landscape, they would be viewed within the context of the existing cement works, would not be an incongruous feature in the landscape, would be partially screened by intervening woodland and would be backclothed by the higher ground beyond. There would be a medium to small scale of change to the view.

Viewpoint 9 (Meg's Lane and PRow Buckley 301/42)

- 9.6.62 This viewpoint is located on Meg's Lane at the southern periphery of Buckley and the northern end of PRow Buckley 301/42, 800m north of the Site boundary and 1.3km north of the proposed location of the flue gas stack. The viewpoint is representative of the settlement at Spon Green on the edge of Buckley.

- 9.6.63 The existing view is of a well-managed semi-agricultural landscape, including a farm, overhead electricity lines, well-maintained hedgerows and occasional woodland belts visible across the view. A series of farm buildings are prominent in the view, backclothed by a woodland belt. The built structure of the existing cement works is visible above the intervening farm buildings and vegetation. The existing kiln tower is a visually prominent and contrasting feature in the landscape. The high ground at Caergwrlle is visible beyond the cement works.
- 9.6.64 A photomontage visualisation has been prepared for this viewpoint and it illustrates that the new development would appear in the landscape as an extension to the existing works; the new structures would be prominent. The proposed flue gas stack would be of a similar height to the existing kiln tower and break the skyline above the high ground beyond. Whilst the new structures would be prominent in view and extend the geographic impact of the industrial landscape, they would be viewed within the context of the existing cement works, would not be an incongruous feature in the landscape and would largely be backclothed by the higher ground beyond. There would be a medium scale of change to the view.

Viewpoint 10 (Padeswood and Buckley Golf Club, Padeswood Lake Road)

- 9.6.65 This viewpoint is located within the Padeswood visual receptor group area on Padeswood Lake Road adjacent to Padeswood and Buckley Golf Club, 1.1km west of the Site boundary and 1.3km west of the proposed location of the flue gas stack.
- 9.6.66 The existing view illustrates a semi-wooded landscape, which screens longer distance views. Above the treeline the existing kiln tower is a prominent vertical and contrasting feature in the landscape.
- 9.6.67 From this location the majority of the Proposed Development would be heavily screened by the foreground vegetation. The exception would be the proposed flue gas stack, the top of which would be visible above the treeline and in close proximity to the existing kiln tower i.e. it would not overly extend the visual intrusion of the existing cement works. Whilst the flue gas stack would be visible it would not be an incongruous feature in the landscape or appear out of scale with the existing industrial feature in the view. There would be a small scale of change to the view.

Viewpoint 11 (A5188 near Rose Lane)

- 9.6.68 This viewpoint is located near the junction of Rose Lane and the A5118 at the southern end of PRow Mold Rural 410/51, 2km west of the Site boundary and 2.1km west-north-west of the proposed location of the flue gas stack. The viewpoint is from the boundary of the Rose Lane and Padeswood visual receptor group areas.
- 9.6.69 The existing view is of a road, with well-maintained roadside hedgerows, cutting through a semi-agricultural landscape. In the middle distance much of the built form of the existing cements works is visible above and through the intervening vegetation; and the existing kiln tower is a prominent vertical feature in the landscape.
- 9.6.70 The Proposed Development would appear in the landscape as a minor extension to the existing works; with the new built form slightly extending to the south (right of view), but often backclothed or 'on top' of the existing structures. From this distance and location the Proposed Development would appear of a similar scale and mass to

the existing buildings. Whilst the new structures would be visible in view they would be viewed within the context of the existing cement works and would not be an incongruous feature in the landscape. There would be a small to negligible scale of change to the view.

Viewpoint 12 (A541 near Tir Y Fron Lane)

- 9.6.71 This viewpoint is located on the A541 near Tir Y Fron Lane, 2.7km south of the Site boundary and 3.1km south of the proposed location of the flue gas stack. The location is from an area of rising landform overlooking the landscape to the north.
- 9.6.72 The existing view is of an A-road at the foreground to a semi-agricultural landscape. Across the landscape are woodland belts, scattered farms and a line of steel electricity pylons. In the middle distance the built form of the existing cements works is visible above and through the intervening vegetation; and the existing kiln tower is a discernible vertical feature in the landscape.
- 9.6.73 The Proposed Development would be visible and would appear to extend the geographic area occupied by the cement works in the view. From this distance and location the proposed flue gas stack structure would be of a similar height to the existing kiln tower; and the scale and mass of the Proposed Development would generally be similar to the existing cement works infrastructure. Whilst the new structures would be visible in view and the proposed flue gas stack would be discernible in the view, they would be viewed within the context of the existing cement works and would not be an incongruous feature in the landscape. There would be a small to negligible scale of change to the view.

Viewpoint 13 (The Old Barn, Padeswood Lake Road)

- 9.6.74 This viewpoint is located on Padeswood Lake Road 720m south west of the Site boundary and 940m south west of the proposed location of the flue gas stack. The viewpoint is representative of views for road users and nearby residential properties including The Old Barn.
- 9.6.75 The existing view is of an undulating rural landform with an irregular field pattern, scattered trees and occasional woodland belts typical of the Study Area. The built structure of the existing Padeswood Cement Works is clearly visible through the intervening vegetation and the existing kiln tower is a visually prominent and contrasting feature in the landscape. Dyke's Farm is visible at the foreground to the cement works.
- 9.6.76 The new development would be prominent and visible at the foreground to, and adjacent to, the existing cement works, occupying the landform between Dyke's Farm and the existing works. The new structures would be prominent in view and would bring utilitarian structures closer to the viewer (receptor); however they would be viewed within the context of the existing cement works and would not be an incongruous feature in the landscape. There would be a medium scale of change to the view.

Viewpoint 14 (Mold Bypass)

- 9.6.77 This viewpoint is located on Mold Bypass to the south of the Mold, 5.4 km west of the Site boundary and 5.6km west of the proposed location of the flue gas stack. Although outside the 5km Study Area, the viewpoint has been included at the request of Flintshire County Council.
- 9.6.78 Whilst the existing kiln tower is visible for road users heading east; it is heavily screened from the laybys due to the mature tree belts either side of the road. The lower structures around the kiln tower are also visible above and through the intervening vegetation. The landscape in between the viewpoint location and the Site, drops away and rises again giving the impression the existing cement works is on a slightly elevated landform.
- 9.6.79 The Proposed Development would be located directly adjacent to these existing cement works; and would only just be visible from this location. During winter months, there would be more open glimpsed views of the Proposed Development above and through the intervening vegetation. The new structures would appear in the landscape as an extension to the existing works. From this distance and location the Proposed Development would appear of a similar scale and mass to the existing buildings and would only slightly extend the geographic impact of the industrial landscape. The new structures would be viewed within the context of the existing cement works and would not be an incongruous feature in the landscape. There would be a negligible scale of change to the view.

A summary of the viewpoint analysis is provided in **Table 9.8**

Table 9.8 Viewpoint Analysis

No.	Name	Approx. Distance & Direction from proposed Flue Gas Stack	Predicted Scale of Change in View During Operational Phase
1	PRoW Buckley 301/55	160m west (on-Site boundary)	Large
2	Wat's Dyke Way	390m south west	Large to medium
3	A5118 (north west) and PRoW Buckley 301/43	595m north west	Large to medium
4	A5118 (north east)	1.1km north east	Medium to small
5	Penyffordd Train Station	1.2km south east	Small
6	Junction of A5104 and Padeswood Lake Road and PRoW Leeswood 408/74	940m south-south-west	Medium to small
7	Roundabout junction of A550, A5119 and A5104	1.6km east-north-east	Small
8	Bannel Lane, Spon Green	1.5km north-north-east	Medium to small

No.	Name	Approx. Distance & Direction from proposed Flue Gas Stack	Predicted Scale of Change in View During Operational Phase
9	Meg's Lane and PRow Buckley 301/42	1.3km north	Medium
10	Padeswood and Buckley Golf Club, Padeswood Lake Road	1.3km west	Small
11	A5188 near Rose Lane	2.1km west-north-west	Small to negligible
12	A541 near Tir Y Fron Lane	3.1km south	Small to negligible
13	The Old Barn, Padeswood Lake Road	940m south west	Medium
14	Mold Bypass	5.6km west	Negligible

Visual Effects

- 9.6.80 Visual effects on the receptors identified in **Section 9.5** are detailed in **Tables 9.9** and **9.10**.
- 9.6.81 Wherever possible this assessment focuses on effects on groups of visual receptors, incorporating effects on views from public spaces, PRow, recreational areas and streets within neighbourhoods. The assessment of effects focuses on the visual amenity of public spaces, though views from groups of dwellings are also noted in the descriptions when relevant. If necessary receptors are assessed individually if it is deemed necessary e.g. the property at Dyke Farm for the reasons outlined in the assessment of effects on that receptor.
- 9.6.82 Information and detail on how visual sensitivity, magnitude of change and level of effects are assessed is provided in **Volume 4, Technical Appendix 9.1**.
- 9.6.83 The majority of the visual receptor groups include different categories of receptor including some or all of: local residents, users of PRow and local road users. Two visual receptor groups (PRow Buckley 301/55 and Buckley 301/56; and PRow Leeswood 408/73 and 408/75) focus solely on users of PRow in the immediate vicinity of the Site. Existing views within the Study Area towards the Site, from all the visual receptor groups, are influenced by the Proposed Development's proximity to the existing cement works and the prominence in views of the existing kiln tower. There are no national or regional values associated with the receptor groups identified and therefore the value of all the views towards the Site from these visual receptors is classified as 'Community'. Each receptor group would have a High susceptibility to the change arising from the Proposed Development (based upon each receptor group including local residents and/ or PRow), therefore all the visual receptors groups are considered to have a High/ Medium sensitivity.

- 9.6.84 Due to the scale of the Proposed Development the mitigation proposed would not screen the Proposed Development and whilst it would add value in terms of biodiversity enhancement and soften the ground level features of the development in some localised views, the effects post mitigation (Year 10) would be broadly the same as on completion of construction (Year 1). Therefore for this assessment there is only one assessment of operational visual effects for each receptor group and these are considered to be long term effects.
- 9.6.85 Effects arising from construction would generally be contained within the Site boundary, with the exclusion of traffic movement to and from site and occasional views of tall construction machinery such as cranes from localised areas. Construction effects would be short-term and temporary; and they would not be greater than operational effects in year one of operation, as such specific construction effects on receptors are not individually identified unless it is assessed that a specific construction effect would impact a specific receptor greater than year one operational effects; or would be of particular relevance to the visual receptor group.

Table 9.9 Visual Amenity Assessment – Visual Receptor Groups

Visual Amenity Assessment – Visual Receptor Groups	
Padeswood Drive East	
<p>Location and baseline description</p> <p>There are no viewpoints located in this receptor group</p>	<p>This visual receptor group is located along the north east boundary of the Site and includes the small group of houses on Padeswood Drive at the north east of the Site and users of PRow Hawarden 303/103 which cuts across the north east corner of the Site. At its closest point this group is 650m north east of the proposed location of the flue gas stack. The temporary construction laydown areas and offices would be located in the fields to the immediate south of these properties; between 70m and 140m from the closest residential building.</p> <p>Existing woodland belts and vegetation separate this receptor group from the existing cements works and views of lower level structures are generally well screened. The existing kiln tower is prominent above the vegetation, and through any gaps that exist and there are views of the main entrance and access road into the existing cement works.</p>
<p>Assessment of construction effects</p>	<p>Views into the main construction area would be heavily screened by the intervening vegetation and existing cement works infrastructure. Earth screening bunds would be established within the north of the field where the proposed construction laydown areas and offices would be located. The bunds, together with the existing vegetation, would screen views into the laydown areas but they would in themselves alter the existing view.</p> <p>The movement of construction vehicles within these areas would be visually distracting and impact current views; but would only be short-term and temporary.</p> <p>The scale of change in the view is assessed as medium and this would occur over an intermediate area. The duration is considered to be short-term and therefore the overall magnitude of change on this visual receptor group is assessed as 'Moderate/ Slight'.</p> <p>Taking account of the 'Moderate/ Slight' magnitude of change and the 'High/ Medium' sensitivity of the receptor group the significance of the effect on visual amenity is assessed as Moderate Adverse during construction. Noting that moderate adverse effects could be either significant or not significant, the determining factor in this instance is that the short-term nature of the effects mean they are considered to be Not Significant.</p>
<p>Assessment of operational effects</p>	<p>Views towards the Proposed Development would be heavily filtered by the vegetation along the northern boundary of the Site and to the immediate north of the existing cement works, although occasional gaps exist within the vegetation. The existing built form of the cement works separates this receptor group from the main area of development; and all the Proposed Development would be largely screened by the existing structures and viewed within the context of the existing</p>

Visual Amenity Assessment – Visual Receptor Groups	
	<p>cement works. Therefore, the new structures would not be an incongruous feature within the existing view.</p> <p>The key change in the view would be to increase the size and scale of the existing utilitarian development in the view.</p> <p>The scale of change in the view is assessed as small and this would occur over a localised area. The duration is considered to be long-term and therefore the overall magnitude of change on this visual receptor group is assessed as 'Slight'.</p> <p>Taking account of the 'Slight' magnitude of change and the 'High/ Medium' sensitivity of the receptor group the significance of the effect on visual amenity is assessed as Moderate/Minor Adverse and Not Significant during operation.</p> <p>From year 10 onwards the new woodland planting within the north-east of the Site would provide a further level of screening of both the existing and proposed structures which would reduce impacts on visual amenity; but not to the extent that the overall level of assessment is reduced.</p>
Padeswood Drive West	
<p>Location and baseline description</p> <p>See viewpoint 3</p>	<p>This visual receptor group is located along the A5118 between 170m and 575m north-west of the Site boundary. The group includes neighbouring residential properties (including self-catering accommodation) and brief sections of PRoW. At its closest point this group is 480m north-west of the proposed location of the flue gas stack.</p> <p>A temporary construction laydown area would be located within the north west of the cement works site; between 150m and 600m east of these properties. The fields are bordered by a mature woodland belt on their western edge.</p> <p>The existing view is of an agricultural landscape, with hedgerow field boundaries, and occasional woodland belts typical of the Study Area with the existing cement works a visually prominent and contrasting feature in the landscape.</p>
<p>Assessment of construction effects</p>	<p>Views into the main construction area and laydown area would be heavily screened by the intervening vegetation. However, the movement of construction vehicles within these areas, through and above the intervening vegetation, would be visually distracting and impact current views; but would only be short-term and temporary.</p> <p>The scale of change in the view is assessed as medium and this would occur over an intermediate area. The duration is considered to be short-term and therefore the overall magnitude of change on this visual receptor group is assessed as 'Moderate/ Slight'.</p> <p>Taking account of the 'Moderate/ Slight' magnitude of change and the 'High/ Medium' sensitivity of the receptor group the significance of the effect on visual amenity is assessed as Moderate Adverse during construction. Noting that moderate adverse effects could be either significant or not significant, the</p>

Visual Amenity Assessment – Visual Receptor Groups	
	determining factor in this instance is that the short-term nature of the effects mean they are considered to be Not Significant .
Assessment of operational effects	<p>The new development would appear in the landscape as an extension to the existing works; from this orientation the visible built form would noticeably extend the horizontal extent of the view occupied by industrial structures. The proposed flue gas stack structure would be of a similar height to the existing stack; and the scale and mass of the Proposed Development would generally be similar to the existing cement works infrastructure. The new structures would be viewed in relatively close proximity and the new flue gas stack would be very prominent in view. The Proposed Development would be viewed within the context of the existing cement works and would not be an incongruous feature in the landscape.</p> <p>From this receptor group the proposed mitigation planting would have a minimal impact in terms of reducing visual effects, accordingly the assessment of operational effects is the same at year one and from year 10 onwards.</p> <p>The scale of change in the view is assessed as large to medium and this would occur over an intermediate area. The duration is considered to be long-term and therefore the overall magnitude of change on this visual receptor group is assessed as 'Substantial/ Moderate' (tending closer to Moderate).</p> <p>Taking account of the 'Moderate' magnitude of change and the 'High/ Medium' sensitivity of the receptor group the significance of the effect on visual amenity is assessed as Major/ Moderate Adverse and Significant during operation.</p>
Dyke Farm	
<p>Location and baseline description</p> <p>There are no viewpoints located in this receptor group. Viewpoint 2 is located on Wat's Dyke Way close to Dyke Farm, but on higher ground with open views that are no representative of the property at Dyke Farm.</p>	<p>This visual receptor group is focused on Dyke Farm 140m south-west of the Site boundary and 390m south west of the proposed location of the flue gas stack. It has been separated from the wider Pen-yr-allt receptor group which encloses the farm, due to the farm's position in a localised depression in the landscape.</p> <p>The farm's location means it is separated from the Site by undulating local landform and the existing woodland belt to the east of the property and around the south west of the Site. Views from the residential building towards the Site are also screened by the adjacent farm buildings.</p>

Visual Amenity Assessment – Visual Receptor Groups	
<p>Assessment of operational effects</p>	<p>Whilst the Proposed Development is likely to be highly visible along the private access track leading to Dyke Farm from Padeswood Lake Road, due to the undulating local topography and intervening farm buildings, the Proposed Development is likely to be almost entirely screened from the residential property itself; with the exception of the upper heights of the proposed flue gas stack and regenerator building, which may be visible at a similar scale to the existing kiln tower. It is noted that that the primary orientation of the property is westwards away from the Site and views from windows on this side of the property will be unaffected by the Proposed Development.</p> <p>From this receptor group the proposed mitigation planting would not reduce the impact on visual amenity, accordingly the assessment of operational effects is the same at year one, year 10 and onwards.</p> <p>The scale of change in the view at this property is assessed as small and this would occur over a limited area. The duration is considered to be long-term and therefore the overall magnitude of change on this visual receptor group is assessed as ‘Slight’.</p> <p>Taking account of the ‘Slight’ magnitude of change and the ‘High/ Medium’ sensitivity of the receptor group the significance of the effect on visual amenity is assessed as Moderate/Minor Adverse and Not Significant during operation.</p>
Pen-yr-allt	
<p>Location and baseline description</p> <p>See viewpoints 6 & 13</p>	<p>A wide area and visual receptor group covering the landscape to the west and south of the Site boundary and extending for approximately 1km west and 800m south from the Site boundary. The proposed location of the flue gas stack is 190m from this area at its closest point. The group includes local residents, walkers on local PRoW and local road users.</p> <p>The visual receptor group excludes Dyke Farm, PRoW Buckley 301/55 and 301/56 and PRoW Leeswood 408/73 and 408/75. Whilst these areas are excluded, the area does include PRoW away from the Site boundary, as well as local roads and some residential properties are included.</p> <p>Existing views towards the Site show a partially wooded and agricultural landscape. Through the intervening vegetation, elements of the cement works are visible, in particular the kiln tower is a prominent vertical structure in the landscape rising above the vegetation and other built form. Agricultural fields and woodland belts typical of the Study Area are visible in the wider landscape.</p> <p>The landscape within this area also has prominent local undulations, for example around Wat’s Dyke, which effects visibility towards the Site from some locations.</p> <p>A woodland block within the south of the area provides a heavy level of screening from some areas within the landscape.</p>

Visual Amenity Assessment – Visual Receptor Groups	
<p>Assessment of operational effects</p>	<p>From many areas the Proposed Development would largely be screened by the intervening woodland. However, the taller structures of the proposed regenerator building and flue gas stack would be prominent in view above the treeline. From more open areas, however e.g. Padeswood Lake Road, the new structures would be prominent despite the intervening vegetation.</p> <p>Whilst the new structures would be prominent in view and extend the geographic impact of the industrial landscape, they would be viewed within the context of the existing cement works and would not be an incongruous feature in the landscape. The Proposed Development would also bring utilitarian structures closer to the viewer.</p> <p>From this receptor group the proposed mitigation planting would not reduce the impact on visual amenity, accordingly the assessment of operational effects is the same at year one, year 10 and onwards.</p> <p>The scale of change in the view is assessed as medium and this would occur over an intermediate area. The duration is considered to be long-term and therefore the overall magnitude of change on this visual receptor group is assessed as 'Moderate'.</p> <p>Taking account of the 'Moderate' magnitude of change and the 'High/ Medium' sensitivity of the receptor group the significance of the effect on visual amenity is assessed as Major/Moderate Adverse and Significant during operation.</p>
Penyffordd	
<p>Location and baseline description</p> <p>See viewpoints 5 & 7</p>	<p>This group covers the landscape around the settlements of Penyffordd and Penymyndd, between approximately 300m and 1.3km east and south east of the Site boundary and 990m east of the proposed location of the flue gas stack at its closest point. The group includes local residents, walkers on local PRow and local road users.</p> <p>Existing views are of a semi-agricultural landscape, with hedgerow field boundaries, occasional woodland belts and busy A-roads. Publicly accessible views towards the Site from the settlement of Penyffordd are difficult to locate due to the intervening buildings within the town. Therefore the two most open views possible from the area are represented by viewpoints 5 and 7 on the western edge of the area. The A550 forms the western boundary of the settlement and views from the road are contained by a mature roadside hedgerow and woodland beyond. The railway line and enclosing woodland, which forms the eastern boundary of the Site, is also a key visual barrier into the Site and the ground level structures. The existing kiln tower within the cement works is often visible above the intervening vegetation.</p>

Visual Amenity Assessment – Visual Receptor Groups	
<p>Assessment of operational effects</p>	<p>The tall structure of the proposed flue gas stack would be visible as an extension to the existing works, but the majority of the Proposed Development would be located behind the existing structures and vegetation and heavily screened. Whilst the flue gas stack would be visible it would not be out of scale with the existing built form and it would not be an incongruous feature in the landscape. There would be a small scale of change to the view.</p> <p>From this receptor group the proposed mitigation planting would not reduce the impact on visual amenity, accordingly the assessment of operational effects is the same at year one, year 10 and onwards.</p> <p>The scale of change in the view is assessed as small and this would occur over a localised area. The duration is considered to be long-term and therefore the overall magnitude of change on this visual receptor group is assessed as 'Slight'.</p> <p>Taking account of the 'Slight' magnitude of change and the 'High/Medium' sensitivity of the receptor group the significance of the effect on visual amenity is assessed as Moderate/Minor Adverse and Not Significant during operation.</p>
Bannel Lane	
<p>Location and baseline description</p> <p>See viewpoints 4 & 7</p>	<p>This group covers the receptors directly to the east and north east of the Site boundary and extending for approximately 900m from the Site boundary and 690m east of the proposed location of the flue gas stack at its closest point. The group includes local residents, walkers on local PRoW and local road users.</p> <p>Existing views are of an agricultural landscape, with hedgerow field boundaries, and occasional woodland belts typical of the Study Area with the existing cement works a visually prominent and contrasting feature in the landscape. The woodland strip which borders the railway line, and the woodland within the east of the Site, provide a good level of screening to lower level structures in the existing site. The higher ground at the edge of the Clwydian Range is visible above the tree line in the distance of the view. Across the landscape, steel electricity pylons are visible vertical structures.</p>
<p>Assessment of operational effects</p>	<p>The Proposed Development would appear in the landscape as an extension to the existing works. From this orientation the new built form would not appear to noticeably extend the geographical area covered by the cement works, but would slightly increase the bulk and mass of what is visible. The proposed flue gas stack would be of a similar height to the existing kiln tower. Whilst the new structures would be prominent in view, they would be viewed within the context of the existing cement works and would not be an incongruous feature in the landscape.</p> <p>From this receptor group the proposed mitigation planting would not reduce the impact on visual amenity, accordingly the</p>

Visual Amenity Assessment – Visual Receptor Groups	
	<p>assessment of operational effects is the same at year one, year 10 and onwards.</p> <p>The scale of change in the view for viewpoints 4 and 7 is considered to be medium to small, however for this area the overall change in scale of view is considered to be medium; because of the properties and PRow closer to the Site than either of the viewpoints. This medium scale change in the view would occur over a localised area. The duration is considered to be long-term and therefore the overall magnitude of change on this visual receptor group is assessed as 'Moderate'.</p> <p>Taking account of the 'Moderate' magnitude of change and the 'High/Medium' sensitivity of the receptor group the significance of the effect on visual amenity is assessed as Moderate Adverse and Significant during operation.</p>
Spon Green	
<p>Location and baseline description</p> <p>See viewpoints 8 & 9</p>	<p>An area covering receptors within the landscape to the north and north west of the Site boundary; and extending for approximately 900m north and 1.3km north-west to the southern edge of Buckley. The group is 590m north of the proposed location of the flue gas stack at its closest point. The group includes local residents, walkers on local PRow and local road users.</p> <p>Existing views are of a well-managed semi-agricultural landscape, including residential properties, overhead electricity lines, well-maintained hedgerows and occasional woodland belts visible across the view. The built structure of the existing cement works is visible above the intervening vegetation and the existing tower is a visually prominent and contrasting feature in the landscape. The high ground at Caergwrlle is visible beyond the cement works.</p>
<p>Assessment of operational effects</p>	<p>The Proposed Development would appear in the landscape as an extension to the existing works; the new structures would be prominent. The proposed flue gas stack structure would be of a similar height to the existing kiln tower and the scale and mass of the Proposed Development would generally be similar to the existing cement works infrastructure. Whilst the new structures would be prominent in view and extend the horizontal extent of the industrial landscape, they would be viewed within the context of the existing cement works and would not be an incongruous feature in the landscape.</p> <p>From this receptor group the proposed mitigation planting is unlikely to reduce the impact on visual amenity, except for a small area within the eastern extents of the visual receptor group area. Accordingly the assessment of operational effects is the same at year one, year 10 and onwards.</p> <p>The scale of change in the view is assessed as medium and this would occur over an intermediate area. The duration is considered to be long-term and therefore the overall magnitude</p>

Visual Amenity Assessment – Visual Receptor Groups	
	<p>of change on this visual receptor group is assessed as 'Moderate'.</p> <p>Taking account of the 'Moderate' magnitude of change and the 'High/ Medium' sensitivity of the receptor group the significance of the effect on visual amenity is assessed as Moderate Adverse and Significant during operation.</p>
Padeswood	
<p>Location and baseline description</p> <p>See viewpoints 10, 11 & 13</p>	<p>The visual receptor group covers receptors in the landscape around the settlement of Padeswood and Padeswood Golf Course, between approximately 700m and 2.7km west and south west of the Site. The group is 940m south west of the proposed location of the flue gas stack at its closest point. The group includes local residents, walkers on local PRoW, recreational visitors to the golf club and local road users.</p> <p>Existing views towards the Site are of a rural, semi-wooded and undulating landscape, where woodland belts and hedgerows screen longer distance views and most of the existing cement works. Above the treeline the existing kiln tower at the cement works is a prominent vertical and contrasting feature in the landscape, at a minimum distance of 800 m.</p>
<p>Assessment of operational effects</p>	<p>Generally the Proposed Development would be heavily screened by the foreground vegetation; but with some locations where more open views are possible (see viewpoint 13). The proposed flue gas stack and regenerator building absorber would be visible above the existing woodland treeline from some locations. Whilst the Proposed Development would be visible it would not be an incongruous feature in the landscape or appear out of scale with the existing industrial features in the view.</p> <p>From this receptor group the proposed mitigation planting would not reduce the impact on visual amenity, accordingly the assessment of operational effects is the same at year one, year 10 and onwards.</p> <p>The scale of change in the view is assessed as small and this would occur over an intermediate area. The duration is considered to be long-term and therefore the overall magnitude of change on this visual receptor group is assessed as 'Slight'.</p> <p>Taking account of the 'Slight' magnitude of change and the 'High/Medium' sensitivity of the receptor group the significance of the effect on visual amenity is assessed as Moderate/Minor Adverse and Not Significant during operation.</p>
Rose Lane	
<p>Location and baseline description</p>	<p>The visual receptor group covers receptors in the landscape to the east of Padeswood Road South and north of the A5118, between approximately 1.2km and 3.3km north east of the Site. The group is 1.3km west of the proposed location of the flue gas stack at its closest point. The group includes local residents, walkers on local PRoW and local road users.</p>

Visual Amenity Assessment – Visual Receptor Groups	
See viewpoint 11	Existing views towards the Site are of a semi-agricultural landscape with well-maintained hedgerows. In the middle distance, above the treeline, the existing stack at the cement works is a prominent vertical and contrasting feature in the landscape.
Assessment of operational effects	<p>The Proposed Development would appear in the landscape as an extension to the existing works. From this distance and location the Proposed Development would appear of a similar scale and mass to the existing buildings. The proposed flue gas stack structure would be of a similar height to the existing kiln tower; and the scale and mass of the Proposed Development would generally be similar to the existing cement works infrastructure. Whilst the new structures would be visible and extend the horizontal extent of the industrial landscape, they would be viewed within the context of the existing cement works and would not be an incongruous feature in the landscape.</p> <p>From this receptor group the proposed mitigation planting would not reduce the impact on visual amenity, accordingly the assessment of operational effects is the same at year one, year 10 and onwards.</p> <p>The scale of change in the view is assessed as small and this would occur over an intermediate area. The duration is considered to be long-term and therefore the overall magnitude of change on this visual receptor group is assessed as 'Slight'.</p> <p>Taking account of the 'Slight' magnitude of change and the 'High/ Medium' sensitivity of the receptor group the significance of the effect on visual amenity is assessed as Moderate/Minor Adverse and Not Significant during operation.</p>
Leeswood	
<p>Location and baseline description</p> <p>There are no viewpoints located in this receptor group</p>	<p>The visual receptor group covers receptors in the landscape around the settlement of Leeswood and the surrounding area, between approximately 850m and 3.4km south west of the Site. The group is 950m south of the proposed location of the flue gas stack at its closest point. The group includes local residents, walkers on local PRoW and local road users.</p> <p>The receptor group covers a wide area and is not always in the ZTV, including the settlement of Leeswood itself where the majority of potential views towards the Site are screened by intervening built form and vegetation.</p> <p>Existing views towards the Site are of a semi-agricultural landscape with woodland belts and small settlements. In the middle distance, above the vegetation, the upper levels existing kiln stack at the cement works is a visible vertical structure in the landscape. From the slightly higher ground within the east of the receptor group area, other features of the cement works are also visible.</p>

Visual Amenity Assessment – Visual Receptor Groups	
<p>Assessment of operational effects</p>	<p>There would be middle to long-distance views of the Proposed Development above the intervening vegetation, landform and built form. Generally these views would only include the upper level of the proposed flue gas stack, which would be of a similar height to the existing kiln stack. Whilst the new structures would be visible and extend the geographic impact of the industrial landscape, they would be viewed within the context of the existing cement works and would not be an incongruous feature in the landscape.</p> <p>From this receptor group the proposed mitigation planting would not reduce the impact on visual amenity, accordingly the assessment of operational effects is the same at year one, year 10 and onwards.</p> <p>The scale of change in the view is assessed as small and this would occur over an intermediate area. The duration is considered to be long-term and therefore the overall magnitude of change on this visual receptor group is assessed as ‘Slight’.</p> <p>Taking account of the ‘Slight’ magnitude of change and the ‘High/ Medium’ sensitivity of the receptor group the significance of the effect on visual amenity is assessed as Moderate/ Minor Adverse and Not Significant during operation.</p>
Waun-y-Llyn	
<p>Location and baseline description</p> <p>There are no viewpoints located in this receptor group</p>	<p>The visual receptor group covers receptors in the landscape on higher ground between Leeswood and Caergwrle, between approximately 2.4km and 4.9km south-south-west of the Site. The group is 2.5km south of the proposed location of the flue gas stack at its closest point. The group includes local residents, walkers on local PRow and local road users.</p> <p>Existing views towards the Site are of a semi-agricultural landscape with woodland belts and small settlements. Due to the receptor groups location on higher ground much of the cement works infrastructure is visible, at a distance of between 3 and 5 km, with the existing kiln tower a noticeable vertical feature. However, roadside hedgerows and woodland belts within this location often screen views towards the Site.</p>
<p>Assessment of operational effects</p>	<p>There would be occasional middle to long-distance views of the Proposed Development, though breaks in hedgerows and woodland belts. The Proposed Development, when visible, would slightly extend the geographic impact of the industrial landscape, but it would be viewed within the context of the existing cement works and would not be an incongruous feature in the landscape.</p> <p>From this receptor group the proposed mitigation planting would not reduce the impact on visual amenity, accordingly the assessment of operational effects is the same at year one, year 10 and onwards.</p> <p>The scale of change in the view is assessed as small and this would occur over a localised area. The duration is considered</p>

Visual Amenity Assessment – Visual Receptor Groups	
	<p>to be long-term and therefore the overall magnitude of change on this visual receptor group is assessed as 'Slight'.</p> <p>Taking account of the 'Slight' magnitude of change and the 'High/Medium' sensitivity of the receptor group the significance of the effect on visual amenity is assessed as Minor Adverse and Not Significant during operation. The overall effect is not considered Moderate/Minor due to the distance of the receptor group from the Proposed Development.</p>
PRoW Buckley 301/55 and Buckley 301/56	
<p>Location and baseline description</p> <p>See viewpoint 1</p>	<p>These ProW are considered together as they are connected footpaths directly adjacent to the to the west of the Site, and across the south-west of the Site.</p> <p>Although the footpaths are adjacent to the Site, they are separated by a hedgerow and vegetation buffer, which intermittently fully screens views into the Site. However, a 250m stretch of ProW 301/55 is on the inside of the vegetation and directly overlooks the main development area (see viewpoint 1) and ProW 301/56 cuts directly across the Site where the main development work would occur.</p> <p>The views are currently across an area of scrub grassland with drainage ponds, enclosed by earth embankments with scrub and woodland planting beyond. Despite the proximity to the cement works the vegetation buffer screens much of the existing infrastructure with the exception of the main kiln tower which is a prominent and dominant feature in the view. The proximity of the cement works has a dominating impact on existing views from these PRoW.</p>
<p>Assessment of construction effects</p>	<p>The construction works would be viewed in close proximity, lead to diversion of the footpath and would represent a major change to the existing views. There would be the introduction of large scale machinery and construction activity in close proximity.</p> <p>The scale of change in the view is assessed as large and this would occur over an intermediate area. The duration is considered to be short-term and therefore the overall magnitude of change on this visual receptor group is assessed as 'Moderate'.</p> <p>Taking account of the 'Moderate' magnitude of change and the 'High/Medium' sensitivity of the receptor group the significance of the effect on visual amenity is assessed as Major/Moderate Adverse and Significant during construction.</p>
<p>Assessment of operational effects</p>	<p>The Proposed Development would be viewed in close proximity and would represent a major change to the existing views. The current views of scrub vegetation and woodland would be replaced by close up views of fencing and industrial buildings.</p> <p>Whilst there would be a major change to the existing view, including bringing industrial features closer to users of the PRoW, it is recognised that the existing cement works already</p>

Visual Amenity Assessment – Visual Receptor Groups	
	<p>has a dominating impact on visual amenity for users of these PRow.</p> <p>The Proposed Development would lead to the diversion of PRow 301/56, with the creation of a new PRow to the south of the woodland belt along the southern boundary of the Site.</p> <p>From this receptor group the proposed mitigation planting is unlikely to reduce the impact on visual amenity, accordingly the assessment of operational effects is the same at year one, year 10 and onwards. Although the mitigation planting is unlikely to reduce the visual impact it would still soften the edges of the Proposed Development and provide some visual benefits.</p> <p>The scale of change in the view is assessed as large and this would occur over an intermediate area. The duration is considered to be long-term and therefore the overall magnitude of change on this visual receptor group is assessed as 'Substantial'.</p> <p>Taking account of the 'Substantial' magnitude of change and the 'High/Medium' sensitivity of the receptor group the significance of the effect on visual amenity is assessed as Major Adverse and Significant during operation.</p>
PRow Leeswood 408/73, and 408/75 (incorporating Wat's Dyke Way)	
<p>Location and baseline description</p> <p>See viewpoint 2</p>	<p>These PRow are connected to each other south of the Site, including directly adjacent to the southern boundary for an approximate 500m stretch of PRow.</p> <p>The views from these footpaths vary due to the locally undulating landform, with views from the footpaths closest to the Site boundary almost entirely screened by the woodland belt along the southern boundary of the Site; albeit with occasional glimpsed views through the vegetation. The most open views possible from these footpaths are from the higher ridge of land formed by Wat's Dyke (see viewpoint 2). In these views towards the Site, the view is off a rural landscape with woodland belts in the foreground. Sections of the existing cement works are highly visible through the vegetation, and the existing tower is a prominent feature above the woodland belt.</p>
<p>Assessment of operational effects</p>	<p>Much of the Proposed Development would be screened by intervening vegetation; and even from the higher ground (see viewpoint 2) the new structures would be partially to heavily screened by landform and vegetation. However, views through the vegetation would be possible, particularly during winter months and this would bring the industrial infrastructure closer to the receptors. The proposed flue gas stack and regenerator building would be prominent features visible above the vegetation, however they would appear as a similar scale and mass to the existing infrastructure. Whilst elements of the Proposed Development would be visible this would all be in the context of the existing views of the cement works.</p>

Visual Amenity Assessment – Visual Receptor Groups	
	<p>From this receptor group the proposed mitigation planting would not reduce the impact on visual amenity, accordingly the assessment of operational effects is the same at year one, year 10 and onwards.</p> <p>The scale of change in the view is assessed as large to medium and this would occur over a localised area. The duration is considered to be long-term and therefore the overall magnitude of change on this visual receptor group is assessed as 'Moderate'.</p> <p>Taking account of the 'Moderate' magnitude of change and the 'High/ Medium' sensitivity of the receptor group the significance of the effect on visual amenity is assessed as Major/ Moderate Adverse and Significant during operation.</p>

Table 9.10 Visual Amenity Assessment – Key Routes Road & Rail

Visual Amenity Assessment – Key Routes Road & Rail	
A5118	
<p>Location and baseline description See viewpoints 3, 4, 7 & 11</p>	<p>A busy road which runs east to west through the centre of the Study Area, directly passing the northern boundary of the Site. The road is within the ZTV from approximately 500m east of the Site to approximately 3km west of the Site.</p> <p>A busy highway running through a semi-rural landscape, with frequent settlements and residential properties. Mature and well-maintained roadside hedgerows often screen foreground views, however for an approximate length of 3.5km the kiln tower at the existing cement works is the prominent feature in the landscape. Visibility of other elements of the works varies dependent on the intervening vegetation and gently undulating landform.</p> <p>The location of the Proposed Development is generally screened by the existing cement works and woodland surrounding the Site boundary.</p>
<p>Value, susceptibility and sensitivity</p>	<p>The value of the existing views from the road towards the Site are impacted by the Site's location directly adjacent to the existing Padeswood Cement Works and the prominence in views of the existing kiln tower; therefore the value of all the views towards the Site from for A5118 road users is classified as 'Community'. Local road users are considered to have a Medium susceptibility to the change arising from the Proposed Development and therefore are considered to have a Medium sensitivity.</p>
<p>Assessment of operational effects</p>	<p>Viewing from the road towards the Site, ground level operational work associated with the Proposed Development would generally not be visible above the intervening vegetation and built form. However, when visible the Proposed Development would appear in the landscape as an extension to the existing works and from the stretches of road closest to</p>

Visual Amenity Assessment – Key Routes Road & Rail

A5118

the Site would noticeably extend the number of industrial structures in view. The proposed flue gas stack would be visible for approximately 3.5km length of road, and would be of a similar scale to the existing tower. Whilst the new structures would often be prominent in view and extend the geographic impact of the industrial landscape, they would be viewed within the context of the existing cement works and would not be an incongruous feature in the landscape.

The scale of change in the view is assessed as medium and this would occur over an intermediate area. The duration is considered to be medium to long-term and therefore the overall magnitude of change on this visual receptor group is assessed as 'Moderate'.

Taking account of the 'Moderate' magnitude of change and the 'Medium' sensitivity of the receptor group the significance of the effect on visual amenity is assessed as **Moderate Adverse** during Years 1 to 10 of operation. Noting that moderate adverse effects could be significant or not significant, the determining factor in this instance is the short-term transitional nature of the receptors who would be travelling along the road with the Proposed Development being in view for extremely short periods of time. Therefore the effects are considered to be **Not Significant**.

From year 10 onwards the new woodland planting within the north east of the Site would provide a further level of screening of both the existing and proposed structures which would reduce impacts on visual amenity for road users on the west-bound carriageway; but not to the extent that the overall level of assessment is reduced.

The proposed mitigation planting would not reduce effects on visual amenity for road users on the east-bound carriageway.

9.7 Mitigation and opportunities for environmental enhancement

9.7.1 The Landscape and Biodiversity Mitigation Areas are focused on improving biodiversity around the Site and restoring/ replacing any woodland, scrub vegetation and habitats removed to accommodate the Proposed Development.

9.7.2 The details of the proposed Landscape and Biodiversity Mitigation Areas (shown as the Proposed Landscape and Habitat Enhancements in the plans below) in **Volume 4, Technical Appendix 9.4** and are presented on:

- Landscape and Habitat Mitigation Strategic Proposal (Eastern Area) - 0242-SH-XX-XX-DR-L-1001 (Draft);
- Landscape and Habitat Mitigation Strategic Proposal (North West Area) - 0242-SH-XX-XX-DR-L-1002 (Draft); and
- Landscape and Habitat Mitigation Strategic Proposal (South West Area) - 0242-SH-XX-XX-DR-L-1003 (Draft).

9.7.3 All three aforementioned drawings are provided in the planning drawings pack submitted as part of this DNS application.

9.7.4 The proposed Landscape and Biodiversity Mitigation Areas aims to address the balance of habitat and green infrastructure provision across the Site. Existing vegetation will be retained and protected in line with the arboriculture recommendations including woodland, mature trees, hedgerows and hedgerow trees, ponds and wetland areas. The Landscape and Habitat Mitigation Strategic Proposals (**Volume 4, Technical Appendix 9.4**) will address the net benefit for biodiversity requirements and improve site wide biodiversity by:

- Creating areas of new native woodland particularly within the Site boundary where land is available. This would provide new habitat for birds, mammals and insects. It would also provide screening elements particularly along the north-eastern boundary where residential properties border the Site;
- Creating areas of low nutrient, species rich, meadow grassland by seeding with a diverse range of grass and wildflower species to encourage and support pollinating insects and other wildlife that will benefit from this new, bio-diverse habitat;
- Four new ponds would be created in the eastern fields to support and encourage local amphibian species as well as other species that would benefit from this habitat provision. The ponds would be further enhanced with marginal planting and additional habitat to support reptiles and other invertebrate species;
- Within the south west of the Site around Carbon Capture Plant, Pond 10 and Pond 11 (as shown in **Volume 4, Technical Appendix 5.2, Figure 10**) in the south west corner would be replaced with a stormwater holding pond. There are opportunities here to enhance habitat to the edges with marginal planting and species rich grass and wildflower planting. Wetland tree planting such as willow and alder could be planted to the edges to aid drainage in this particularly wet location;
- The large retaining embankment along the southern edge of the Proposed Development would be seeded with a suitable grass and wildflower seed mix which would help to soften the profile and provide increased biodiversity to this area. The seeding would provide additional habitat for local wildlife and would help to reinforce the green infrastructure along the southern edge of the Site and across the wider Site;
- The north west of the Site would be largely occupied by the new proposed carpark provision and proposed access road. Pockets of retained vegetation form the northern and western boundaries in this area with opportunities to reinforce the vegetation with additional tree planting and grass seeding;
- The new General Car Park would be softened with new tree and shrub planting, although this would be confined to the ends of parking bay rows;
- Other areas of planting or seeding would be introduced to the edges of the Proposed Development either along the new roadside edges or within the Site where space allows for greening opportunities; and
- The temporary lay down area used during the construction phase would be returned back to fields. Vegetation removed would be restored through new native tree and hedgerow planting and ground would be cultivated to receive new grass and wildflower seeding to create meadow habitats.

9.7.5 The Landscape and Habitat Mitigation Strategic Proposals constitute primary mitigation measures, which are embedded in the Proposed Development. These proposals do minimise landscape and visual amenity effects; however due to the size and scale of the Proposed Development some significant adverse effects would remain and these cannot be further mitigated by secondary mitigation such that the residual effects are not significant.

9.8 Assessment summary

9.8.1 A summary of identified significant landscape effects is provided in **Table 9.11**.

Table 9.11 Summary of significant landscape effects

Receptor	Potential Effects (summary only)	Additional (Secondary) Mitigation	Residual Effects
Operational Phase			
The Site	<p>The Proposed Development would introduce new large-scale structures to an undeveloped area, albeit within the boundary of an existing cement works and adjacent to existing large-scale structures which are prominent in the landscape. There would be a change in landscape use. The scale of the Proposed Development means it would be noticeable from the surrounding landscape.</p> <p>There would be a loss of access across PRow Buckley 301/56, across the south-west of the Site.</p> <p>There would be a loss of existing, naturally regenerated landscape elements, including open mosaic grassland and scrubland.</p>	No secondary or tertiary mitigation is being proposed.	Moderate Adverse and Significant P / D / LT

Key to table:

P/T = Permanent or Temporary, D/I = Direct or Indirect, ST/MT/LT = Short Term, Medium Term or Long Term, N/A = Not Applicable

9.8.2 A summary of identified significant visual effects is provided in **Table 9.12**.

Table 9.12 Summary of significant visual effects

Receptor	Potential Effects (summary only)	Additional (Secondary and Tertiary) Mitigation	Residual Effects
Construction Phase			
PRoW Buckley 301/55 and Buckley 301/56 As presented in Volume 3, Figure 9.1	The construction works would be viewed in close proximity and would represent a major change to the existing views. There would be the introduction of large scale machinery and construction activity in close proximity.	No secondary or tertiary mitigation is being proposed.	Major/ Moderate Adverse and Significant T / D / ST
Operational Phase			
Padeswood Drive West As presented in Volume 3, Figure 9.6	A large to medium scale change in the view. The Proposed Development would appear in the landscape as an extension to the existing works; however the visible built form would appear to more than double the existing features. The new structures would be viewed in relatively close proximity and the new flue gas stack would be prominent in view and extend the geographic impact of the industrial landscape. The Proposed Development would be viewed within the context of the existing cement works and would not be an incongruous feature in the landscape.	No secondary or tertiary mitigation is being proposed.	Major/ Moderate Adverse and Significant P / D / LT
Pen-yr-allt As presented in Volume 3, Figure 9.6	A medium scale change in the view. The new structures would be prominent in view, despite the intervening vegetation. The new structures would appear to extend the geographic impact of the industrial landscape, however they would be	No secondary or tertiary mitigation is being proposed.	Major/ Moderate Adverse and Significant P / D / LT

Receptor	Potential Effects (summary only)	Additional (Secondary and Tertiary) Mitigation	Residual Effects
	viewed within the context of the existing cement works and would not an incongruous feature in the landscape.		
Bannel Lane As presented in Volume 3, Figure 9.6	A medium scale change in the view. The Proposed Development would appear in the landscape as an extension to the existing works; the new structures would be prominent and screen areas of the rising ground and landscape beyond.	No secondary or tertiary mitigation is being proposed.	Moderate Adverse and Significant P / D / LT
Spon Green As presented in Volume 3, Figure 9.6	A medium scale change in the view. The Proposed Development would appear in the landscape as an extension to the existing works; the new structures would be prominent and screen areas of the rising ground and landscape beyond.	No secondary or tertiary mitigation is being proposed .	Moderate Adverse and Significant P / D / LT
PRoW Buckley 301/55 and Buckley 301/56 As presented in Volume 3, Figure 9.1	A large scale change in the view. The Proposed Development would be viewed in close proximity and would represent a major change to the existing views. The current views of scrub vegetation and woodland would be replaced by close up views of fencing and industrial buildings. The diversion of PRoW 301/56 means all views for users would be entirely lost; however this is being offset with the new diversion to the south of the woodland belt along the southern boundary of the Site.	No secondary or tertiary mitigation is being proposed.	Major Adverse and Significant P / D / LT
PRoW	A large to medium scale	No	Major/

Receptor	Potential Effects (summary only)	Additional (Secondary and Tertiary) Mitigation	Residual Effects
Leeswood 408/73 and 408/75 (incorporating Wat's Dyke Way) As presented in Volume 3, Figure 9.1	change in the view. The proposed flue gas stack structure and other tall structures would be prominent in views. Whilst elements of the Proposed Development would be visible this would all be in the context of the existing views of the cement works.	secondary or tertiary mitigation is being proposed.	Moderate Adverse and Significant P / D / LT

Key to table:

P/T = Permanent or Temporary, D/I = Direct or Indirect, ST/MT/LT = Short Term, Medium Term or Long Term, N/A = Not Applicable

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