

ENVIRONMENTAL STATEMENT

Chapter 5 – EIA METHODOLOGY

Town and Country Planning Act 1990

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5. EIA METHODOLOGY

5.1. INTRODUCTION

5.1.1. This Chapter sets out the overall approach to the Environmental Impact Assessment (EIA) for the Padeswood Spur Pipeline Proposed Development. A more detailed overview of the methodology adopted for each environmental topic is provided within each respective technical chapter (**Technical Chapters 6 – 18, Document References PW.3.2.6 to PW.3.2.18**) of this Environmental Statement (ES), where applicable. The approach to the assessment has been informed by current best practice guidance, including:

- Relevant Welsh Government Technical Advice Notes (Welsh Government, 2017);
- Flintshire County Council (FCC) Supplementary Planning Guidance Note No.21 (Flintshire County Council, 2017);
- National Planning Practice Guidance (PPG) (DLUHC, 2020);
- The Institute of Environmental Management and Assessment's (IEMA) EIA Guide to Shaping Quality Development (IEMA, 2015) and
- Demystifying Cumulative Effects guidance (IEMA, 2020).

5.1.2. This ES contains the information specified in Regulation 17(3)(a)-(f) and Schedule 4 of the Town and Country Planning Act (Environmental Impact Assessment) (Wales) Regulations 2017 ('the EIA Regulations') (Welsh Government, 2017) as set out in **Table 1-1 of Chapter 1 – Introduction (Document Reference PW.3.2.1)**.

5.1.3. An overview of the Padeswood Spur Pipeline Proposed Development status in relation to relevant planning policy is discussed within the **Planning, Design and Access Statement (Document Reference PW.2.3)** that accompanies the Planning Application.

5.2. RELEVANT EXPERTISE

5.2.1. In line with Regulation 17(4)(a) of the EIA Regulations, this ES has been prepared by a suitably qualified project team. Each chapter of this ES has been prepared by an individual suitably qualified with regard to their technical discipline. Details of the team and qualifications are set out in **Appendix 5.1 Relevant Expertise and Competency (Document Reference PW.3.3.5.1)**, as required by Regulation 17(4)(b).

5.2.2. IEMA have awarded WSP (the authors of this ES) the EIA Quality Mark in recognition of the commitment to excellence in EIA activities. WSP have continued to maintain this following annual examination in relation to our products, staff, innovation, and promotion of EIA within the industry.

5.3. SCOPING

5.3.1. An **EIA Scoping Opinion** was received from the Local Planning Authority (LPA) (FCC) on 8 May 2024 and is presented in **Appendix 1.2 (Document Reference PW.3.3.1.2)**. The advice contained within the Scoping Opinion has been taken into account within the EIA assessment methodology, **Technical Chapters 6 – 18 (Document References PW.3.2.6 to PW.3.2.18)**, and presentation of this ES. In accordance with Regulation 17 of the EIA Regulations, this ES has been prepared in accordance with the Scoping Opinion except where the Padeswood Spur Pipeline Proposed Development has changed from that described in the **EIA Scoping Report (Appendix 1.1, Document Reference PW.3.3.1.1)**. Where additional matters have been scoped out during the assessment process, this ES explains the reasoning for scoping them out and justifies the approach taken. Specific responses to each of the items within the Scoping Opinion are provided in **Appendix 1.3 – Scoping Opinion Responses (Document Reference: PW.3.3.1.3)**.

This ES includes assessments of the following environmental topics:

- Air Quality;
- Climate Resilience;
- Cultural Heritage;
- Biodiversity;
- Greenhouse Gases;
- Land and Soils;
- Landscape and Visual Amenity;
- Major Accidents and Disasters;
- Noise and Vibration;
- Population and Human Health;
- Traffic and Transport;
- Water Resources and Flood Risk; and
- Combined and Cumulative Effects.

- 5.3.2. The EIA Scoping Opinion (Appendix 1.2 (Document Reference PW.3.3.1.2)) concluded that some environmental topics and elements did not need to be considered as part of the EIA for the Padeswood Spur Pipeline Proposed Development and could therefore be scoped out. A summary of topic-specific elements which have been scoped out of the EIA, in line with the Scoping Opinion, can be found in each technical chapter.
- 5.3.3. Schedule 4 of the EIA Regulations requires a consideration of the likely significant effects of the Padeswood Spur Pipeline Proposed Development resulting from the emission of heat and radiation. However, no significant sources of such emissions are anticipated and as such this topic has been scoped out of the ES in agreement with FCC, see Scoping Opinion response (refer to Appendix 1.2 – EIA Scoping Opinion (Document Reference PW.3.3.1.2)).
- 5.3.4. Additionally, no significant effects relating to materials and waste are anticipated, therefore it has been agreed with FCC to scope this out of the ES. The effects of heatwaves, extreme weather and other external hazards are considered within Chapter 13 Major Accidents and Disasters (Document Reference: PW.3.2.13).

5.4. CONSULTATION

- 5.4.1. Consultation is integral to the EIA process. The views of the consultation bodies and the local community serve to focus the environmental studies and to identify specific issues that require further investigation, as well as to inform aspects of the design of the Padeswood Spur Pipeline Proposed Development.
- 5.4.2. As part of the EIA process, consultation is ongoing with a range of statutory consultees and non-statutory consultees. To date these have included:
- Flintshire County Council (FCC);
 - Natural Resources Wales (NRW);
 - Cadw (Welsh Government's historic environment service);
 - North and Mid Wales Trunk Road Agency (NMWTRA);
 - Public Health Wales (PHW);
 - Sustrans;
 - The Coal Authority;
 - Royal Society for Protection of Birds (RSPB);
 - North Wales Wildlife Trust (NWWT);

- Wild Ground

5.4.3. The purpose of consultation with statutory and non-statutory consultees was to brief them on the Padeswood Spur Pipeline Proposed Development, seek feedback on the proposed approach to the assessment, and to obtain baseline data. A summary of consultations undertaken to date is included in each of the technical chapters (**Technical Chapters 6-19, (Document References PW.3.2.6 to PW.3.2.18)**) of this ES. Technical and procedural consultation has been ongoing and will continue with statutory bodies. Additional consultations will be reported in the Final ES.

FORMAL CONSULTATION

5.4.4. The Public Participation Directive 2003/35/EC (European Commission, 2003), as part of the EIA Regulations, provides opportunities for the public to be involved in the consenting process for certain activities, through access to information, justice and consultation on key documents.

5.4.5. As specified in Part 1 Section 2 of the Town and Country Planning (Development Management Procedure) (Wales) Order 2012 (as amended), the Padeswood Spur Pipeline Proposed Development is classed as 'major development' as the planning application area is over 1ha. Section 61Z of the Town and Country Planning Act 1990 (Wales) (HM Government, 1990), sets out the requirement to carry out pre-application consultation on draft Planning Application documents, including this ES. This will be undertaken with members of the public between 26 March 2025 to 29 April 2025 (for a minimum of 28 days) and will provide the opportunity to give feedback or ask questions on the ES. Where relevant, comments raised will be factored into the EIA and the design of the Padeswood Spur Pipeline Proposed Development and this will be documented in a Pre-Application Consultation Report and the Final ES.

5.4.6. Consultation will also occur following the submission of the Planning Application in February 2025 as required by Article 14 of the Town and Country Planning (Development Management Procedure) (Wales) Order 2012 (as amended)) (Welsh Government, 2016), where the ES will be publicised for 28 days. Statutory bodies and interested persons will be able to review the Final ES and provide comments within this period. These comments will be

considered by FCC when making the decision whether to grant planning permission.

5.5. CONSIDERATION OF ALTERNATIVES

5.5.1. Regulation 17(d) of the EIA Regulations states that an ES should include:

'a description of the reasonable alternatives studied by the applicant or appellant, which are relevant to the proposed development and its specific characteristics, and an indication of the main reasons for the option chosen, taking into account the significant effects of the development on the environment'.

5.5.2. Further detail around the consideration of alternatives is set out in Chapter 4 – Consideration of Alternatives (Document Reference PW.3.2.4).

5.6. STUDY AREAS

5.6.1. The Study Area and approach used to establish baseline conditions for each environmental topic is set out within its respective Technical Chapter 6 – 18 (Document References PW.3.2.6 to PW.3.2.18). The Study Areas are a function of the nature of the impacts and the location of potentially affected environmental resources or receptors and take account of relevant guidance.

5.7. TEMPORAL SCOPE OF ASSESSMENT

5.7.1. The approach to assessment has been to assess the environmental impacts of the Padeswood Spur Pipeline Proposed Development at key stages in its construction, operation, and eventual end of life decommissioning.

5.7.2. The assessment scenarios considered within this EIA are as follows:

- Existing baseline (without the Padeswood Spur Pipeline Proposed Development) – the year that baseline data has been collected.
- Future baseline (without the Padeswood Spur Pipeline Proposed Development) (refer to Chapter 3 – Description of Padeswood Spur Pipeline Proposed Development (Document Reference PW.3.2.3)) – for comparison with the Construction, Operational, and Decommissioning Stages as described below. In the future baseline scenario, it is assumed that the Padeswood Carbon Capture Storage Plant works will be

constructed prior to the Padeswood Spur Pipeline Proposed Development.

- Construction of the Padeswood Spur Pipeline Proposed Development – as presented in **Chapter 3 – Description of the Padeswood Spur Pipeline Proposed Development (Document Reference PW.3.2.3)**, construction is scheduled to commence in September 2026 and last for approximately 18 months. **Technical Chapters 6 – 18 (Document References PW.3.2.6 to PW.3.2.18)** have assessed a reasonable ‘worst case’ construction scenario and, where necessary, the relevant period or ‘peak’ of activity within the construction programme.
- Operation of the Padeswood Spur Pipeline Proposed Development – as detailed in **Chapter 3 – Description of the Padeswood Spur Pipeline Proposed Development (Document Reference PW.3.2.3)**, the period that the Padeswood Spur Pipeline Proposed Development will operate and be maintained, “the design life”, is assumed to be 25 years. **Technical Chapters 6 – 18 (Document References PW.3.2.6 to PW.3.2.18)** have assessed a reasonable ‘worst case’ scenario where necessary.
- Decommissioning of the Padeswood Spur Pipeline Proposed Development at the end of ‘the design life’.

5.8. BASELINE CONDITIONS

- 5.8.1. In order to assess the potential impacts and effects of the Padeswood Spur Pipeline Proposed Development, it is necessary to determine the environmental baseline conditions that currently exist within the Red Line Boundary and in the surrounding area. These are known as existing baseline conditions.
- 5.8.2. The Study Area and approach used to establish baseline conditions for each environmental topic is set out within its respective **Technical Chapter 6 – 18, (Document References PW.3.2.6 to PW.3.2.18)**. Baseline conditions are determined using the results of site surveys and investigations or desk-based data searches, or a combination of these, as appropriate.
- 5.8.3. For the purposes of the assessment the existing baseline is 2023-2024 as this is the period in which the baseline studies for the EIA have been undertaken. Where baseline data has been used outside this period, an explanation is given in the respective Technical Chapters.

ESTABLISHING FUTURE BASELINE CONDITIONS

- 5.8.4. It is also relevant for the EIA to consider future baseline conditions taking account of any planned or likely changes to the existing baseline. This ES includes an outline of the likely evolution of the existing baseline without implementation of the Padeswood Spur Pipeline Proposed Development based on available information and knowledge.
- 5.8.5. The future baseline conditions are predicted for each assessment scenario considered as part of the EIA. Due to the limitations, necessary assumptions, and lack of evidence associated with the future baseline (for example, it cannot be accurately measured), a detailed consideration of the effects of the Padeswood Spur Pipeline Proposed Development against the future baseline without the Padeswood Spur Pipeline Proposed Development would generally not result in a robust assessment. However, consideration has been given to likely significant effects arising in relation to the future baseline, in descriptive terms, within each Technical Chapter.
- 5.8.6. As discussed in **Chapter 1 – Introduction (Document Reference PW.3.2.1)** and **Chapter 2 – The Project (Document Reference PW.3.2.2)**, the Padeswood Spur Pipeline Proposed Development is coming forward at a similar time to other major infrastructure developments, which the pipeline will serve. For the purposes of this ES, the Future Baseline Scenario has been developed to incorporate those developments, namely Northop Hall AGI (Part of the HyNet DCO) and Padeswood Cement Works CCS Plant. Classification and assessment of a Future Baseline Scenario is considered necessary because of the Padeswood Spur Pipeline Proposed Development being reliant on their construction to enable both construction and operation activities to commence. Both projects are being / have been consented under different applications as described in **Chapter 2 The Project (Document Reference: PW.3.2.2)**. Regardless of this, the wider environmental impacts of both will be assessed within **Chapter 18 – Combined and Cumulative Effects (Document Reference PW.3.2.18)**.
- 5.8.7. Refer to **Chapter 3 – Description of the Padeswood Spur Pipeline Proposed Development (Document Reference PW.3.2.3)** for details of the future baseline scenarios considered.

5.9. APPROACH TO MITIGATION

- 5.9.1. IEMA issued guidance on 'Shaping Quality Development' in November 2015 (IEMA, 2015) and 'Delivering Quality Development' in July 2016 (IEMA, 2016). In accordance with these guidance documents, three types of mitigation have been identified and used within this ES:
- **Primary Mitigation** (hereinafter referred to as Embedded Mitigation) – modifications to the location or design made during the pre-application stage that are an inherent part of the Padeswood Spur Pipeline Proposed Development. These measures are treated as a fundamental part of the Padeswood Spur Pipeline Proposed Development;
 - **Secondary Mitigation** – actions that will require further activity to achieve the anticipated outcome. The effectiveness of such measures is assessed within this ES and appropriate mitigation included within the **Outline Environmental Management Plan (OEMP) (Document Reference: PW.4.1)**; and
 - **Tertiary Mitigation** (hereinafter also referred to as Embedded Mitigation) – actions that will occur with or without input from the EIA. These include actions that will be undertaken to meet other existing legislative requirements, or actions that are standard practices used to manage commonly occurring environmental effects. These measures are treated as an inherent part of the Padeswood Spur Pipeline Proposed Development.
- 5.9.2. Some key embedded mitigation is presented in **Chapter 3 – Description of the Padeswood Spur Pipeline Proposed Development (Document Reference PW.3.2.3)** and **Chapter 4 – Consideration of Alternatives (Document Reference PW.3.2.4)** of this Draft ES. For full details of embedded mitigation, refer to **Technical Chapters 6 – 18 (Document References PW.3.2.6 to PW.3.2.18)**.
- 5.9.3. The assessment of the likely significant environmental effects for the pre-mitigation scenario has considered primary and tertiary mitigation (other than permits, licences and consents) when determining the magnitude of change. Effects after secondary mitigation are referred to as 'residual effects'.
- 5.9.4. Following the preliminary assessment of the likely significant effects of the Padeswood Spur Pipeline Proposed Development,

any further mitigation measures (secondary mitigation) are identified and outlined within the individual chapters and included within the **OEMP** as part of the ES. These mitigation measures further reduce a negative effect or enhance a positive one. The assessment of likely significant effects is then carried out taking into account the identified secondary mitigation measures identify the “residual” environmental effects.

MECHANISMS FOR SECURING ENVIRONMENTAL MEASURES

- 5.9.5. An **OEMP** (**Document Reference: PW.4.1**) has been prepared to accompany the ES. The **OEMP** will act as a control plan which sets out indicative methods to avoid, minimise and mitigate likely impacts during Construction, Operation and Decommissioning. The **OEMP** provides a complete register of all environmental mitigation measures and indicates how each of the commitments will be implemented (or secured).
- 5.9.6. The **OEMP** will be used by Construction Contractors and operators alike to develop their own Management Plans, including but not limited to a Construction Environmental Management Plan and Operational Management Plan. These will be the means of controlling the works and will set out monitoring requirements to ensure that the effects of the Padeswood Spur Pipeline Proposed Development on people and the natural environment are reduced insofar as reasonably practicable. They will be submitted to FCC for approval. The Planning Application is also supported by an Outline Construction Traffic Management Plan (**Document Reference: PW.4.2**). The **OEMP** describes that the Construction Contractor will produce their detailed management plans in accordance with these outline versions.
- 5.9.7. As set out above, the iterative design process has ‘embedded’ environmental considerations into the design, by virtue of the scope of works, such as avoidance of sensitive areas. Therefore, these commitments are inherent in the **Figure 3.1 Red Line Boundary (Document Reference PW.3.4.3.1)** and **Figure 3.2 Padeswood Spur Pipeline Proposed Development (Document Reference PW.3.4.3.2)**. As there is an iterative design process, some other embedded design commitments, such as implementation of trenchless crossing techniques at identified locations, will be applied at later stages of the design and are therefore included in

the OEMP (Document Reference: PW.4.1). For this reason, these commitments do not yet form part of the Layout Plans.

5.10. MONITORING

5.10.1. The EIA Regulations require, where appropriate, the monitoring of potential significant adverse effects. Where monitoring arrangements are proposed as part of the mitigation set out, this is detailed within each of the Technical Chapters of this ES (Document References: PW.3.2.6 – PW.3.2.18) and will be included within the OEMP (Document Reference: PW.4.1) where applicable.

5.11. ASSESSMENT OF LIKELY SIGNIFICANT EFFECTS

5.11.1. This ES presents a description of the Padeswood Spur Pipeline Proposed Development and its likely significant environmental effects on the environment during construction, operation (including maintenance where relevant) and decommissioning, based on the environmental information available at the time of the assessment. The Red Line Boundary is currently defined by a pipeline corridor 40 / 50 m in width, which provides the necessary flexibility for refinement during the detailed design and construction of the final pipeline route. Where there are environmental and constructability constraints, the Red Line Boundary will be narrower or wider than 40 / 50 m as required. The worst-case has been assessed in each **Technical Chapter (Chapters 6-18)** (Document Reference: PW.3.2.6 – PW.3.2.18).

5.11.2. The assessment takes into account the following when determining significance:

- Likelihood of occurrence;
- Geographical extent;
- Adherence of the proposals to legislation and planning policy;
- Adherence of the proposals to international, national and local standards;
- Sensitivity of the receiving environment or other receptors;
- Value of the affected resource;
- Whether the effect is temporary or permanent;
- Whether the effect is short, medium, or long-term in duration;
- Whether the effect is reversible or irreversible;

- Inter-relationship between effects (both cumulatively and in terms of potential effect interactions); and
- The outputs of stakeholder and public engagement.

ASSESSMENT OF SIGNIFICANCE

5.12. BASIS OF ASSESSMENT

- 5.12.1. The EIA reported in this ES is based on likely reasonable worst-case assumptions about the construction, operation and decommissioning of the Padeswood Spur Pipeline Proposed Development. Where details cannot be confirmed at this stage, reasonable worst-case estimates have been made based on experience gained on similar developments and professional judgement. It is specifically stated within this ES where professional judgement has been used to inform the assessment. As a result, the assumptions for assessment may be different for each technical topic as described (**Technical Chapters 6-18, Document References: PW.3.2.6 – PW.3.2.18**).
- 5.12.2. As described in **Chapter 3 – Description of the Padeswood Spur Pipeline Proposed Development (Document Reference: PW.3.2.3)**, all works to construct and operate the Padeswood Spur Pipeline Proposed Development, including temporary construction access, take place within the Red Line Boundary. The area extent of the Red Line Boundary is depicted in **Figure 3.1 – Red Line Boundary (Document Reference PW.3.4.3.1)**.
- 5.12.3. The assessment parameters for the works are detailed within **paragraphs 5.12.4 - 5.12.19**. The general approach to the assessment is provided here but specific parameters to avoid sensitive receptors relevant to certain topics are detailed in the **Technical Chapters 6-18 (Document Reference: PW.3.2.6 – PW.3.2.18)**.

INSTALLATION OF THE PADESWOOD CARBON DIOXIDE SPUR PIPELINE USING OPEN-CUT TRENCHING

- 5.12.4. The EIA has assumed that the final alignment of the Padeswood Carbon Dioxide Spur Pipeline could be situated anywhere within the Red Line Boundary shown in **Figure 3.2 – Padeswood Spur Pipeline Proposed Development (Document Reference PW.3.4.3.2)**, unless there is a commitment or requirement that places restrictions on its precise location. The Working Width is assumed to be the area physically impacted by the construction of the Padeswood Spur Pipeline

Proposed Development. The Working Width differs at locations depending on the construction methodology. For open-cut trenching, a 25m Working Width is required. The EIA therefore assumes the likely worst-case location of the Working Width within the Red Line Boundary for all elements of the Padeswood Spur Pipeline Proposed Development to identify the significant effects for each topic reported in the ES. Any indicative alignment of the pipeline shown in this ES has only been used for assessment purposes and is not representative of the Detailed Design. The methodology for identifying the specific likely worst-case location used for each topic is explained within each Technical Chapter 6-18 (Document References: PW.3.2.6 – PW.3.2.18).

INSTALLATION OF THE PADESWOOD CARBON DIOXIDE SPUR PIPELINE USING TRENCHLESS CROSSING CONSTRUCTION METHODS

- 5.12.5. All trenchless crossing locations have been identified; however the specific trenchless installation technique will be determined by the Construction Contractor(s) post-consent where necessary. Where this is the case the worst case trenchless installation technique, depending on the topic, has been assumed for the assessment.
- 5.12.6. As previously mentioned, the alignment of the Padeswood Carbon Dioxide Spur Pipeline will be confirmed at the Detailed Design stage, and therefore the trenchless crossing locations, together with their entry and exit pits can move widthways within the Red Line Boundary. Indicative locations are shown on **Figure 3.2 – Padeswood Spur Pipeline Proposed Development (Document Reference: PW.3.4.3.2)**.
- 5.12.7. The EIA uses a worst-case approach to assess trenchless crossings based on the three techniques described within **Table 3.2 of Chapter 3 – Description of the Padeswood Spur Pipeline Proposed Development (Document Reference: PW.3.2.3)**. For example, the entrance pits are larger than the exit pits for all techniques, therefore it has been assumed within the ES that entrance pits are at both sides of the trenchless crossings. Auger Boring pits are the largest of all three techniques, therefore it has been assumed that Auger Boring entrance pits will be in place at every trenchless crossing. The exact assessment method used by each technical discipline is explained further in the **Technical Chapters 6 -18 (Document References: PW.3.2.6 – PW.3.2.18)**.

OPERATION AND MAINTENANCE OF THE PADESWOOD CARBON DIOXIDE SPUR PIPELINE

- 5.12.8. The operation and maintenance of the Padeswood Spur Pipeline Proposed Development has been assessed according to the description in Section 3.8 of Chapter 3 – Description of the Padeswood Spur Pipeline Proposed Development (Document Reference PW.3.2.3).

ABOVE GROUND INSTALLATION

- 5.12.9. The location of the Padeswood AGI is indicated on Figure 3.2 – Padeswood Spur Pipeline Proposed Development (Document Reference PW.3.4.3.2).
- 5.12.10. The operation and maintenance of the AGI has been assessed according to the descriptions in Section 3.8 of Chapter 3 – Description of the Padeswood Spur Pipeline Proposed Development (Document Reference PW.3.2.3).

OTHER ABOVE GROUND INFRASTRUCTURE

- 5.12.11. The construction and operation of other above ground infrastructure (including the additional equipment at Northop Hall AGI and pipeline marker posts) has been assessed according to the descriptions in Chapter 3 – Description of the Padeswood Spur Pipeline Proposed Development (Document Reference PW.3.2.3).

CONNECTIONS INFRASTRUCTURE

- 5.12.12. The installation of the connection infrastructure, including power utilities and Fibre Optic Cable connections has been assessed according to the descriptions in Chapter 3 – Description of the Padeswood Spur Pipeline Proposed Development (Document Reference PW.3.2.3).

TEMPORARY CONSTRUCTION COMPOUNDS

- 5.12.13. Figure 3.2 – Padeswood Spur Pipeline Proposed Development (Document Reference PW.3.4.3.2) shows the proposed locations of Construction Compounds. The EIA process has informed the design of the Construction Compounds, including avoidance of sensitive areas where practicable. However, notwithstanding this embedded mitigation, the EIA has taken a reasonable worst-case approach to the location and extent of the Construction Compound areas. Therefore, the areas considered in the assessments (Technical Chapters 6-18

(DOcument References: PW.3.2.6 – PW.3.2.18)) and shown in **Figure 3.2 - Padeswood Spur Pipeline Proposed Development** (Document Reference PW.3.4.3.2) illustrate the spatial parameters, for the purpose of the EIA, within which the Construction Compounds are assessed to be located and positioned. Therefore, the areas shown in **Figure 3.2 - Padeswood Spur Pipeline Proposed Development** (Document Reference PW.3.4.3.2). identify the locations within which the compounds can be positioned. The anticipated size and footprint of the compounds are stated in **Chapter 3 - Description of the Padeswood Spur Pipeline Proposed Development** (Document Reference PW.3.2.3) and are likely to comprise a smaller area than that shown on the figure. Within each compound area, restrictions on layout will be applied in order to protect existing infrastructure, for example, heavy plant will not be sited over existing pipelines.

DECOMMISSIONING

- 5.12.14. The decommissioning has been assessed in line with the description given in **Chapter 3 - Description of the Padeswood Spur Pipeline Proposed Development** (Document Reference PW.3.2.3).
- 5.12.15. The below ground elements of the Padeswood Spur Pipeline Proposed Development will be filled with nitrogen and left in-situ. Above ground features associated with AGIs will be dismantled, cleared and the ground conditions restored to their previous condition. For the purposes of the ES, the method of removal is assumed to be no worse than the construction method.

5.13. COMBINED AND CUMULATIVE EFFECTS

- 5.13.1. In accordance with the EIA Regulations, Demystifying Cumulative Effects guidance (IEMA, 2020) and the Planning Inspectorate's Advice Note 17 (PINS, 2019), consideration is given to the potential for cumulative and combined effects to arise as a result of the Padeswood Spur Pipeline Proposed Development.
- 5.13.2. The following types of Cumulative Effects have been considered within this ES:
- Intra-project combined effects: The interaction and combination of different residual (post-mitigation) environmental effects of the Padeswood Spur Pipeline Proposed Development affecting the same receptor.

- Inter-project cumulative effects: The residual (post-mitigation) environmental effects of the Padeswood Spur Pipeline Proposed Development combining and interacting with the residual environmental effects of committed development/s, including consideration of other parts of the Project, affecting the same receptor.

5.13.3. The approach to the Combined and Cumulative Effects assessment is presented in **Chapter 18 – Combined and Cumulative Effects** (Document Reference PW.3.2.18).

5.14. IN-COMBINATION CLIMATE CHANGE IMPACTS

5.14.1. An in-combination climate change impact assessment has been included within each **Topic Chapter 6-18** (Document References: **PW.3.2.6 – PW.3.2.18**) to consider the extent to which climate change may alter the effects which have already been identified through the assessment. The methodology is detailed in **Chapter 7 - Climate Resilience** (Document Reference PW.3.2.7).

5.15. ASSESSMENT OF TRANSBOUNDARY IMPACTS

5.15.1. Part 12 of the EIA Regulations sets out the procedural duties required where the Welsh Minister deems that a development is likely to have significant effects on the environment in an European Economic Area (EEA) State; or where an EEA State deems that its environment is likely to be significantly affected by a development. Further guidance is provided in the Planning Inspectorate's Advice Note Twelve (PINS, 2020).

5.15.2. The assessments undertaken as part of this ES have determined that no transboundary impacts are likely to be experienced as a result of the Padeswood Spur Pipeline Proposed Development.

5.16. ADDITIONAL DOCUMENTATION

5.16.1. There are several other associated documents and assessments which have not directly formed part of the ES but have been relied upon and referred to within the ES and produced to support the Planning Application. These include the following:

- Net Biodiversity Benefit and Green Infrastructure Assessment (Document Reference: PW.4.4);
- Arboricultural Impact Assessment (as an appendix to Biodiversity ES Chapter, Document Reference: PW.3.3.9.1)
- Habitat Regulations Assessment (Document Reference: PW.4.5);

- Flood Consequence Assessment (Document Reference: PW.3.3.17.1);
- Water Framework Directive Assessment Report, Document Reference: PW.3.3.17.3);
- Transport Assessment (as an appendix to Transport and Traffic Chapter, Document Reference: PW.3.3.16.2)
- Outline Construction Traffic Management Plan (Document Reference PW.4.2);
- Interim Construction Workers Travel Plan (Document Reference: PW.3.3.16.3); and
- Outline Environmental Management Plan (Document Reference: PW.4.1).

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