PLANNING, DESIGN AND ACCESS STATEMENT

Padeswood Carbon Dioxide Spur Pipeline Proposed Development

Town and Country Planning Act 1990

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EXECUTIVE SUMMARY

This Planning, Design and Access Statement (PDAS) has been prepared by WSP UK Ltd (WSP) on behalf of Liverpool Bay CCS Limited (the 'Applicant'), a member of the Eni SpA group, to support a planning application to Flintshire County Council (FCC) for the construction of a new Carbon Dioxide Spur Pipeline, an Above Ground Installation (AGI), plus ancillary works and equipment to serve the Padeswood Carbon Capture and Storage Project.

The Padeswood Spur Pipeline Proposed Development will facilitate the transportation of carbon dioxide which will be captured from Heidelberg Materials UK Cement Works located in Padeswood ('Padeswood Cement Works'), transported to Northop Hall AGI, which connects into the Main Onshore Carbon Dioxide Pipeline (consented by the HyNet Carbon Dioxide Pipeline Development Consent Order 2024) and then securely stored in the existing depleted oil and gas fields in Liverpool Bay. The aim of the wider HyNet Project is to reduce carbon dioxide emissions from industry and support economic growth in the North West of England and North Wales.

The purpose of this PDAS is to assist FCC in its assessment of the Planning Application by setting out how the Padeswood Spur Pipeline Proposed Development accords with the policies of the development plan when taken as a whole, as well as considering other material considerations including national and local policies, legislation and guidance. The PDAS also explains the rationale and approach taken for the design and location of the Padeswood Spur Pipeline Proposed Development.

The Padeswood Spur Pipeline Proposed Development falls within the Town and Country Planning (Environmental Impact Assessment) (Wales) Regulations 2017 ('the EIA Regulations'). A formal request for a Scoping Opinion was submitted to FCC which confirmed what needed to be assessed within the Environmental Statement (ES). An ES has been prepared in accordance with the EIA Regulations to include all necessary information to satisfy Schedule 4. The ES identifies and sets out any likely significant environmental effects, as well as any measures needed to mitigate likely significant adverse environmental effects, taking account of the Mitigation Hierarchy.

Pre-application advice has been obtained from FCC. A series of pre-application engagement activities have also been undertaken by the Applicant.

The planning appraisal demonstrates that the Padeswood Spur Pipeline Proposed Development is fully in accordance with the adopted development plan. Various environmental and planning assessments have been undertaken and are included in the submission, based on this it can be concluded that the Padeswood Spur Pipeline Proposed Development is unlikely to result in any unacceptable adverse impacts on

the environment and that the development fully complies with the relevant policies in the development plan.

In summary, the Padeswood Spur Pipeline Proposed Development will provide significant benefits in terms of achieving national and local carbon reduction targets and complying with both national and local planning policies. Accordingly, it is respectfully requested that planning permission should be granted in accordance with Section 70(2) of the Town and Country Planning Act 1990 (as amended).

1. INTRODUCTION

1.1. BACKGROUND

1.1.1. This Planning and Design & Access Statement (PDAS) has been prepared by WSP UK Ltd (WSP) on behalf of Liverpool Bay CCS Limited (the 'Applicant'), a member of the Eni SpA group, to support a planning application to Flintshire County Council (FCC) for the *construction of a new Carbon Dioxide Spur Pipeline, an Above Ground Installation (AGI), plus ancillary works and equipment to serve the Padeswood Carbon Capture and Storage Project* in Flintshire, Wales.

1.1.2. The new carbon dioxide spur pipeline will connect the proposed Carbon Capture Plant at Heidelberg Materials UK Cement Plant located in Padeswood, Flintshire (Padeswood Cement Works) to Northop Hall AGI (the 'Padeswood Carbon Dioxide Spur Pipeline Proposed Development' or 'Padeswood Spur Pipeline Proposed Development').

1.1.3. The Padeswood Spur Pipeline Proposed Development will form part of the wider HyNet Project (the 'Project'). The aim of the Project is to reduce carbon dioxide emissions from industry and support economic growth in the North West of England and North Wales.

1.1.4. The operational elements of the Padeswood Spur Pipeline Proposed Development do not include infrastructure to capture carbon dioxide emissions as these are subject to a separate DNS application for the Padeswood Carbon Capture & Storage Project (Ref: DNS CAS-02009-W1R1Z7). The operational elements of Padeswood Spur Pipeline Proposed Development only include infrastructure to facilitate the transportation of carbon dioxide which will be captured from the Padeswood Cement Works, transported to the Northop Hall AGI, which connects to the Main Onshore Carbon Dioxide Pipeline which is consented to by the HyNet Carbon Dioxide Pipeline Development Consent Order 2024 (Ref: EN070007) and then securely stored in the existing depleted oil and gas fields in Liverpool Bay.

1.1.5. The Padeswood Spur Pipeline Proposed Development is an integral part of the Project as it will transport carbon dioxide captured from Padeswood Cement Works Carbon Capture and Storage (CCS) Plant to storage, contributing to the reduction of carbon dioxide in the atmosphere and making a significant contribution to the international, national, and local effort against the climate emergency.

1.2. OVERVIEW OF THE PLANNING APPLICATION

1.2.1. The key elements of the Padeswood Spur Pipeline Proposed Development are as follows:

- Padeswood Above Ground Installation (AGI);
- Padeswood Carbon Dioxide Spur Pipeline; a pipeline approximately 11km in length, connecting Padeswood Cement Works to Northop Hall AGI;
- Additional Equipment at Northop Hall AGI;
- Other infrastructure, including telecommunication connections, Cathodic Protection (CP) equipment, leak detection equipment, and pipeline marker posts; and
- Temporary works to facilitate the construction of the Padeswood Spur Pipeline Proposed Development, including construction compounds and temporary access tracks.

1.2.2. The Planning Application will seek approval for the construction, operation and end of life decommissioning of the Padeswood Spur Pipeline Proposed Development, as described further in Chapter 4 of this PDAS.

1.2.3. The Padeswood Spur Pipeline Proposed Development is classified as a 'major' planning application as it is a non-residential development on a site of more than 1 hectare and will require the submission of an application under The Town and Country Planning Act (Wales) 1990 (as amended). The Padeswood Spur Pipeline Proposed Development also falls within the Town and Country Planning (Environmental Impact Assessment) (Wales) Regulations 2017 (the EIA Regulations), which require an Environmental Statement (ES) to be prepared and submitted with the Planning Application.

1.2.4. The Northop Hall AGI has not been included in this Planning Application as it has been consented to as part of the HyNet Carbon Dioxide Pipeline Development Consent Order 2024. However, the additional equipment required within the AGI to terminate the Padeswood Spur Pipeline is part of this Planning Application.

1.3. PURPOSE AND STRUCTURE OF THIS STATEMENT

1.3.1. The purpose of the PDAS is to assist FCC in its assessment of the Planning Application by setting out how the Proposed Development accords with the policies of the development plan when taken as a whole, as well as considering other material planning considerations

such as other national and local planning policies, legislation and guidance.

1.3.2. The PDAS incorporates content in accordance with Article 7 of The Town and Country Planning (Development Management Procedure) (Wales) Order 2012.

1.3.3. The PDAS is structured as follows:

- Section 1 – Introduction
- Section 2 – Site and Surroundings
- Section 3 – Pre-application Engagement
- Section 4 – The Proposed Development
- Section 5 – Access
- Section 6 – Planning Policy Context
- Section 7 – Planning Appraisal
- Section 8 – Conclusions

1.4. APPLICATION CONTENTS

1.4.1. The Planning Application is accompanied by the following documents:

DOCUMENTS

- Cover letter (document reference: PW.2.1.3);
- Application form;
- Planning, Design and Access Statement (this document);
- Environmental Statement with Appendices and Figures;
- ES Non-Technical Summary (document reference: PW.3.1);
- PAC Report (document reference: PW.2.4);
- Outline Environmental Management Plan (OEMP) (document reference: PW.4.1);
- Outline Construction Traffic Management Plan and Outline Construction Workers Travel Plan (document reference: PW.4.2);
- Padeswood Net Benefit for Biodiversity Report and Green Infrastructure Statement (document reference: PW.4.3); and
- Habitat Regulations Assessment (document reference: PW.4.4).

PLANS

- Site Location Plan (drawing reference: 70116227-PW.2.2.1-SLP-Sheet1)
- Proposed Site Layout (drawing reference: 70116227-PW.2.2.2-LAY-Sheet1 to 14)

- Padeswood AGI Proposed Elevations (drawing reference: 70116227-PW.2.2.3-EL-Sheet1)
- Padeswood AGI Proposed Layout (drawing reference: 70116227-PW.2.2.5-LAY-Sheet1)
- Northop Hall AGI Existing and Proposed Elevations (drawing reference: 70116227-PW.2.2.7-EL-Sheet1)
- Northop Hall AGI Proposed Layout (drawing reference: 70116227-PW.2.2.9-LAY-Sheet1)
- Typical Trench Cross Section (drawing reference: 70116227-PW.2.2.10-CX-Sheet1)

1.5. ENVIRONMENTAL IMPACT ASSESSMENT

1.5.1. The PDAS is accompanied by an Environmental Statement (ES) that has been prepared in accordance with Schedule 4 of the EIA Regulations, which specifies what environmental information must be included in an ES.

1.5.2. The ES is structured as follows:

- Volume I: Non-Technical Summary (NTS)
- Volume II: Main Text
  - Chapter 1 – Introduction
  - Chapter 2 – The Project
  - Chapter 3 – Description of the Padeswood Spur Pipeline Proposed Development
  - Chapter 4 – Consideration of Alternatives
  - Chapter 5 – EIA Methodology
  - Chapter 6 – Air Quality
  - Chapter 7 – Climate Resilience
  - Chapter 8 – Cultural Heritage
  - Chapter 9 – Biodiversity
  - Chapter 10 – Greenhouse Gases
  - Chapter 11 – Land and Soils
  - Chapter 12 – Landscape and Visual Amenity
  - Chapter 13 – Major Accidents and Disasters
  - Chapter 14 – Noise and Vibration
  - Chapter 15 – Population and Human Health
  - Chapter 16 – Traffic and Transport
  - Chapter 17 – Water Environment and Flood Risk

  - Chapter 18 – Combined and Cumulative Effects
  - Chapter 19 – Summary of Likely Significant Effects; and
  - Glossary.
- Volume III: Supporting Technical Appendices
- Volume IV: Supporting Figures and Plans

1.5.3. The ES identifies and sets out any likely significant environmental effects, as well as any measures needed to mitigate likely significant adverse environmental effects, taking account of the Mitigation Hierarchy to first try to avoid, then prevent and then reduce likely significant adverse effects on the environment and, if possible, offset any likely significant adverse effects on the environment.

1.5.4. The ES also identifies residual effects, i.e. those effects that the Padeswood Spur Pipeline Proposed Development is likely to have after mitigation measures are implemented.

1.5.5. In addition to the assessments of each environmental aspect, the ES in Chapter 18 – Combined and Cumulative Effects of the ES (document reference: PW.3.2.18), takes account of the potential cumulative effects of the Padeswood Spur Pipeline Proposed Development in combination with other relevant, known, proposed or consented schemes, as well as the combined effects resulting from the interrelationship of the various environmental effects caused by the Padeswood Spur Pipeline Proposed Development (where the cumulation of these effects results either in a new significant effect or increases the significance of an effect already identified).

1.5.6. The findings of ES have, where relevant, informed the planning appraisal of the policies of the development plans as set out in this PDAS.

2. SITE AND SURROUNDINGS

2.1. INTRODUCTION

2.1.1. The Padeswood Spur Pipeline Proposed Development Red Line Boundary is located within the administrative boundary of Flintshire County Council, as shown in Figure 1 below and the Site Location Plan (drawing reference: 70116227-PW.2.2.1-SLP-Sheet1).

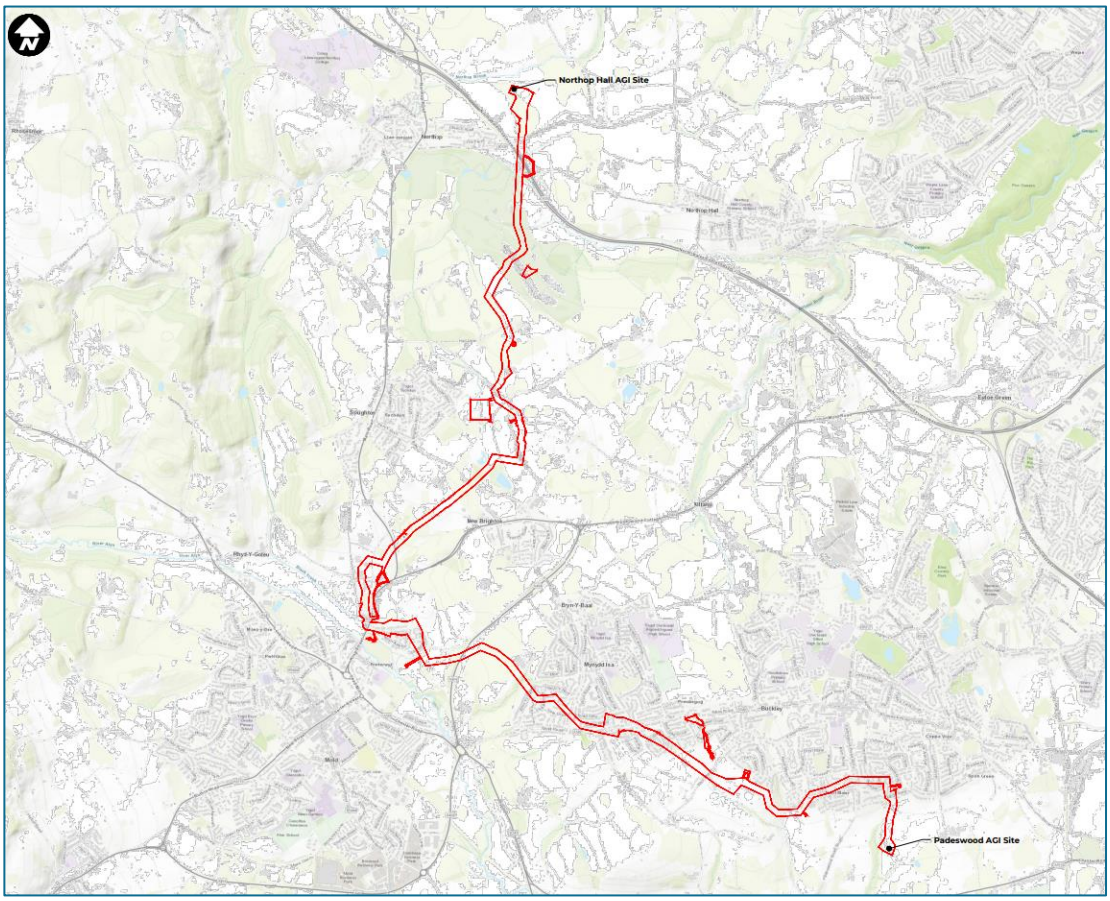

Figure 1 – Site Location Plan

2.1.2. The application site is approximately 67.59 ha. The Padeswood AGI will be in the north-west corner of the Padeswood Cement Works CCS Plant, within its fence line, to the south of the existing Padeswood Cement Works. Most of the application site is predominately rural in nature.

2.1.3. The Padeswood Carbon Dioxide Spur Pipeline is located approximately 15km west of Chester, the nearest city. Other settlements in close proximity to the Padeswood Carbon Dioxide Spur Pipeline include Padeswood, Buckley, Mynydd Isa, Mold and Northop Hall.

2.1.4. The Padeswood Carbon Dioxide Spur Pipeline will be approximately 11km in length, transporting captured carbon dioxide from the Padeswood AGI to the Northop Hall AGI. The Padeswood Carbon Dioxide Spur Pipeline routes West from the Padeswood AGI, immediately turning North and crossing the A5118. It then turns west running adjacent to the A5118.

2.1.5. To the south of Buckley, the Padeswood Carbon Dioxide Spur Pipeline routes in a generally north-west direction towards Mynydd Isa, crossing several features including Padeswood Road South, Foundry Drain, Wat's Dyke and Rose Lane.

2.1.6. South of Mynydd Isa and to the East of the Wylfa roundabout the Padeswood Carbon Dioxide Spur Pipeline crosses the A549 and passes between the settlements of Mynydd Isa and Mold, , as it turns North, the route then crosses the A494 Mold Bypass in two locations, before running adjacent to the A494 Mold Bypass on the East side and heading North. The route crosses Bryn-y-Baal Road and Wat's Dyke for a second time.

2.1.7. The Padeswood Carbon Dioxide Spur Pipeline then crosses the A494 for a third time to the east of the New Brighton Roundabout, before continuing in a generally northerly direction through agricultural land towards the A55, crossing Alltami Road along the route.

2.1.8. In the north, the pipeline route crosses under an area of Ancient Woodland and the A55, after which the route terminates at Northop Hall AGI, which is located to the north of the A55 between the settlements of Northop Hall and Northop.

2.1.9. The Northop Hall AGI is not included in this Planning Application as it has been consented to as part of the HyNet Carbon Dioxide Pipeline Development Consent Order 2024. However, this Planning Application covers the additional equipment required within the Northop Hall AGI to terminate the Padeswood Carbon Dioxide Spur Pipeline.

2.1.10. The environmental features and/or baseline of the Red Line Boundary are detailed within the Environmental Statement and respective environmental reports submitted in support of this Planning Application.

2.2. PLANNING HISTORY

2.2.1. The Padeswood Spur Pipeline Proposed Development is subject to several planning permissions within the application site boundary.

2.2.2. The DNS application (Ref: DNS CAS-02009-W1R1Z7) for the Padeswood Carbon Capture & Storage Project was submitted in September 2024 and is currently at the examination stage.

2.2.3. A review of the planning register held by FCC includes details of the following relevant planning applications within the Red Line Boundary, as set out in Table 2.1.

Table 2.1 – Planning History

LPA ref.	Address	Description	Outcome
063802	Mount Pleasant Cottage Alltami Road Soughton Mold CH7 6RH	Proposed conversion of existing agricultural outbuilding to form 1no. Rural Enterprise (agricultural worker's) Dwelling	Granted
041989	Spon Farm Spon Green Buckley Flintshire CH7 3BN	Erection of a replacement farmhouse with associated garaging.	Granted
044155	Street Record Mold Road Mynydd Isa Flintshire	Creation of access, erection of kiosk, hardstanding and associated works	Granted
044752	Rhyd Alyn Nursing Home Mold Flintshire CH7 6SQ	Erection of a new building for use as a psychiatric hospital and/or as a care home and/or for the provision of residential accommodation in each case with treatment & care	Granted

LPA ref.	Address	Description	Outcome
		including rehabilitation	
045779	Rhyd Alyn Nursing Home Mold Flintshire CH7 6SQ	Erection of a new building for use as a psychiatric hospital and/or as a care home and/or for the provision of residential accommodation in each case with treatment & care including rehabilitation and/or any purpose within use class C2	Granted

3. PRE-APPLICATION ENGAGEMENT

3.1. ENGAGEMENT WITH FCC

3.1.1. A request for pre-application advice was submitted to FCC on 20 December 2023. FCC responded on 7 March 2024. Their pre-application advice is summarised in Table 3.1 below:

Table 3.1 – FCC Pre-application advice

Topic	FCC Advice
Planning history of the site	A list of planning applications that fall within the site boundary of the pre-application advice request was provided.
Relevant national and local plan policies and guidance & relevant technical standards	A list of relevant Local Development Plan Policies, Supplementary Planning Guidance Notes, and National Guidance was provided.
Planning/site constraints and opportunities	Key planning and site constraints were identified, including: • Coal Authority Referral Area and Coal Authority Standing Advice area • BAE Outer Safeguarding Zone Consultation Zone, BAE Birdstrike 13km Consultation Zone, BAE buildings above 15 m in height Consultation Zone Airport Safeguarding Area. • TAN15 Flood Risk Zone C1 and C2 • TAN11 Noise generating Zone around some roads • NRW SAC Phosphates Catchment area • Alwyn Aqueduct water pipeline • Overhead power line • 250m buffer zone around landfill sites in various locations • Integrated Pollution Control permit area for Castle Cement • Areas of Ancient Woodland Mixed woodland and Tree Preservation Order • Wildlife sites Warred Wood and Coed Plas Major • A55/A494 Ewloe to Northop Road Safeguarding Zone • Hynet Carbon Dioxide Pipeline Safeguarded Area • Listed Buildings • Public Rights of Way

Topic	FCC Advice
Requirements for contributions to infrastructure and community benefits	FCC is of the view that HyNet should provide a voluntary community benefit scheme, established and managed by the developer to mitigate against the impacts of the development. The fund could be used to fund projects in the communities affected by the construction of the pipeline.
Scope and detail of consultation and engagement	A list of wards and councillors and community/town councils was provided
Principle of development	Generally, the proposal is considered acceptable in terms of principle, design, sustainability, policy and guidance. As the proposal is mainly underground post construction, visual impact is not a concern.
Open countryside	In terms of policy, all of the site is within open countryside in the adopted Local Development Plan. Policy PC1 is therefore relevant as it sets out the requirements for development outside settlement boundaries, criterion d. does allow for development where it is essential to have an open countryside location. Given the nature of this project, it is felt that the open countryside location is appropriate.
Green Wedge	Most of the site is also within the Green Wedge designation, policy EN11.10: Mold, Mynydd Isa, Sychdyn, New Brighton. As the pipeline is development in relation to carbon capture it is appropriate development for a green wedge since the pipeline is unlikely to affect the open nature of the green wedge. Although the construction compounds, notwithstanding their temporary nature, will need to be carefully considered.
Indicative Local Search Areas	Parts of the site, around New Brighton and to the south of Mynydd Isa, are designated as Indicative Local Search Areas (ILSA) for solar farm development.

Topic	FCC Advice
Minerals safeguarding	Certain areas of the site are also designated as Minerals Safeguarding areas so policy E23 Mineral safeguarding will be relevant. Policy EN23 states that non-mineral development within Mineral Safeguarding Areas will only be permitted where it can be demonstrated that: a) the mineral underlying the site does not merit extraction; or b) the need for the non-mineral development outweighs the need to protect the resource; or c) the mineral can be satisfactorily extracted prior to the non-mineral development; or d) the development is of a temporary nature or can be removed within the timescales within which the mineral is likely to be needed; and e) essential infrastructure that supports the supply of minerals, including Mostyn Docks and Padeswood Cement Works (as shown on the proposals maps), would not be compromised or would be provided elsewhere. All applications for development, with the exception of householder applications, in these areas shall be supported by a mineral Safeguarding Assessment. Proposals for non-mineral development on sites of 4ha or more, which are underlain by Category 1 sand and gravel shall be supported by a Prior Extraction Assessment. Any planning application submitted for non-mineral development in this location would need to demonstrate compliance with Policy EN23 in the form of a Minerals Resource Assessment.
Anticipated means of determination of a planning application	The anticipated means of determination is by planning committee due to the site area.

3.1.2. Monthly pre-application meetings were held with Flintshire County Council to discuss and agree on various topics, including but not limited to those outlined below, which are further discussed in this PDAS and the submitted ES:

- Design amendments, including refinement to the Red Line Boundary, ecological mitigation areas, and Public Rights of Way (PRoW) diversions;
- Approach to various environmental assessments, including Net Benefit for Biodiversity, Noise and Vibration Assessment, Cumulative Assessment, and Water Environment;
- Requirement for SUDS Approval Body (SAB) consent;
- Community engagement and PAC.

3.1.3. An EIA Scoping Opinion was received by the Applicant from the Local Planning Authority (LPA) on 8 May 2024, including formal responses from Statutory Consultees. The Applicant consulted Natural Resources Wales (NRW) in response to the EIA Scoping Opinion. The key outcomes of those discussions are summarised as follows:

- NRW agreed that the Clwydian Range and Dee Valley AONB/National Landscape would be scoped out in the Landscape and Visual Assessment.
- A Discretionary Advice Service (DAS) request was sent on the 6 March 2024. NRW suggested that the mitigation measures for the Main Onshore Carbon Dioxide Pipeline are relevant to the Padeswood Spur Pipeline Proposed Development. A new DAS request has been submitted to NRW and a response is now awaited.
- Email discussion seeking derogation for works, including the installation of temporary culverts and trenched crossings, within the closed season for coarse fish (15 March to 15 June) and Salmonids (01 October to 31 May). Derogation was given based on the implementation of proposed mitigation, the lack of risk to spawning fish and the minimal, short term and localised risk to eels.

3.1.4. A general flood risk enquiry was sent to Dwr Cymru Welsh Water (DCWW) on 11 June 2024. Given that neither DCWW asset diversions nor new surface water or foul drainage connections are proposed, DCWW raised no concerns on flood risk matters. Therefore, further engagement on flood risk matters with DCWW was not required.

3.1.5. In addition, the Applicant consulted the Coal Authority to gather information on the potential Coal Mining Risks associated with the Red Line Boundary.

3.1.6. Public Health Wales were consulted in relation to the methodology for assessment of human health to be included within ES Chapter 15 – Population and Human Health (document reference: PW.3.2.15). No response has been received from Public Health Wales to date.

3.1.7. An online meeting with Heneb was held in September 2024 to discuss initial results of geophysical survey and further archaeological evaluation. It was agreed that any trenching strategy should be targeted on known features, along with targeted blank areas focussed on areas of high archaeological potential. It was also confirmed that any areas which were not subject to geophysical survey or trial trenching due to access restrictions, may require archaeological monitoring during construction.

3.1.8. A meeting with FCC Access Officer was held in December 2024 to discuss the initial proposals for each affected PRoW along the Padeswood Spur Pipeline. Comments from FCC Access Officer were considered by the Applicant to refine interventions in the Outline Public Rights of Way Management Plan (document Reference: PW.3.3.16.7).

3.1.9. A meeting with FCC Pollution Control Officer was held in January 2025. The methodologies for the noise survey and noise and vibration assessment were discussed and agreed.

3.2. COMMUNITY ENGAGEMENT

3.2.1. The Town and Country Planning (Development Management Procedure) (Wales) Amendment Order 2016, requires the Applicant to consult the public and statutory consultees prior to submitting a planning application for major development.

3.2.2. The purpose of this consultation is to provide an opportunity for statutory consultees and the public to review development proposals and to raise any issues, or areas of concern that the developer may need to address before submitting an application.

3.2.3. The consultation undertaken by the Applicant and the feedback received have been described in the Pre - Application Consultation (PAC) Report which accompanies this Planning Application.

4. THE PROPOSED DEVELOPMENT

4.1. PROPOSED DEVELOPMENT

4.1.1. The description of the Padeswood Spur Pipeline Proposed Development is as follows:

"Construction of a new Carbon Dioxide Spur Pipeline, an Above Ground Installation (AGI), plus ancillary works and equipment to serve the Padeswood Carbon Capture and Storage Project"

PADESWOOD AGI

4.1.2. The Padeswood AGI will function as an interface between the Padeswood Cement Works CCS Plant and the underground Padeswood Carbon Dioxide Spur Pipeline. The AGI is specifically designed to receive carbon dioxide from the Padeswood Cement Works CCS plant and introduce it into the carbon dioxide network for transport to the Point of Ayr (PoA) Terminal and onwards for storage offshore. The AGI will be located on the north-west corner of the Padeswood Cement Works CCS plant, as shown in Figure 2. An indicative general drawing for the Padeswood AGI is shown in the Padeswood AGI Context plan (drawing reference: 70116227-PW.2.2.4-LAY-Sheet1).

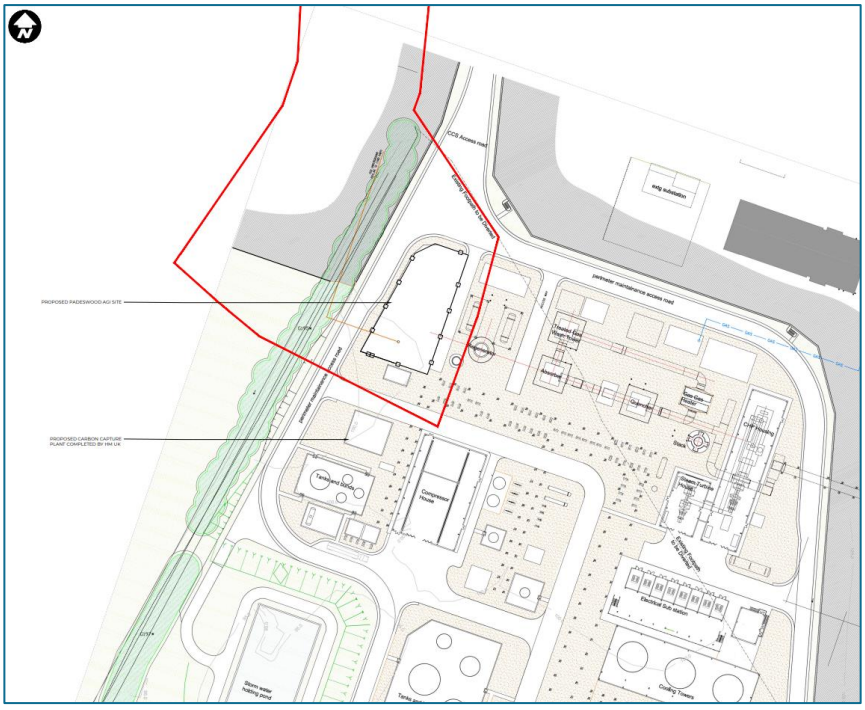

Figure 2 – Padeswood AGI Context

4.1.3. The Padeswood AGI will comprise an area within the Padeswood Cement Works CCS Plant fence line of approximately 50m x 28m in size.

4.1.4. Access to the Padeswood AGI will be via a new permanent access track being developed and consented within the Padeswood Carbon Capture and Storage (CCS) Project Development of National Significance (DNS) application submitted to and being considered by the Welsh Government in September 2024.

4.1.5. The Padeswood AGI will comprise the following facilities:

- Piping connection point to Padeswood Cement Works CCS Plant;
- Spare connection point;
- Pipework and associated infrastructure, including manifold, valves, venting connections, instrumentation, sensors, supports, etc;
- High-Integrity Pressure Protection Systems (HIPPS), designed to prevent over-pressurisation of the pipeline network;
- Pipeline Inspection Gauge (PIG) launcher facilities for the Padeswood Spur Pipeline, including blast wall;
- Electrical and Instrumentation (E&I) kiosk (maximum 5m high) for distributing power and for control and monitoring of the system;
- Electrical power connection from the Padeswood Cement Works CCS Plant;
- Additional minor infrastructure including CP cabinet, electrical transformer, analyser house, cable trays, etc;
- Steel walkover platforms;
- Site lighting, constituting perimeter lighting columns up to 5m in height;
- Secure chain link boundary fence (up to approximately 3m high) with gates;
- Crushed aggregate ground finish, with an area paved to site the E&I Kiosk, electrical transformer, and parking provision for maintenance vehicles; and
- Surface water drainage infrastructure, with a collection point to tie-in to the wider Padeswood Cement Works CCS Plant drainage system (consented under their application).

PADESWOOD CARBON DIOXIDE SPUR PIPELINE

4.1.6. The Padeswood Carbon Dioxide Spur Pipeline will comprise a pipeline approximately 11km in length connecting the Padeswood AGI to the

Northop Hall AGI. The pipeline will facilitate the transfer of captured carbon dioxide from the Padeswood Cement Works CCS Plant into the Main Onshore Carbon Dioxide Pipeline network via the Northop Hall AGI.

4.1.7. The Padeswood Carbon Dioxide Spur Pipeline will be 16" in diameter and built out of steel. The pipeline will be buried underground along its entire length, except for short sections at the beginning and end where it will connect to the Padeswood AGI and the Northop Hall AGI respectively. The depth from the ground surface to the top/crown of the pipe will vary depending on technical factors such as ground conditions and topography, but will be a minimum of 1.2m. A typical cross section is provided as part of the planning drawings **(drawing reference: 70116227-PW.2.2.2-LAY-Sheet13)**.

4.1.8. Open-cut trenching methods will be used to install the Padeswood Carbon Dioxide Spur Pipeline for most of the route. This will involve the excavation of an open trench, lowering of the pipeline into the trench, and backfilling with excavated material. For complex crossings, to avoid disruption to utilities, major highways, watercourses and/or particular environmental sensitivities (e.g. ancient woodland), specialist trenchless installation techniques will be used. In these locations, the pipeline will be located at a greater depth, depending on the nature of the feature being crossed.

ADDITIONAL EQUIPMENT AT NORTHOP HALL AGI

4.1.9. The Padeswood Spur Pipeline Proposed Development will connect to the Northop Hall AGI, which is consented to under the HyNet Carbon Dioxide Pipeline Development Consent Order (DCO) 2024.

4.1.10. Additional equipment will be required to be installed at Northop Hall AGI to facilitate this connection. This will primarily consist of pipework to connect the spur pipeline to the Main Onshore Carbon Dioxide Pipeline. The footprint and general visual characteristics (including fencing and lighting) of the Northop Hall AGI as consented under the DCO will remain the same. None of the permanent equipment will be taller than 5m.

4.1.11. The additional Northop Hall AGI equipment will comprise the following:

- Pipework and associated infrastructure, including manifold, valves, venting connections, instrumentation, sensors, supports, etc;
- PIG receiver facilities for the Padeswood Spur Pipeline, including blast wall;

- Additional minor infrastructure including CP cabinet, cable trays, etc;
- Steel walkover platforms;

OTHER INFRASTRUCTURE

Primary Fibre Optic Cable

4.1.12. A Fibre Optic Cable (FOC) connection will be required to establish a telecommunications link between the Padeswood AGI and the Northop Hall AGI.

4.1.13. The FOC will be installed along the length of the Padeswood Carbon Dioxide Spur Pipeline at a depth no higher than the top of the pipeline. For most of the pipeline route, the FOC will be installed within the pipeline trench and buried together with the pipeline. At trenchless crossing locations, the cable will either be pulled through with the pipeline, or installed separately adjacent to the pipeline.

Secondary Fibre Optic Cable

4.1.14. A separate FOC connection will be required to connect the Padeswood AGI to the Point of Ayr (PoA) Terminal. This connection will be via the local fibre optic network. The connection is likely to be routed through the Padeswood Cement Works.

Cathodic Protection Equipment

4.1.15. A CP system will be installed to protect the pipeline against corrosion.

4.1.16. Most elements of the CP system, including cabling and ground beds, are buried below ground and will be installed during the construction of the Padeswood Spur Pipeline Proposed Development. Above ground CP transformer rectifier cabinets will be installed within the fence boundary of the two AGIs.

4.1.17. Small, above ground CP test posts will also be required. These will be installed along the pipeline to allow maintenance inspectors to take readings of the CP system. The CP test posts will usually be installed near road and watercourse crossings, directly above the pipeline and positioned within verges to reduce disturbance to land uses. The specific locations of these small test posts will be confirmed at detailed design stage when the precise alignment of the pipeline is confirmed.

Marker Posts

4.1.18. Pipeline marker posts will be installed at all road and watercourse crossings, changes in pipeline direction, and field boundaries. The exact

number, location and design of the marker posts will be confirmed at detailed design stage. However, industry standards will be followed and typically the marker posts will be pre-cast reinforced concrete posts with information plaques on them. The markers will be in a position that reduces disturbance to land uses, for example at field boundaries or in verges.

4.1.19. Aerial marker posts will also be used to locate the pipeline during aerial surveys. These will be positioned at field boundaries where possible, typically every 1km and/or at major changes of direction of the pipeline.

Leak Detection Equipment

4.1.20. Leakage detection on the pipeline is provided using a vibroacoustic monitoring system. Dedicated sensors will be installed directly on the pipeline.

4.1.21. The sensors located within the AGI will be installed above-ground. The sensors located outside of the AGI will be installed underground, either completely buried or accessible via manholes. They will be connected by cable directly to the nearest AGI via the pipeline corridor.

TEMPORARY CONSTRUCTION COMPOUNDS

4.1.22. Temporary Construction Compounds will be required to facilitate construction activities, commissioning and landscaping works. There will be three types of Construction Compounds serving different types of construction works, namely:

- Centralised Compound;
- Trenchless Crossing Compounds; and
- Localised Compounds.

4.1.23. The location of the Temporary Construction Compounds is shown in ES Figure 3.3 Padeswood Spur Pipeline Proposed Development Temporary Works (drawing reference: 70116227-PW3.3-ES-Sheet 1 to 4).

4.1.24. All Temporary Construction Compounds will have the following general characteristics:

- Offices and welfare facilities;
- Parking provision for workers;
- Material laydown area, yard, container storage and waste storage;
- Lighting designed to ensure safe delivery of the necessary tasks;
- Temporary security fencing (Heras style or equivalent) and other security arrangements as necessary;

- All necessary signage advising of access restrictions and/or Public Right of Way (PRoW) diversions;
- Temporary drainage solutions.

Central Compound

4.1.25. A single Central Compound will be required. The Central Compound is proposed to be located on a greenfield situated north of the A5119 to the east of New Brighton.

4.1.26. The Central Compound will be in place for the duration of the construction programme. It will serve as a point for accepting deliveries and storage of equipment, pipe and other material. From the Centralised Compound, pipe sections and equipment will be transported directly to the storage areas within the various other compounds and work fronts by appropriate transport.

Trenchless Crossing Compounds

4.1.27. Each trenchless crossing, as listed in ES Chapter 3 – Scheme Description (document reference: PW.3.2.3), will require two dedicated Construction Compounds to facilitate the works at either side of the feature that is being crossed. A larger compound will be required on the "entrance" side and a smaller compound will be on the "exit" side.

4.1.28. The locations, sizes and layouts of the compounds are subject to change depending on the final pipeline alignment, selection of construction methodology with entrance and exit locations, and detailed agreements with the relevant asset owner and/or regulatory authorities, all of which will be determined by the Construction Contractor post-consent.

4.1.29. Estimated Trenchless Crossing Compound sizes to consider are listed below (not including space for pipe stringing or earthworks which will be outside of the compound area but associated with the trenchless crossing construction works):

Micro tunnelling or Auger Boring drive compound: 30m x 30m

Micro tunnelling or Auger Boring exit compound: 20m x 20m

HDD drive compound: 50m x 50m

HDD exit compound: 30m x 30m

4.1.30. Trenchless Crossing Compounds will be in place for the duration of that specific crossing, according to the construction programme and will be dismantled following the cessation of these works. Land will then be reinstated back to its former use.

Localised Compounds

4.1.31. Localised Compounds will be required to serve the construction works at AGI locations. There will be one Localised Compound located within the Padeswood Cement Works CCS Plant. This will be the Heidelberg Materials UK Pipeline Connection Point Compound, which also serves the construction of the Padeswood AGI. Any preparatory works, including ground clearance, for the Heidelberg Materials UK Pipeline Connection Point Compound will be completed by Heidelberg Materials UK and therefore is not included as part of this Planning Application.

4.1.32. A second Localised Compound to serve the construction works at the Northop Hall AGI will be located at the AGI itself.

4.1.33. The estimated compound size for the AGI compound is 35m x 35m. They are expected to be in place for the duration of the construction programme for the AGIs.

4.1.34. Further details of the Temporary Construction Compounds are provided in ES Chapter 3 – Description of the Padeswood Spur Pipeline Proposed Development (document reference: PW.3.2.3).

4.2. CONSTRUCTION METHODOLOGY

4.2.1. The majority of the pipeline route will be installed by open trench construction methods. The working width will be wide enough to allow construction activities to take place safely and efficiently. A standard construction corridor width of 25m is proposed. The construction corridor width may vary if constraints are present, or if there is a particular constructability concern. This will be assessed during detailed design.

4.2.2. Trenchless crossing methods will be required at certain locations to minimise disruption and environmental impacts. Such locations will include major roads, major watercourses and other environmental features such as ancient woodland.

4.3. CONSTRUCTION PROGRAMME AND WORKING HOURS

4.3.1. It is anticipated that if planning permission is granted for the Padeswood Spur Pipeline Proposed Development, that construction works will commence in September 2026 and continue until February 2028.

4.3.2. Core working hours will be 08.00 to 18.00 Monday to Friday (excluding bank holidays) and from 08.00 to 13.00 on Saturdays. To maximise

productivity within core working hours, the Construction Contractor will require a period of up to one hour before and up to one hour after core working hours for the start-up and close-down of activities. This will include, but not be limited to, deliveries, movement to place of work, unloading, maintenance and general preparation works. It will not include the operation of any plant or machinery likely to cause disturbance to local residents or businesses. These periods will not be considered an extension of core working hours.

4.3.3. Exceptions will be required for extended hours or working outside core hours (including where necessary working on a weekend or Bank Holiday) for activities such as:

- The continuous drilling/tunnelling and pulling phases for trenchless crossings;
- Where daytime working would be excessively disruptive to normal traffic operation;
- Cleaning/testing of the pipeline; and
- Overnight traffic management measures.

4.3.4. Except in the case of an emergency, any work required to be undertaken outside core hours (not including non-intrusive surveys, repairs or maintenance) will be agreed in advance with FCC.

4.4. CONSTRUCTION ENVIRONMENT MANAGEMENT PLAN

4.4.1. An Outline Environmental Management Plan (OEMP) has been submitted within this Planning Application (document reference PW.4.1) for approval. The OEMP includes the overarching construction management measures the Construction Contractor will implement to avoid and/or reduce the potential environmental impacts during the Construction Stage. The Construction Contractor will adopt the OEMP and use it to produce a detailed Construction Environmental Management Plan (CEMP(s)) for implementation at the construction stage.

4.4.2. The CEMP will be a live document and should be maintained by the Construction Contractor and reviewed and updated on a regular basis throughout the Construction Stage as new environmental construction measures are identified and implemented.

4.5. OPERATION AND MAINTENANCE

4.5.1. The AGIs will not be permanently manned as they will be operated remotely and controlled from the Point of Ayr Terminal in Flintshire.

4.5.2. There will be no on-site power generating equipment at the AGIs and the only active source of noise is expected to be the E&I Kiosks, which will be mounted with air conditioning units.

4.5.3. Should there be a need to isolate the Padeswood Spur Pipeline Proposed Development for operational reasons, this will be performed at the AGIs via remote operation. However, the AGIs will also allow for in-person operation, should this be needed. Emergency shut down valves will be located at the AGIs.

4.5.4. Pipeline leak detection technology will be installed and is designed for the early warning and remote identification of major leakages. CO2 point gas detectors will also be installed externally at the Padeswood AGI.

4.5.5. During normal operation, any emission of CO_2 will be limited to planned maintenance activities. Provision for planned temporary venting of CO_2 will be present at both the Padeswood AGI and Northop Hall AGI.

4.6. DECOMMISSIONING

4.6.1. The Padeswood Spur Pipeline Proposed Development infrastructure is designed to have a life span of 25 years. When the Padeswood Spur Pipeline Proposed Development ceases to be operational and reaches the end of its useful life, the pipeline will be decommissioned safely, filled with nitrogen and left in-situ.

4.6.2. Above ground features associated with the AGIs will be dismantled, cleared and the ground conditions restored. The full details will be developed at the Decommissioning Stage.

4.6.3. Due to the nature of the Padeswood Spur Pipeline Proposed Development, although steps will be taken to clean, vent and drain the pipeline and equipment, there may be contamination by residual chemicals present. The presence of chemicals will be considered in selecting the decommissioning and disposal method.

4.6.4. The CP monitoring system may be kept in place to allow monitoring and ongoing protection against corrosion.

4.6.5. Decommissioning design and works will be set out in the end of life Decommissioning Environmental Management Plan (DEMP) which will be produced by the Decommissioning Contractor and based on the measures included in the OEMP (document reference: PW.4.1).

5. ACCESS

5.1. CONSTRUCTION TRAFFIC ACCESS

TEMPORARY ACCESS LOCATIONS AND TRAFFIC

5.1.1. To provide vehicular access and facilitate construction of various elements of the Padeswood Spur Pipeline Proposed Development, the Trunk Road Network, Local Road Network (LRN), and Off-Highway Access Routes will be utilised.

5.1.2. A total of 28 (7 new and 21 existing) locations have been proposed to facilitate access to the construction of various elements of the Padeswood Spur Pipeline Proposed Development.

5.1.3. All proposed access locations have been identified to maximise the use of existing access locations and meet the construction requirements of the Padeswood Spur Pipeline Proposed Development. The proposed access locations will provide a link from the existing LRN or TRN to the Padeswood Spur Pipeline Proposed Development via temporary access tracks.

5.1.4. Temporary access locations will be designed and constructed to accommodate the most onerous vehicle type and manoeuvre required for construction. The temporary access points are dictated by the construction traffic routes and construction activity and will comprise the following types:

- Road Crossing (i.e. no turning movements for HGVs);
- Left in/Right out;
- Right in/Left Out; or
- All Movements.

5.1.5. Proposed temporary access locations will make use of existing accesses as far as practicable. Access points will provide direct construction vehicular access to and from the wider highway network.

5.1.6. The proposed construction traffic routing strategy has evolved through an iterative process of working with project engineers and consultation with the Local Highways Authority (LHA) and other relevant stakeholders. The routing strategy is based on the following principles:

- Provide safe and efficient construction access for the Padeswood Spur Pipeline Proposed Development;
- Reduce as far as reasonably practicable, and mitigate to an acceptable level, disruption to the public;

- Where practical use the shortest route between the access point and the Trunk Road Network (TRN); and
- Construction routes have been identified based upon their suitability to accommodate HGV and LGV traffic.

5.1.7. Details on the indicative access locations for the Construction Stage and proposed construction traffic routes are provided in the Outline Construction Traffic Management Plan (document reference: PW.4.2), ES Figure 16.5 Access Locations (document reference: PW.3.4.16.6), and ES Figure 16.3 Construction Traffic Routes (document reference: PW.3.4.16.3).

PADESWOOD AGI

5.1.8. Access to the Padeswood AGI is proposed via the proposed Padeswood Cement Works CCS Plant access road off the A5118 to the north of the wider Padeswood Cement Works site, of which the owner of the site Heidelberg Materials UK has agreed to in principle.

5.1.9. During the Construction Stage, LGVs and HGVs will travel between the Central Compound and Padeswood Cement Works site via A5119, A494, A541 and A5118. The proposed route is well designed with a specification suitable for carrying large volumes of traffic with a high composition of HGVs, which reflect the industrial uses local to the area.

TRAFFIC MANAGEMENT AND DIVERSION ROUTES

5.1.10. Traffic management methods will be used on the LRN and where physical mitigation measures prove to be not reasonably practicable or cannot be accommodated during the construction period of the Padeswood Spur Pipeline Proposed Development.

5.1.11. As part of the full CTMP detailed traffic management layouts, site specific risk assessments and method statements will be produced and agreed by the appointed Construction Contractor with FCC for all traffic management and highways related construction activities.

5.1.12. To limit potential disruption to the LRN, traffic management will only be deployed as required. The type of traffic management required at each temporary access location is dependent on several factors including traffic speeds, road widths, visibility and site characteristics.

5.1.13. Traffic management at temporary access points could be traffic controlled by priority signs, stop/go boards or portable traffic signals along with additional approach signage to reduce speeds where required. Additionally, Temporary Traffic Regulation Orders (TTROs) will

be implemented as part of the traffic management approach for the Padeswood Spur Pipeline Proposed Development where necessary.

5.1.14. Open trench road crossings will necessitate the closure of roads and implementation of diversion routes. Road closures are anticipated to last a maximum of two weeks. Reinstatement of street works shall be completed in accordance with local regulations. The road closure and diversion arrangements shall be subject to landowner agreements.

5.1.15. The following roads are anticipated to require temporary short-term closures to allow Non-Road Mobile Machinery (NRMM) movement for trenchless road crossings. The crossings will preferably utilise existing gates where identified, however, new gates may be required to minimise duration of road closures.

- Padeswood Road South
- Rose Lane
- Bryn-y-Baal Road
- Alltami Road

5.1.16. A number of Public Rights of Way (PRoWs) may require temporary diversions/ closures during the Construction Stage which are outlined in the Outline Public Rights of Way Management Plan (document reference: PW.3.3.16.7). The management for each PRoW and the duration of their closure will be secured in the final Public Rights of Way Management Plan to be signed off by FCC prior to the commencement of the construction.

5.1.17. No permanent closures of PRoWs are anticipated as part of the Padeswood Spur Pipeline Proposed Development.

5.2. OPERATIONAL TRAFFIC

5.2.1. During the Operational Stage, there will be infrequent trips related to security and routine maintenance which are considered negligible.

5.2.2. The Padeswood AGI will not require permanent staffing or personnel presence as it will be operated remotely. It is anticipated weekly security visits and quarterly maintenance visits will be undertaken. 2 parking spaces for large maintenance vehicles will be provided at the Padeswood AGI site.

6. PLANNING POLICY CONTEXT

6.1. INTRODUCTION

6.1.1. Section 38(6) of the Planning and Compulsory Purchase Act 2004 and Section 70(2) of the Town and Country Planning Act 1990 (as amended) require that planning applications are determined in accordance with the development plan unless material considerations indicate otherwise.

6.1.2. This section identifies the main planning considerations arising from the development plans applicable to this Planning Application as well as the material considerations warranting the grant of planning permission for the Padeswood Spur Pipeline Proposed Development.

6.1.3. The Padeswood Spur Pipeline Proposed Development is located within the administrative boundary of Flintshire County Council. The adopted statutory development plan relevant to the Proposed Development therefore comprises of:

- Future Wales – The National Plan 2040 (Future Wales); and
- Flintshire Local Development Plan (LDP) 2015-2030

6.1.4. There are a number of other local and national planning policy documents and statutory instruments that represent material planning considerations in the decision-making process:

- Planning Policy Wales: Edition 12 (2024);
- Technical Advice Notes (TANs);
- Planning Guidance Notes including adopted Supplementary Planning Guidance (SPG) Notes and informal Local Planning Guidance Notes (LPGN); and
- Well-being of Future Generations (Wales) Act 2015.

6.2. STATUTORY DEVELOPMENT PLAN

6.2.1. As set out above the statutory development plan for Flintshire comprises Future Wales – The National Plan 2040 and Flintshire Local Development Plan (LDP) 2015-2030.

6.2.2. Future Wales outlines the national development framework for Wales until 2040. It concentrates on development and land use issues of national significance, indicating areas of major opportunities and change, highlighting areas that need protecting and enhancing and helping to co-ordinate the delivery of Welsh Government policies to maximise positive outcomes.

6.2.3. The Local Development Plan sets out the vision for development within the administrative area for the plan period. The plan identifies strategic aims and areas where specific development may or may not be appropriate and provides development management policies for determining applications for planning permission.

6.2.4. When determining a planning application, the planning authority considers whether it is in accordance with the overall development plan and not simply whether it complies with each relevant policy.

6.2.5. The following sections provide a summary of the relevant policies of the development plan and the extent to which the Proposed Development accords with them.

FUTURE WALES – THE NATIONAL PLAN 2040 (FUTURE WALES)

6.2.6. The Welsh Government published Future Wales – The National Plan 2040 (Future Wales) in February 2021. Future Wales is the national development framework, setting the direction for development in Wales up to 2040.

6.2.7. Future Wales forms the highest tier of the development plan structure in Wales. It ensures that the planning system at all levels is consistent with and supports the delivery of Welsh Government strategic aims and policies. Strategic Development Plans, which are not yet in place, cover regional and sub-regional levels and Local Development Plans consider issues at the local authority level.

6.2.8. The framework identifies climate change as one of the major challenges in Wales and therefore commits to reducing emissions. It ensures that delivering a decarbonised and resilient Wales is the priority, which is further reflected within many of its policies.

6.2.9. Policy 1 – Where Wales will grow drives the delivery of the Future Wales Outcomes and ensures Future Wales' policies and the planning system in general are committed to their achievement. Key issues, including decarbonisation, health, prosperity and the Welsh language, are core elements of Policy 1 and are common threads underpinning all Future Wales policies.

6.2.10. Policy 17 – Renewable and Low Carbon Energy and Associated Infrastructure recognises the existing and emerging renewable energy technologies that can contribute towards Welsh Government's energy and decarbonisation targets. It highlights the government's strong support for the principle of developing renewable and low carbon energy from all technologies and at all scales to meet Wales' future

energy needs whilst in determining planning applications, decision makers are required to give 'significant weight' to the need to meet Wales' international commitments to generate renewable energy.

6.2.11. Policy 21 – Regional Growth Area – North Wales Coastal Settlements identifies North of Wales as a key region for decarbonising society and supporting new infrastructure projects for energy generation, storage, and management to boost the regional economy.

FLINTSHIRE LOCAL DEVELOPMENT PLAN (LDP) 2015-2030

6.2.12. The Flintshire Local Development Plan (LDP) was adopted by FCC in January 2023 and covers the period up to 2030.

6.2.13. The LDP's vision is stated as:

"The LDP is about people and places. It seeks to achieve a sustainable and lasting balance between the economic, social, and environmental needs of Flintshire and its residents, through realising its unique position as a regional gateway and area for economic investment, whilst protecting its strong historic cultural heritage and natural environment".

6.2.14. The LDP sets out 19 Objectives that have been developed to translate the vision into a framework aligning them with the three themes of sustainable development:

- Enhancing Community Life;
- Delivering Growth and Prosperity; and
- Safeguarding the Environment.

6.2.15. The relevant Objective to the Padeswood Spur Pipeline Proposed Development is Objective 15: Minimise the causes and impacts of climate change and pollution.

6.2.16. The LPA sets out Strategic Policies that relate to the overarching themes of the plan and also sets the context for translating the strategic objectives into policy proposals and guidance. The plan then sets out a series of Development Management Policies under range of overarching headings.

6.2.17. The policies considered relevant to the Padeswood Spur Pipeline Proposed Development are listed below:

Table 6.1 – Flintshire Local Development Plan Strategic Policy

Strategic Policies
Policy STR4: Principles of Sustainable Development, Design and Placemaking

Policy STR6: Services, Facilities and Infrastructure
Policy STR13: Natural and Built Environment, Green Networks and Infrastructure
Policy STR14: Climate Change and Environmental Protection

6.2.18. **Policy STR4: Principles of Sustainable Development, Design and Placemaking** sets out a range of considerations contributing to sustainable development including mitigation and adaptation to climate change, incorporating on-site energy efficiency and managing waste sustainably. This is to ensure new developments incorporate high standards of design and layout, have regard for local distinctiveness and site context, and seek to attain energy efficiency.

6.2.19. **Policy STR6: Services, Facilities and Infrastructure** ensure where necessary to mitigate the impacts of new development appropriate ecological mitigation measures are provided.

6.2.20. **Policy STR13: Natural and Built Environment, Green Networks and Infrastructure** covers a wide range of Flintshire's natural and built environment. The policy states that all development should conserve, protect, and enhance both natural as well as built and historic environments in Flintshire.

6.2.21. **Policy STR14: Climate Change and Environmental Protection** demonstrates various measures to mitigate the effects of climate change and ensure environmental protection. The policy encourages developments that are energy efficient, environmentally acceptable renewable and zero / low carbon energy generation, have regard to the protection of the environment, and are adaptable and resilient to future effects of climate change.

Table 6.2 – Flintshire Development Management Policy

Development Management Policy
Policy PC1: The Relationship of Development to Settlement Boundaries
Policy PC2: General Requirements for Development
Policy PC3: Design
Policy PC4: Sustainability and Resilience of New Development
Policy PC5: Transport and Accessibility
Policy PE5: Expansion of Existing Employment Use
Policy EN2: Green Infrastructure
Policy EN4: Landscape Character
Policy EN6: Sites of Biodiversity Importance
Policy EN7: Development Affecting Trees, Woodlands and Hedgerows

Policy EN8: Built Historic Environment and Listed Buildings
Policy EN9: Development in or Adjacent to Conservation Areas
Policy EN11: Green Wedges
Policy EN13: Renewable and Low Carbon Energy Development
Policy EN14: Flood Risk
Policy EN15: Water Resources
Policy EN18: Pollution and Nuisance
Policy EN19: Managing Waste Sustainably
Policy EN23: Minerals Safeguarding

6.2.22. Policy PC1: The Relationship of Development to Settlement Boundaries states that new development within the identified LDP settlement boundaries will be permitted subject to policies in the plan and material planning considerations. This includes "d. other development which is appropriate to the open countryside and where it is essential to have an open countryside location, rather than being sited elsewhere…".

6.2.23. Policy PC2: General Requirements for Development provides a comprehensive set of considerations that should be applied to all development. These include matters such as:

"b. not have a significant adverse impact on the safety and living conditions of nearby residents, other users of nearby land/property, or the community in general, through increased activity, disturbance, noise, dust, vibration, hazard, or the adverse effects of pollution;

c. take account of personal and community safety and security in its design and layout;

f. not result in or be susceptible to problems related to foul and surface water drainage, land stability, contamination, flooding, or pollution of light, air and water, either on or off site."

6.2.24. Policy PC3: Design states that all new development should respect the appearance and character of its site and surroundings. It requires incorporating provisions of landscaping and planting, sensitive lighting, and Sustainable Urban Drainage Schemes where appropriate to the development.

6.2.25. Policy PC4: Sustainability and Resilience of New Development sets out considerations for new development to ensure efficient resource use and identify and mitigate the likely effects of climate change in an early stage of its design process.

6.2.26. Policy PC5: Transport and Accessibility seeks to ensure that new development is assessed in terms of the transport hierarchy and that

transport and access elements of the development have been carefully assessed.

6.2.27. Policy EN2: Green Infrastructure lists out the designated green spaces throughout Flintshire, their benefits and significance. The policy states *"development proposals will be required to protect, maintain and enhance the extent, quality and connectivity of the green infrastructure network, including designated and non-designated green spaces (as shown on the proposals maps and listed in the table below), and where appropriate:*

a. create new green infrastructure linkages from the proposed development to the existing local network;

b. fill in gaps in the existing network to improve connectivity.

Where the loss or damage of existing green infrastructure is unavoidable, appropriate mitigation and compensation will be required."

6.2.28. Policy EN4: Landscape Character requires new development to not have significant adverse impact on the character and appearance of the landscape. Landscaping and other mitigation measures should seek to reduce landscape impact and where possible bring about enhancement.

6.2.29. Policy EN6: Sites of Biodiversity Importance seeks to protect internationally, nationally and locally designated sites and other sites with biodiversity and/or geological interest, including priority species. The policy states development proposals that would have significant adverse effects on locally designated sites, will only be permitted where:

"a. it can be demonstrated that the need for the development outweighs the biodiversity or geological importance of the site; and

b. it can be demonstrated that the development cannot reasonably be located elsewhere; and

c. any unavoidable harm is minimised by effective mitigation to ensure that there is no reduction in the overall biodiversity value of the area. Where this is not feasible compensation measures designed to create, restore and enhance biodiversity must be provided."

6.2.30. Policy EN7: Development Affecting Trees, Woodlands and Hedgerows seeks to protect trees, woodlands and hedgerows from significant loss or harm caused by new development. The policy states development

proposals that would impact trees, woodlands or hedgerows, will only be permitted where:

"a. the development maximises their retention through sensitive design measures; and

b. where the removal of trees is considered necessary, suitable replacements shall be provided elsewhere within the site; and

c. it results in a net benefit in biodiversity."

6.2.31. Policy EN8: Built Historic Environment and Listed Buildings seeks to preserve Flintshire's historic assets and their surroundings. The policy states:

"a. development proposals affecting listed buildings will be permitted only where: i. the alteration and/or extension to a listed building or its curtilage ensures that the special architectural character or historic interest is preserved;...

b. development should preserve Scheduled Ancient Monuments and their settings and where appropriate the preservation of other archaeological remains, having regard to the intrinsic importance of the remains and the need for the proposed development.

c. development should protect and conserve historic landscapes, parks and gardens."

6.2.32. Policy EN9: Development in or Adjacent to Conservation Areas requires development within or adjacent to a conservation area to preserve or enhance the character and appearance of the conservation area and its setting by ensuring a high design standard.

6.2.33. Policy EN11: Green Wedges states that certain forms of development, such as mineral extraction, renewable and low-carbon energy generation, engineering operations, and local transport infrastructure may be appropriate in the Green Wedge, provided they preserve its openness and do not conflict with the purposes of including land within it.

6.2.34. Policy EN13: Renewable and Low Carbon Energy Development is identified as a relevant policy by FCC in pre-application advice. However, this policy relates to other specific forms of renewable energy generation such as wind, solar, biomass, energy from waste, anaerobic digestion and hydropower and is therefore considered of limited relevance.

6.2.35. Policy EN14: Flood Risk addresses the risk of flooding caused by new development. The policy provides a precautionary approach to managing flood risk by avoiding development in areas of risk of flooding or ensuring that the risk of flooding can be satisfactorily mitigated.

6.2.36. Policy EN15: Water Resources relates to the protection of the capacity, flow and quality of water resources, as well as having adequate access to water supply and sewerage treatment facilities.

6.2.37. Policy EN18: Pollution and Nuisance seeks to minimise and control pollution and nuisance. The policy states that new development that would create an increased risk of pollution and nuisance, or hazard, will only be permitted if:

"a. it would not unacceptably harm general amenity or living conditions; and

b. it would not impose significant restrictions on the use or development of surrounding land."

6.2.38. Policy EN19: Managing Waste requires new developments to manage waste sustainably in all stages of development, in accordance with the waste hierarchy.

6.2.39. Policy EN23: Minerals Safeguarding states that non-mineral development within Mineral Safeguarding Areas is protected by a set of considerations from inappropriate development that could sterilise or restrict the working of minerals.

6.3. MATERIAL CONSIDERATIONS

PLANNING POLICY WALES: EDITION 12 (2024)

6.3.1. Planning Policy Wales: Edition 12 (PPW) was published by the Welsh Government in February 2024. PPW sets out the land use planning policies of the Welsh Government and is supported by a series of Technical Advice Notes (TANs), Circulars and policy clarification letters which together form the national planning policy framework for Wales.

6.3.2. The primary objective of PPW is to help ensure that the planning system contributes towards the delivery of sustainable development and improves the social, economic, environmental and cultural well-being of Wales, as required by the Planning (Wales) Act 2015, the Well-being of Future Generations (Wales) Act 2015 and other key legislation.

6.3.3. Chapter 2 – People and Places: Achieving Well-being Through Placemaking sets out the importance of contributing towards the creation of sustainable places. It states development proposals must seek to promote sustainable development by contributing to achieving social, economic, environmental and cultural benefits, including accessing potential impacts in line with the Sustainable Development Principle. PPW defines five 'key planning principles' which include -

- Growing our economy in a sustainable manner.
- Making best use of resources.
- Facilitating accessible and healthy environments.
- Creating & sustaining communities.
- Maximising environmental protection and limiting environmental impact.

6.3.4. PPW recognises that development proposals may not be able to meet all five 'key planning principles" during the application stage. However, they should be taken into account during the development management process to identify potential improvements that could enhance overall well-being.

6.3.5. Chapter 3 – Strategic and Spatial Choices, Paragraph 3.30 encourages decarbonisation of the energy system and the sustainable management of natural resources to tackle climate emergency. Paragraph 3.31 outlines the legal obligation set by the Environment (Wales) Act 2016 to reduce greenhouse gases by at least 80% by 2050.

6.3.6. Chapter 3 also discusses the role and protection of green wedges. Paragraph 3.73 sets out there is a presumption against inappropriate development in Green Belts or green wedges. PPW further describes various types of development that are deemed to be not inappropriate. However, Paragraph 3.77 confirms other forms of development that may be considered appropriate in the Green Belt or green wedge, these include *"engineering operations"*, provided they preserve its openness and do not conflict with the purposes of including land within it.

6.3.7. Chapter 5 – Productive and Enterprising Places discusses energy as a key planning policy topic, with much of the focus on renewable and low carbon energy generation. However, the thrust of this section of PPW is to deliver development that supports the reduction of greenhouse gas emissions whilst ensuring there is sufficient power available for communities, businesses and industry.

6.3.8. Chapter 6 – Distinctive and Natural Places sets out policies in relation to protecting the natural and built historic environment as well as ensuring that the health and amenities of local communities are not compromised by new developments.

TECHNICAL ADVICE NOTES (TANs)

6.3.9. Technical Advice Notes (TANs) have been produced by the Welsh Government to provide additional guidance on specific environmental topics and are material considerations in the determination of planning applications. The following TANs are considered relevant to the Padeswood Spur Pipeline Proposed Development:

TAN 5: Nature Conservation and Planning (2009)

6.3.10. TAN 5 provides advice about how the land use planning system should contribute to protecting and enhancing biodiversity and geological conservation.

6.3.11. The relevant advice includes Chapter 4 addresses nature conservation in development control procedures; Chapter 5 deals with the conservation of internationally and nationally designated sites and habitats, which also covers local sites; and Chapter 6 deals with the conservation of protected and priority habitats and species.

TAN 11: Noise (1997)

6.3.12. TAN 11 provides advice on how the planning system can be used to minimise the adverse impact of noise without placing unreasonable restrictions on development or adding unduly to the costs and administrative burdens of business. It outlines considerations for local planning authorities when determining planning applications for development that will generate noise.

TAN 12: Design (2016)

6.3.13. TAN 12 provides advice to achieve the delivery of good design in the built and natural environment which is fit for purpose and delivers environmental sustainability, economic development and social inclusion.

TAN 15: Development and Flood Risk (2004) (updated in 2021)

6.3.14. TAN 15 advises on development and flood risk and provides a framework for assessing risks arising from river and coastal flooding and additional run-off from development in any location.

TAN 21: Waste (2014) (updated in 2017)

6.3.15. TAN 21 provides advice on how the land use planning system should contribute towards sustainable waste management and resource efficiency.

TAN 24: The Historic Environment (2017)

6.3.16. The purpose of TAN 24 is to provide guidance on how the planning system considers the historic environment, in particular, protected and designated historic assets, archaeological remains, historic landscape and conservation areas.

PLANNING GUIDANCE NOTES

6.3.17. FCC has prepared and adopted a range of Supplementary Planning Guidance (SPG) Notes and five informal Local Planning Guidance Notes (LPGN) to support the LDP by providing more detailed advice and guidance on various planning topics.

6.3.18. The relevant Planning Guidance Notes to the Padeswood Spur Pipeline Proposed Development include:

- SPGN No 3. Landscaping: provides advice to new developments to integrate into the landscape whilst respecting the history, special character and natural features by ensuring that all landscape matters are considered during the design process.
- SPGN No 4. Trees and Development: sets out the importance of safeguarding trees and hedgerows and preserving their setting from new developments.
- SPGN No 6. Listed Buildings: provides advice to protect listed buildings, settings and their characters from new developments.
- SPGN No 7. Conservation Areas: aims to maintain and improve the historic environment in the County's conservation areas.
- SPGN No 8. Nature Conservation and Development: guides nature conservation interests when assessing development proposals. It also encourages careful planning and design considerations during the early stages of proposal development.
- SPGN No 21. Environmental Impact Assessments: discusses steps of the EIA process and emphasises the need for consideration of an EIA at an early stage of a development proposal.
- SPGN No 28. Archaeology: sets out the importance of archaeology and considerations when assessing the planning applications.

WELL-BEING OF FUTURE GENERATIONS (WALES) ACT 2015

6.3.19. The Well-being of Future Generations (Wales) Act published in 2015 and last updated in 2025, requires national government, local government, local health boards and other specified public bodies in Wales to carry out sustainable development by improving the social, economic, environmental and cultural well-being of Wales.

6.3.20. The Act identifies seven connected well-being goals which public bodies need to take into account when making decisions that could affect people and communities in Wales:

- A prosperous Wales.
- A resilient Wales.
- A healthier Wales.
- A more equal Wales.
- A Wales of cohesive communities.
- A Wales of vibrant culture and thriving Welsh language.
- A globally responsible Wales.

6.3.21. The Act requires Welsh Ministers to establish national indicators and milestones to track progress towards the well-being goals. The Act enables ministers to review and amend the national indicators and milestones so that they stay up to date and relevant.

7. PLANNING APPRAISAL

7.1.1. Section 70(2) of The Town and Country Planning Act 1990 and Section 38(6) of the Planning and Compulsory Purchase Act 2004 require that applications for planning permission should be determined in accordance with the development plan, unless material considerations indicate otherwise. This section identifies the main planning considerations arising from the development plan applicable to this Planning Application, as well as the material considerations warranting the grant of planning permission for the Padeswood Spur Pipeline Proposed Development.

7.2. PRINCIPLE OF DEVELOPMENT

7.2.1. The Proposed Development will include a new carbon dioxide spur pipeline and associated infrastructure to facilitate the transportation of carbon dioxide from the Padeswood Cement Works CCS Plant to the Northop Hall AGI, which will eventually be transported for storage in the existing depleted oil and gas fields in Liverpool Bay via the Main Onshore Carbon Dioxide Pipeline (consented by the HyNet Carbon Dioxide Pipeline Development Consent Order 2024).

7.2.2. The Padeswood Spur Pipeline Proposed Development will form part of the Project, which is an innovative low carbon and hydrogen energy project that aims to reduce carbon dioxide emissions from industry and support economic growth in the North West of England and North Wales. Therefore, as an integral part of the Project, the Padeswood Spur Pipeline will transport carbon dioxide captured from the Padeswood Cement Works CCS Plant to storage, contributing to reducing carbon dioxide in the atmosphere and making a significant contribution to the international, national, and local effort against the climate emergency.

7.2.3. The importance of the Project was recognised and selected under Track 1 of the CCUS Cluster Sequencing Process (DESNZ, 2021). Additionally, the Padeswood Cement Works CCS Plant was selected as a Track-1 emitter.

7.2.4. The threat posed by climate change is now recognised by virtually all governments across the globe. The Climate Change Act 2008 (2050 Target Amendment) Order 2019 (the Climate Change Act), a statutory instrument, requires the UK to bring all greenhouse gas emissions to net zero by 2050, compared with the previous target of at least 80% reduction from 1990 levels. This commitment is reflected in Wales

within the Environment (Wales) Act 2016 (Amendment of 2050 Emissions Target) Regulations 2021.

7.2.5. The Net Zero Wales Carbon Budget 2 (2021-25), published by the Welsh Government in 2021, recognises *"energy-innovation systems"* as part of the solution to deliver Net Zero and states that it is *"vital we decarbonise industrial clusters through circular economy principles, energy efficiency Carbon Capture Utilisation and Storage (CCUS) and hydrogen."* Proposal 18 – Industrial Clusters – Carbon Capture Utilisation & Storage (CCUS) identified the HyNet Project to meet the Carbon Budget 2.

7.2.6. The Welsh Government have declared a climate emergency in Wales and have laid out plans for the public sector to be carbon neutral by 2030 (Welsh Government, 2019). FCC have supported the declarations and published Council's Climate Change Strategy with a target date of 2030. The strategy is to decarbonise council operations and promote the protection and enhancement of the county's natural environment. Also ensures climate change is considered in all decision making across all Council services.

7.2.7. This approach demonstrates that Welsh Government and FCC recognise the importance of achieving Net Zero carbon emissions and are striving to reach Net Zero ahead of the UK target of 2050. The Padeswood Spur Pipeline Proposed Development will play a key role in supporting these ambitions within Wales and across the UK.

7.2.8. The Padeswood Spur Pipeline Proposed Development contributes to decarbonisation as mentioned within many of the policies of Future Wales. Policy 17 sets out that the Welsh Government strongly supports the principle of developing renewable and low carbon energy from all technologies and at all scales to meet Wales' future energy needs. It also states, *"In determining planning applications for renewable and low carbon energy development, decision-makers must give significant weight to the need to meet Wales' international commitments"*. Whilst the Padeswood Spur Pipeline Proposed Development is not an energy generating scheme in itself, it is an integral part of the Project which will deliver low carbon energy solutions to industry in North Wales and North West England.

7.2.9. The Flintshire LDP Objective 15 focuses on minimising the causes and impacts of climate change and pollution for FCC. The Padeswood Spur Pipeline Proposed Development contributes to the objective by aiming to reduce carbon emissions through capturing and transporting carbon dioxide from the emitter to storage, thereby making a

significant contribution to achieving the local climate objectives and safeguarding the environment.

7.2.10. Overall, the Padeswood Spur Pipeline Proposed Development will contribute to the Government's targets for carbon capture, net zero, and the transition to a low carbon economy, making significant efforts against the climate emergency.

7.3. DESIGN

7.3.1. The design of the Padeswood Spur Pipeline Proposed Development has been informed by the specific operational requirements, the context of the site and its surroundings, as well as the opportunities and constraints presented by the site. The consideration of alternatives and design evolution has been undertaken with the aim of avoiding and/or reducing adverse environmental effects, maintaining operational efficiency and cost-effective design solutions, and with consideration of other relevant matters such as available land and planning policy.

7.3.2. The location of the Padeswood AGI and Northop Hall AGI is dictated by the requirements of the emitter at Padeswood Cement Works and the connection point at Northop Hall AGI which has been consented as part of the HyNet Carbon Dioxide Pipeline Development Consent Order 2024. As such, there are no alternative options available from a design perspective. The Padeswood AGI will be located within the Padeswood Cement Works CCS Plant, integrated into the existing industrial landscape of the wider Padeswood Cement Works. Where possible, the design has sought to mitigate environmental impacts while meeting engineering and operational requirements, such as by using appropriate materials and minimising the height of equipment, fences and lighting columns.

7.3.3. In terms of the size of the Padeswood Spur Pipeline, the smallest size (16") was selected to effectively and safely transport carbon dioxide through the system, minimising the potential cost, constructability issues and environmental impacts associated with the pipeline. The material selection of the pipeline was dictated by engineering and safety requirements, which considered factors such as corrosion risk, pressure and the temperature of the carbon dioxide.

7.3.4. The route of the Padeswood Carbon Dioxide Spur Pipeline has been informed by various factors including environmental sensitivities. It has been refined following consultation with stakeholders, including statutory bodies, individuals, communities, landowners and occupiers,

and FCC, to understand the impact of the Padeswood Spur Pipeline Proposed Development. Additionally, the route has undergone environmental survey, design development and subsequent appraisals to avoid and/or minimise effects on the environment. Further details on the refinement of the route can be found in ES Chapter 4 – Consideration of Alternatives (document reference: PW.3.2.4).

7.3.5. Overall, the design process for the Padeswood Spur Pipeline Proposed Development has been iterative and inclusive, with several design options considered to take advantage of the opportunities of the Site and mitigate the constraints. It has been designed in compliance with relevant safety requirements and to respect the local character, as well as environmental and landscape assets. The design process has been undertaken in accordance with policy PC2: General Requirements for Development and PC3: Design of the Flintshire LDP.

7.4. GREEN WEDGES AND OPEN COUNTRYSIDE

7.4.1. The Padeswood Carbon Dioxide Spur Pipeline will pass through the Mold – Mynydd Isa / Sychdyn / New Brighton Green Wedge and the Buckley – Little Mountain – Dobshill– Drury – Hawarden – Ewloe Green Wedge. Green Wedge policy is covered in PPW and the Flintshire LDP. Due to the linear nature of the Padeswood Spur Pipeline Proposed Development, it is necessary for the Padeswood Carbon Dioxide Spur Pipeline to pass through Green Wedges to avoid settlements and unnecessary conflicts with other developments.

7.4.2. The laying of the Padeswood Carbon Dioxide Spur Pipeline will principally be considered an engineering operation, to which paragraph 3.77 of PPW and policy EN11 of the Flintshire LDP will apply. Engineering operations, along with certain other forms of development are not 'inappropriate development' in a Green Wedge, provided they preserve its openness and do not conflict with the purposes of including land within it.

7.4.3. The Padeswood Carbon Dioxide Spur Pipeline will be buried underground as it runs through the Green Wedges. On this basis, the Padeswood Spur Pipeline Proposed Development is considered 'appropriate development' within Green Wedge which there will be no unacceptable harm to the openness of Green Wedge or conflict with the purposes of including land within it. Therefore, the Padeswood Spur Pipeline Proposed Development accords with both the national and local Green Wedge planning policies.

7.4.4. The Padeswood Carbon Dioxide Proposed Development will be located entirely within the open countryside as defined the Flintshire LDP. In line with the pre-application advice received from FCC, it is considered that given the nature of the Padeswood Carbon Dioxide Proposed Development, it is appropriate to the open countryside to avoid settlements. Accordingly, the Padeswood Carbon Dioxide Proposed Development will comply with policy PC1: The Relationship of Development to Settlement Boundaries of the Flintshire LDP.

7.5. AIR QUALITY

7.5.1. ES Chapter 6 – Air Quality (document reference: PW.3.2.6) considers the potential air quality impacts associated with the Padeswood Spur Pipeline Proposed Development during the Construction, Operation and Decommissioning Stages.

7.5.2. The potential impacts on air quality during the Construction Stage will result from construction dust, associated with three activities, mainly open trench construction, trenchless installation techniques and AGI construction. Overall, the impact on air quality from the Construction Stage is considered low. Through good site practice and the implementation of suitable mitigation measures included within the OEMP (document reference: PW.4.1), the impacts of dust and PM_{10} release will be reduced to negligible.

7.5.3. During the Operational Stage, it is considered that there is no risk of significant effects on human health. The impact of odours is assessed as not significant due to no receptors within the modelled odour risk zone, except for the public access footpath located alongside the Padeswood AGI. To minimise the likelihood of odours, it is recommended that maintenance venting takes place during the day. When maintenance venting operations are planned, signs will be placed on/near the nearby footpaths, warning of potential works and that odours may be experienced on the dates selected for maintenance venting.

7.5.4. With appropriate, industry best practice mitigation measures, the impact on air quality from the Decommissioning Stage is considered negligible.

7.5.5. Therefore, the Padeswood Spur Pipeline Proposed Development will comply with policy STR13: Natural and Built Environment, Green Networks and Infrastructure, PC2: General Requirements for Development, PC3: Design, PC5: Transport and Accessibility and EN18:

Pollution and Nuisance of the Flintshire LDP and is acceptable in terms of air quality.

7.6. CLIMATE RESILIENCE

7.6.1. ES Chapter 7 – Climate Resilience (document reference: PW.3.2.7) assesses the vulnerability of the Padeswood Spur Pipeline Proposed Development to climate change and its resilience to impacts from climate change.

7.6.2. The impacts of climate change on all receptors relevant to the Construction Stage have been scoped out of the assessment.

7.6.3. The assessment concludes that during the Operational and Decommissioning Stages, the predicted impacts resulting from climate variables will be mitigated following the identification of embedded mitigation measures in the design stage and incorporated within the OEMP (document reference: PW.4.1). Therefore, with the mitigation in place, there will be no likely significant effects for the Padeswood Spur Pipeline Proposed Development during the Operational and Decommissioning stages.

7.6.4. Accordingly, the Padeswood Spur Pipeline Proposed Development will comply with policy STR13: Natural and Built Environment, Green Networks and Infrastructure, STR14: Climate Change and Environmental Protection, PC2: General Requirements for Development, PC3: Design, PC4: Sustainability and Resilience of New Development and EN14: Flood Risk of the Flintshire LDP and is acceptable in terms of climate resilience.

7.7. CULTURAL HERITAGE

7.7.1. ES Chapter 8 – Climate Heritage (document reference: PW.3.2.8) considers the potential impacts of the Padeswood Spur Pipeline Proposed Development on heritage assets such as buried archaeological remains, as well as buildings, structures, monuments, and landscapes of cultural heritage interest during the Construction, Operational and Decommissioning Stages.

7.7.2. The impacts associated with the Construction Stage resulting from ground excavation within the construction swathe or compound locations will have no significant effects on the above ground cultural heritage. Mitigation strategies will be developed following further archaeological evaluation across the Padeswood Spur Pipeline Proposed Development. Any archaeological mitigation will be agreed

with the Local Planning Authority's archaeological advisors and be completed under an approved Written Scheme of Investigation.

7.7.3. It is considered that no historic assets will be affected during the Operational Stage of the Padeswood Spur Pipeline Proposed Development.

7.7.4. The Decommissioning Stage has been scoped out of the assessment as decommissioning activities would not be expected to result in any notable additional ground disturbance.

7.7.5. Therefore, the Padeswood Spur Pipeline Proposed Development will comply with policy STR13: Natural and Built Environment, Green Networks and Infrastructure, PC2: General Requirements for Development, PC3: Design, EN8: Built Historic Environment and Listed Buildings and EN9: Development in or Adjacent to Conservation Areas of the Flintshire LDP and is acceptable in terms of cultural heritage.

7.8. BIODIVERSITY

7.8.1. ES Chapter 9 – Biodiversity (document reference: PW.3.2.9) considers the potential impact of the Padeswood Spur Pipeline Proposed Development on ecological features and species during the Construction, Operational and Decommissioning Stages.

7.8.2. During the Construction Stage, impacts resulting from vegetation clearance particularly hedgerows or scrubs, pollution impacts/hydrological changes to the watercourse, and noise and visual disturbances will have temporary and short-term effects on biodiversity. However, through good practice precautionary methods of working, licenses, and the implementation of suitable mitigation measures including micro-siting techniques, and ecological enhancement outlined within the OEMP (document reference: PW.4.1), impacts from the Construction Stage are considered low.

7.8.3. The impacts arising during the Operational Stage of the Padeswood Spur Pipeline Proposed Development will be of negligible significance. Whilst maintenance of the pipeline may be required throughout its lifecycle, this is likely to be a rare occurrence and impacts associated with such maintenance activities would be short term, temporary and localised. Accordingly, with the implementation of suitable mitigation measures, there are no likely significant effects anticipated during the Operational Stage.

7.8.4. The impacts to biodiversity at the Decommissioning Stage is considered likely to be similar to the Construction Stage.

Decommissioning will include the removal of AGIs, with ground conditions restored to their previous condition and the Padeswood Carbon Dioxide Spur will be decommissioned safely, filled with nitrogen to prevent corrosion and left in situ. With the implementation of appropriate mitigation measures prior to, during and following decommissioning, likely significant effects on biodiversity during decommissioning are assessed to be of negligible significance.

7.8.5. A Green Infrastructure and Net Benefit for Biodiversity (NBB) Report (document reference: PW.4.3) has been prepared in line with Planning Policy Wales (PPW) 12. The report outlines the approach taken to assess if the Padeswood Spur Pipeline Proposed Development achieves an NBB whilst also promoting ecosystem resilience. Subsequently, the report outlines the 'stepwise approach' that has been followed to avoid, minimise, mitigate and compensate for impacts resulting from the Padeswood Spur Pipeline Proposed Development.

7.8.6. In summary, the report concludes that NBB is achieved for all low-value and high-value habitats on site, subject to landowner agreements for the enhancement measures. As part of the final design, mitigation and compensation measures related to all habitats should be reviewed to ensure NBB is achieved and ensure the management and monitoring of these habitats has been secured for 5 years post-development. If on site compensation of habitats cannot be achieved, due to landowner agreements, off site options will be explored to offset the impact of all permanently and temporarily lost habitats and achieve an overall NBB of the Padeswood Spur Pipeline Proposed Development.

ARBORICULTURE

7.8.7. The impact of the Padeswood Spur Pipeline Proposed Development on the arboricultural features across the Site has been considered in the Arboricultural Impact Assessment (AIA) and outline Arboricultural Method Statement (AMS) (document reference: PW.3.3.9.1).

7.8.8. Throughout the design process, the Applicant has sought to avoid the loss of and minimise the risk of harm to existing arboricultural features. The AIA confirms the removal of three high quality tree, full removal of 42 arboricultural features, and partial removal of 67 arboricultural features. All the hedgerow and group features are assessed as requiring removal in part only.

7.8.9. All other arboricultural features will be retained and protected throughout the Construction Stage based on arboricultural supervision, construction exclusion zone (CEZ), tree protection fencing,

prevention of soil compaction and root protection areas (RPAs). Special Construction Measures will be determined at detailed design and addressed within an AMS.

7.8.10. The compensation for the losses of the arboricultural features will be provided with suitable replacements within the site which will result in a net benefit in biodiversity.

ECOLOGY

7.8.11. A Preliminary Ecological Appraisal (PEA) Report (document reference: PW.3.3.9.2) has been prepared in support of the assessment contained in ES Chapter 9 – Biodiversity (document reference: PW.3.2.9).

7.8.12. The PEA considers construction impacts such as the loss of 'functionally linked land', airborne pollution and dust, hydrological impacts from runoff, indirect disturbance from noise, vibration and light, as well as the loss of suitable habitats will be temporary. Any predicted impacts on designated sites and important habitats will be avoided where possible. Where avoidance is not possible, impacts should be minimised as far as practicable. Watercourse crossings will be avoided wherever possible, otherwise the size of the crossing will be minimised as far as practicable. Similarly, vegetation removal will be avoided, where unavoidable the width of the vegetation removal will be minimised as far as practicable, and trees will be retained wherever possible.

7.8.13. An OEMP (document reference PW.4.1) has been prepared which includes the overarching construction management measures to avoid/reduce the potential environmental impacts during the Construction Stage. A detailed CEMP (to be agreed at a later stage) will be prepared followed prior to the start of construction and followed throughout the duration of construction works to ensure the required mitigation measures are implemented.

7.8.14. Subject to the implementation of appropriate mitigation measures, it is considered that the Padeswood Spur Pipeline Proposed Development will not have any significant effects on biodiversity. Therefore, the Padeswood Spur Pipeline Proposed Development accords with policy STR4: Principles of Sustainable Development, Design and Placemaking, STR13: Natural and Built Environment, Green Networks and Infrastructure, STR14: Climate Change and Environmental Protection, PC2: General Requirements for Development, Policy PC2: General Requirements for Development, PC3: Design, EN2: Green Infrastructure, EN4: Landscape Character, EN6: Sites of Biodiversity

Importance, EN7: Development Affecting Trees, Woodlands and Hedgerows, EN11: Green Wedges, EN15: Water Resources and EN18: Pollution and Nuisance of the Flintshire LDP and is acceptable in terms of biodiversity.

7.9. GREENHOUSE GASES

7.9.1. ES Chapter 10 – Greenhouse Gases (GHG) (document reference: PW.3.2.10) assesses the potential GHG impacts associated with the Padeswood Spur Pipeline Proposed Development during the Construction, Operational and Decommissioning Stages.

7.9.2. The assessment concludes that the magnitude of GHG emissions through the Construction Stage will result from the manufacture and transport of raw materials to suppliers, transport of waste from Site and use of construction plant and equipment. However, mitigation measures including design optimisation to reflect the carbon reduction hierarchy as well as other suitable measures will ensure no significant adverse effects on GHG emissions are likely to occur.

7.9.3. The GHG emissions resulting from venting, fugitive gas emissions and operational energy use during the Operational Stage, will be minimised by specifying high efficiency equipment and operating, maintaining, and refurbishing the Padeswood Spur Pipeline Proposed Development using best practices in energy efficiency and low carbon energy sources as well as other suitable measures.

7.9.4. The emissions from energy consumption during the Decommissioning Stage are not considered to be large due to the expectation that the pipeline will remain in situ and decommissioning the AGI will not require large quantities of energy use.

7.9.5. Overall, the Padeswood Spur Pipeline Proposed Development accords with policy STR4: Principles of Sustainable Development, Design and Placemaking, STR14: Climate Change and Environmental Protection, PC2: General Requirements for Development, PC3: Design, PC4: Sustainability and Resilience of New Development and EN18: Pollution and Nuisance of the Flintshire LDP and is acceptable in terms of GHG emissions.

7.10. LAND AND SOILS

7.10.1. ES Chapter 11 – Land and Soils (document reference: PW.3.2.11) considers the effects of the Padeswood Spur Pipeline Proposed Development on the aspects of soil, geology, minerals and contaminated land.

7.10.2. The Operational and Decommission Stages are considered to have no likely significant effects and are therefore scoped out of the assessment.

7.10.3. During the Construction Stage, it is assessed that the effects of potential contamination resulting from underlying soils/groundwater and ground gas to sensitive receptors including human health will be considered slightly adverse but not significant. Mitigation measures including the implementation of Risk Assessments and Method Statements (RAMS) and an approved CEMP will however mitigate the effects of potential contamination to neutral.

7.10.4. A Minerals Resource Assessment (document reference: PW.3.3.11.2) has been prepared to assess the intersections between the Padeswood Spur Pipeline Spur Pipeline Proposed Development with the Minerals Safeguarding Areas defined on the Flintshire LDP proposals map and potential mineral resources encountered.

7.10.5. The assessment concludes that the Padeswood Spur Pipeline Proposed Development will only intersect a small area of MSAs. Some potential mineral resources (sub-alluvial deposits and brick clay) have been identified within the Site, but these cover small areas. The assessment of geological records shows that much of the safeguarded minerals and other minerals present do not meet the requirements for a quality resource either due to inadequate overburden ratios, area/amount of resource present or proximity to sensitive receptors.

7.10.6. As a result, it is considered that none of the safeguarded mineral resources or other potential mineral resources influenced by the Padeswood Spur Pipeline Proposed Development present an economically viable prospect for prior extraction. Despite this, incidental extraction and re-use of mineral resource throughout the Padeswood Carbon Dioxide Spur Pipeline route is included as an environmental requirement in the OEMP (document reference: PW.4.1).

7.10.7. Accordingly, the Padeswood Spur Pipeline Proposed Development will comply with policy STR13: Natural and Built Environment, Green Networks and Infrastructure, PC2: General Requirements for Development, PC3: Design, EN15: Water Resources, EN18: Pollution and Nuisance and Policy EN23: Minerals Safeguarding of the Flintshire LDP and is therefore acceptable in terms of land and soil.

7.11. LANDSCAPE AND VISUAL AMENITY

7.11.1. ES Chapter 12 – Landscape and Visual (document reference: PW.3.2.12) considers the impacts of the Padeswood Spur Pipeline Proposed Development on landscape character and changes to visual amenities during the Construction, Operation and Decommissioning Stages.

7.11.2. During the Construction Stage, it is considered that the movement of plant, construction of temporary construction compounds, laydown areas and access roads, alongside required vegetation removals will have both temporary and permanent effects on the landscape character. Mitigation measures at the Construction Stage to minimise vegetation loss where possible and through the utilisation of trenchless crossings and micro-siting will limit landscape impacts.

7.11.3. The proposed route of the Padeswood Spur Pipeline Proposed Development lies within proximity of several residential settlements and isolated dwellings. Similar to the landscape receptors, the construction activities will result in both temporary and permanent effects on the visual amenity of identified receptors comprising residents of dwellings and PRoW users. Mitigation at the Construction Stage, including the proposed routing of the alignment within the lower ground to the south of Buckley, setting back of the route from settlements where practicable, will reduce the likely impacts upon visual amenity.

7.11.4. At the Operational Stage, construction activity will have ceased and temporary structures and infrastructure will have been removed. Given that the Padeswood Spur Pipeline will be buried underground along its entire length, except for short sections at the beginning and end where it will connect to the Padeswood AGI and the Northop Hall AGI respectively, no significant landscape impacts are anticipated.

7.11.5. At Operation Year 1, above ground features associated with mitigation planting, regraded land, and the proposed new Padeswood AGI are likely to appear visible within the landscape whilst proposed replacement planting and reseeding has yet to mature. Therefore, visual effects of moderate adverse significance are considered likely upon close proximity receptors including PRoW users. At Operation Year 15 it is anticipated that vegetation structure will have matured, and land regraded to baseline condition with no significant landscape effects to visual receptors.

7.11.6. During the Decommissioning Stage, the landscape and visual receptors are considered likely to experience a negligible magnitude of

change with the pipeline to remain in place following decommissioning.

7.11.7. Apart from the Construction Stage mitigation measures, an OEMP (document reference: PW.4.1) including replacement mitigation planting and land regrading measures, and a Landscape Layout Plan (document reference PW.4.6) for the Padeswood AGI have been prepared to reduce impacts. Therefore, in accordance with policy STR4: Principles of Sustainable Development, Design and Placemaking, STR13: Natural and Built Environment, Green Networks and Infrastructure, PC2: General Requirements for Development, PC3: Design, EN4: Landscape Character, EN7: Development Affecting Trees, Woodlands and Hedgerows and EN11: Green Wedges of the Flintshire LDP, the Padeswood Spur Pipeline Proposed Development will be considered acceptable in terms of landscape and visual amenity.

7.12. MAJOR ACCIDENTS AND DISASTERS

7.12.1. ES Chapter 13 – Major Accidents and Disasters (MA&D) (document reference: PW.3.2.13) assesses the effects arising from the vulnerability of the Padeswood Spur Pipeline Proposed Development on people, community safety and the environment during its Construction, Operational and Decommissioning Stages.

7.12.2. According to the MA&D assessment, the Padeswood Spur Pipeline Proposed Development may be vulnerable to two MA&D events during the Construction and Decommissioning Stages. These include striking of known underground services/utilities potentially resulting in fire and/or explosion; and striking of unknown underground services/utilities due to inaccurate records, potentially resulting in harm to people.

7.12.3. During the Operational Stage, two MA&D events have been identified to which the Padeswood Spur Pipeline Proposed Development may be vulnerable. These include damage to AGI/equipment/pipeline which could potentially lead to a loss of CO2 for a brief period; and damage to AGI equipment, as a result of a fire and/or explosion at the Padeswood Cement Works, which could potentially lead to a loss of CO2 for a limited period.

7.12.4. An ES Risk Record (document reference: PW.3.3.13.2) has been prepared as a part of this Planning Application, which provides details of embedded mitigation measures for safe design and specific mitigation measures for each potential MA&D event to reduce the vulnerability of the Padeswood Spur Pipeline Proposed Development

to the risk of MA&D. The assessment concludes that identified potential MA&D events identified during the Construction, Operational and Decommissioning Stages will all be managed to be "As Low As Reasonably Practicable".

7.12.5. Therefore, the Padeswood Spur Pipeline Proposed Development will comply with policy STR4: Principles of Sustainable Development, Design and Placemaking, PC2: General Requirements for Development, PC3: Design and EN18: Pollution and Nuisance of the Flintshire LDP and is considered acceptable in terms MA&D events and community safety.

7.13. NOISE AND VIBRATION

7.13.1. ES Chapter 14 – Noise and Vibration (document reference: PW.3.2.14) assesses the potential impacts of noise and vibration associated with the Padeswood Spur Pipeline Proposed Development during the Construction, Operational and Decommissioning Stages.

7.13.2. The assessment identifies that during the Construction Stage, effects produced by open cut trenching activities exhibit medium or high magnitude of impact on the receptors but is not considered to be a significant effect due to the short duration of this activity during daytime at each receptor. However, the magnitude of impact for each trenchless crossing varies around the day.

7.13.3. Apart from the embedded mitigation, construction activities at locations with potentially significant effects will require secondary mitigation measures. These include acoustic enclosures for ancillary equipment, quieter plant items, noise control at source and localised noise barriers. With the application of these mitigation strategies, open cut trenching is considered not a significant effect. However, the impact of trenchless crossing, with a total of 65 receptors within close proximity to TRX03, TRX07 and TRX12 is considered to be significant.

7.13.4. The impacts associated with the Operational Stage during the daytime and night-time are considered to have a negligible magnitude of noise impact. Therefore, no significant effects are expected during this stage.

7.13.5. The impacts during the Decommissioning Stage are anticipated to be equivalent to those assessed for the Construction Stage of the AGI.

7.13.6. As a part of the detailed design, embedded mitigation during the Construction and Decommissioning Stages of the Padeswood Spur Pipeline Proposed Development will include Best Practicable Means (BPM). At the appropriate stages, a CEMP and a DEMP will be

produced describing the embedded mitigation measures during the Construction and Decommissioning Stages.

7.13.7. Overall, the Padeswood Spur Pipeline Proposed Development will comply with policy STR14: Climate Change and Environmental Protection, PC2: General Requirements for Development, PC3: Design and EN18: Pollution and Nuisance of the Flintshire LDP and is considered acceptable in terms of noise and vibration.

7.14. POPULATION AND HUMAN HEALTH

7.14.1. ES Chapter 15 – Population and Human Health (document reference: PW.3.2.15) considers the impact of the Padeswood Spur Pipeline Proposed Development on a range of receptors associated with land use/accessibility and local population (including residents and users of PRoWs).

7.14.2. The Operational and Decommissioning Stages have been scoped out of the assessment.

7.14.3. The assessment identifies the potential impacts on land use/accessibility and human health during the Construction Stage resulting result from construction dust, noise, temporary changes to visual amenity and temporary disruption to PRoW access. However, implementing embedded mitigation measures as part of the design and delivery of the Padeswood Spur Pipeline Proposed Development, presented within the OEMP (document reference: PW.4.1) will mitigate the effects of construction activities to neutral.

7.14.4. Therefore, the Padeswood Spur Pipeline Proposed Development accords with STR4: Principles of Sustainable Development, Design and Placemaking, STR6: Services, Facilities and Infrastructure, PC2: General Requirements for Development, PC3: Design, PC5: Transport and Accessibility, EN4: Landscape Character, EN6: Sites of Biodiversity Importance and EN18: Pollution and Nuisance of the Flintshire LDP and is considered acceptable in terms of population and human health.

7.15. TRAFFIC AND TRANSPORT

7.15.1. ES Chapter 16 – Traffic and Transport Assessment (document reference: PW.3.2.16) considers the potential impacts of the Padeswood Spur Pipeline Proposed Development on traffic levels/volumes on the local and strategic road network.

7.15.2. The Operational and Decommissioning Stages have been scoped out of the assessment.

7.15.3. The assessment concludes that following the identification of embedded mitigation measures at the preliminary design phase, all the traffic and transport effects will be temporary during the Construction Stage. The embedded mitigation outlined within the OCTMP (document reference: PW.4.2) includes selection and specification of temporary access points off the public highway, selection of construction traffic routes and predicted volume of construction traffic.

7.15.4. Overall, the Padeswood Spur Pipeline Proposed Development accords with policy STR6: Services, Facilities and Infrastructure, PC2: General Requirements for Development, PC3: Design and PC5: Transport and Accessibility of the Flintshire LDP and is considered acceptable in terms of traffic and transport.

7.16. WATER RESOURCES AND FLOOD RISK

7.16.1. ES Chapter 17 – Water Resources and Flood Risk (document reference: PW.3.2.17) assesses the potential impacts of the Padeswood Spur Pipeline Proposed Development on the quality of the water environment (including surface water and groundwater receptors) and potential changes to flood risk during the Construction, Operational and Decommissioning Stages.

7.16.2. During the Construction Stage, as a part of the design development, the red line boundary has been refined to eliminate potential crossings of sensitive receptors. Open cut methods are generally proposed for small watercourses, with measures to manage flow and prevent flood risk during construction. Where the open cut methods are not feasible, trenchless crossing methods will be implemented to avoid work within floodplains and prevent an increase in flood risk. Additionally, sheet piles will be used in areas of shallow groundwater to limit the ingress of water into excavations.

7.16.3. At the Operational stage, measures have been identified to attenuate and discharge surface runoff. Trench breakers will be placed to avoid preferential groundwater pathways being created.

7.16.4. The Padeswood AGI will be served by a bespoke surface drainage system which will connect to the Padeswood Cement Works CCS Plant, complying with the local, regional and national requirements of the SUDS Approval Body (SAB).

7.16.5. The Decommissioning stage has no significant effects identified for surface water, groundwater resources and flood risk.

7.16.6. The assessment concludes that considerations throughout the design development and embedded mitigation measures presented within the OEMP (document reference: PW.4.1), there will be no likely significant effects for surface water, groundwater and flood risk associated with the Construction, Operational and Decommissioning Stages of the Padeswood Spur Pipeline Proposed Development.

7.16.7. Accordingly, the Padeswood Spur Pipeline Proposed Development will comply with policy STR4: Principles of Sustainable Development, Design and Placemaking, STR13: Natural and Built Environment, Green Networks and Infrastructure, PC3: Design, EN14: Flood Risk and EN15: Water Resources of the Flintshire LDP and is acceptable in terms of water resources and flood risk.

7.17. CUMULATIVE EFFECTS

7.17.1. ES Chapter – Cumulative Effects (document reference: PW.3.2.18) assesses the inter-project effects and the intra-project effects of the Padeswood Spur Pipeline Proposed Development during the Construction and Operation Stages.

7.17.2. The Decommissioning Stage is scoped out of the assessment given the operational span of the pipeline is 25 years and, therefore it is too far in the future to assess the likely effects.

7.17.3. At both the Construction and Operational Stages, the Inter-Project effects are considered to be either minor adverse or negligible but not significant. Significant effects have been determined for common visual receptors. However, these effects will be temporary and minimised once proposed landscape planting becomes established.

7.17.4. The intra-projects effects during construction due to the interaction of visual, noise and transport impacts on the residential and non-residential, and recreational and PRoW users are anticipated to be minor adverse but not significant. Similarly, residential receptors, and recreational and PRoW users are anticipated to experience minor adverse but not significant intra-project effects during operation due to the interaction of visual and noise impacts.

7.17.5. The assessment concludes that subject to the implementation of mitigation measures stated in Technical Chapters 6 – 17 of the ES (document reference: PW.3.2.6 – PW.3.2.17) no additional mitigation measures are required for the Padeswood Spur Pipeline Proposed Development.

8. CONCLUSIONS

8.1.1. Section 38(6) of the Planning and Compulsory Purchase Act 2004 and Section 70(2) of The Town and Country Planning Act 1990 (as amended) require that applications for planning permission should be determined in accordance with the development plan unless material considerations indicate otherwise.

8.1.2. A review of national and local planning policy has been undertaken within this report. It is noted that the Padeswood Spur Pipeline Proposed Development is supported by Future Wales, Planning Policy Wales, and the adopted LDP of FCC, and is not deemed prejudicial to any national or local planning policies.

8.1.3. Overall, the Padeswood Spur Pipeline Proposed Development will provide significant benefits in terms of national and local carbon reduction targets, facilitate transition to a low carbon economy, and contribute significantly to efforts against the climate emergency.

8.1.4. The ES which accompanies this application demonstrates that, through careful design and use of mitigation measures, the Padeswood Spur Pipeline Proposed Development will not result in unacceptable adverse impacts to the environment.

8.1.5. Taking the above into consideration, this PDAS demonstrates how the Padeswood Spur Pipeline Proposed Development is consistent with both national and local planning policies. No material planning considerations have been identified which would indicate that the planning application should be determined other than in accordance with the development plan, to the contrary they support its approval. Accordingly, we would respectfully request that the application be approved.