



Frodsham Solar

Cumulative Assessment of the Proposed Development
with the CO2 Runcorn Spur Pipeline

Scenario 3 – Pipeline Construction After Development of
Frodsham Solar

March 2026



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1.0 INTRODUCTION

1.1.1 This report has prepared in light of both the **Applicant's Response to ExA First Written Questions (REP2-003)** and **Cheshire West and Chester Council's ('CWACC's') Comments on the Deadline 1 and Deadline 2 Submissions (REP3-047)**.

1.1.2 In their comments in **REP3-047**, CWACC outlined their view regarding the Applicant's stance on cumulative effects, described in the Applicant's response to ExQ1 Q5.1.5. In summary, this was that the cumulative impact assessment the Applicant has undertaken as part of the application is not robust. Furthermore, CWACC acknowledged that the Applicant chose to only assess two of the three recommended scenarios in relation to the proposed CO₂ Runcorn Spur Pipeline, not assessing the scenario in which the Proposed Development is constructed after the pipeline.

1.1.3 The Applicant has explained its reasoning for this approach in the **Technical Note on Pipeline Interactions (REP1-041)** submitted at Deadline 1, and in its response to the Action Points from ISH2. To be clear, the Applicant's position on this matter is as follows:

- for the reasons set out in the Technical Note on Pipeline Interactions, it is not considered that the After Scenario is a cumulative scenario as the Frodsham Solar project will exist and have created a new baseline;
- the ecological impacts that are caused by the Proposed Development occur from its construction. Once the Proposed Development is in place, with the NBBMA in place, there is no 'on-going' impact to FLL and birds – it has already happened and been mitigated by the NBBMA. As such, the impacts are focussed on the NBBMA itself;
- the Applicant is not trying to avoid assessment – it is saying that the mitigation of the impacts that would be caused can only be delivered by LBCCS, and it is for the Council to ensure that the conditions are

imposed, i.e. that where Frodsham Solar's NBBMA is built out, LBCCS must do what is necessary to mitigate the impacts of its development on the baseline at that point in time. Imposing such a condition cannot be considered unlawful as it would be a condition that is directly relevant to the impacts of that scheme; and

- this proposed approach to conditions are necessary to ensure that CWACC properly discharged its duties as competent authority under the Habitats Regulations. Without them, any consent of the pipeline would be liable for challenge for not properly mitigating impacts that are clearly possible.

1.1.4 Notwithstanding the above, the Applicant has prepared an assessment of the potential cumulative effects of Scenario 3 (i.e. the pipeline being built after the NBBMA has been constructed).

1.1.5 It should be noted that the Applicant is not in control of the pipeline construction methods or the mitigation that the developer would seek to apply. Therefore, this assessment has been undertaken based upon assumptions.

2.0 BACKGROUND

2.1.1 The Runcorn CO₂ Spur Pipeline ('the pipeline'), would be approximately 8.7km in length and be a combination of above and below ground pipeline. It would connect the Runcorn AGI site to the Ince AGI site.

2.1.2 Figure 1 displays the route of the pipeline in relation to the NBBMA as part of the Proposed Development. The pipeline would run along the bank of the Weaver Navigation in a southeasterly direction above ground, before crossing the Weaver Navigation Canal and River Weaver via trenchless methods. It is proposed that the pipeline then runs through Cells 1, 2, 3 and 4 of the Manchester Ship Canal Deposit Grounds (and thus runs through the NBBMA). The boundary between Cell 3 and 4 will be crossed using trenchless methods while the remainder of the pipeline will be crossed using open trenched methods. Upon leaving the NBBMA, the pipeline would move in a southerly direction, crossing Lordship Lane and two ditches via a trenchless crossing before continuing west toward the Ince AGI site, moving around the south side of the CF Fertilisers plant.

2.1.3 The NBBMA will be under the management of a nature conservation body (likely RSPB) and would be considered functional upon the completion of the construction phase. The area would serve as an essential part of the mitigation for the Proposed Development.

2.1.4 As a result, should the pipeline be constructed after the development of the NBBMA, it would be vital to retain its function.

Natural England Consultation Response

2.1.5 Natural England submitted a consultee comment to CWACC regarding the Runcorn Spur development on 18 December 2025. Listed below are the relevant extracts of note.

Summary of Natural England's advice

In summary, Natural England advises that insufficient information has been provided to inform the conclusions of the Habitats Regulations Assessment. Further information is required to demonstrate that the proposed development will not impact on existing mitigation land for the Frodsham Wind Farm and/or have an in-combination impact on mitigation proposed as part of the Frodsham Solar Farm Development Consent Order which may impact on SPA bird populations outside of the designated sites...

...It is also not clear how the timing of construction works will be aligned with the overlapping Frodsham Solar Farm development and secured. Information from the applicant of the solar farm suggests that the construction works for the spur pipeline may not come ahead of the solar farm and so all alternative scenarios should be considered within the HRA.

Noting that it has been some time since the HRA was submitted, we advise any recent updates as result of discussions with the solar farm applicants are updated within the HRA by the applicant and we ask that clarity is provided on any measures to secure construction timing.

3.0 PIPELINE CONSTRUCTION METHOD

- 3.1.1 One potential method available to LBCCS to avoid impacts on the NBBMA should the pipeline be constructed after the NBBMA is created, is to continue the trenchless crossing method proposed to cross the Weaver Navigation and River Weaver to the southern boundary of Cell 4, where use of a trenchless technique is also proposed to avoid impacts on Cell 4 ecological mitigation area. It is considered that this approach provides the most certainty in terms of lack of impact.
- 3.1.2 The pipeline application described that several trenchless crossing methods could be utilised, depending on ground conditions at the crossing location. These methods include:
- i) Horizontal Directional Drilling (HDD);
 - ii) Guided (GAB) and Unguided Auger Boring (UAG); and
 - iii) Micro-Tunnelling.
- 3.1.3 The pipeline application notes that HDD is suitable for small bore crossings and long distance crossings, as such suitable for the section described above. HDD involves using a track mounted boring machine to engineer a hole between two crossing points, within which the section of pipeline is pulled through to complete the crossing. Once the pipeline section has been successfully pulled through the crossing, it is connected to the rest of the pipeline, and the surroundings are reinstated to their original condition.
- 3.1.4 The pipeline planning application includes an Outline Environmental Management Plan which identifies a range of mitigation which would be applied to the proposed trenchless crossings proposed in the application. This includes:
- i) an action plan detailing the required mitigation in the event that there is any bentonite drilling fluid breakout in the vicinity of known archaeological remains;

- ii) All entry and exit pits for all trenchless crossings will be sited a minimum of 8 m away from any main riverbank top (and any defence structure on that watercourse), where practicable. Stand-off distances around watercourses will be implemented prior to the commencement of works and clearly demarcated through the use of physical barriers (fencing, tape or similar);
 - iii) High disturbance activities such as construction of launch pits, and percussive piling activities associated with trenchless crossings within land functionally linked to the Mersey Estuary SPA, Ramsar and SSSI will be completed outside of the winter months (November – March, inclusive).
 - iv) A Noise and Vibration Management Plan will be developed and implemented for the entirety of the Runcorn Spur Pipeline Proposed Development, which will detail measures to reduce the levels of noise and vibration during construction.
- 3.1.5 It is assumed that the same mitigation proposed in the pipeline application could be used in the event the Proposed Development is constructed before the pipeline is built.

4.0 ASSESSMENT OF CUMULATIVE IMPACTS

4.1.1 Table 4-1 below provides an assessment of cumulative effects as per each topic area assessed in the **Environmental Statement [APP-033 to APP-124]** on the basis of the proposed trenchless crossing set out above and the implementation of the relevant mitigation measures described.

4.1.2 It is assumed that the measures in the Outline Environmental Management Plan would be subject to a planning condition requiring the plan to be developed in detail and implemented in accordance with the approved plan.

Table 4-1: Assessment of Cumulative Effects

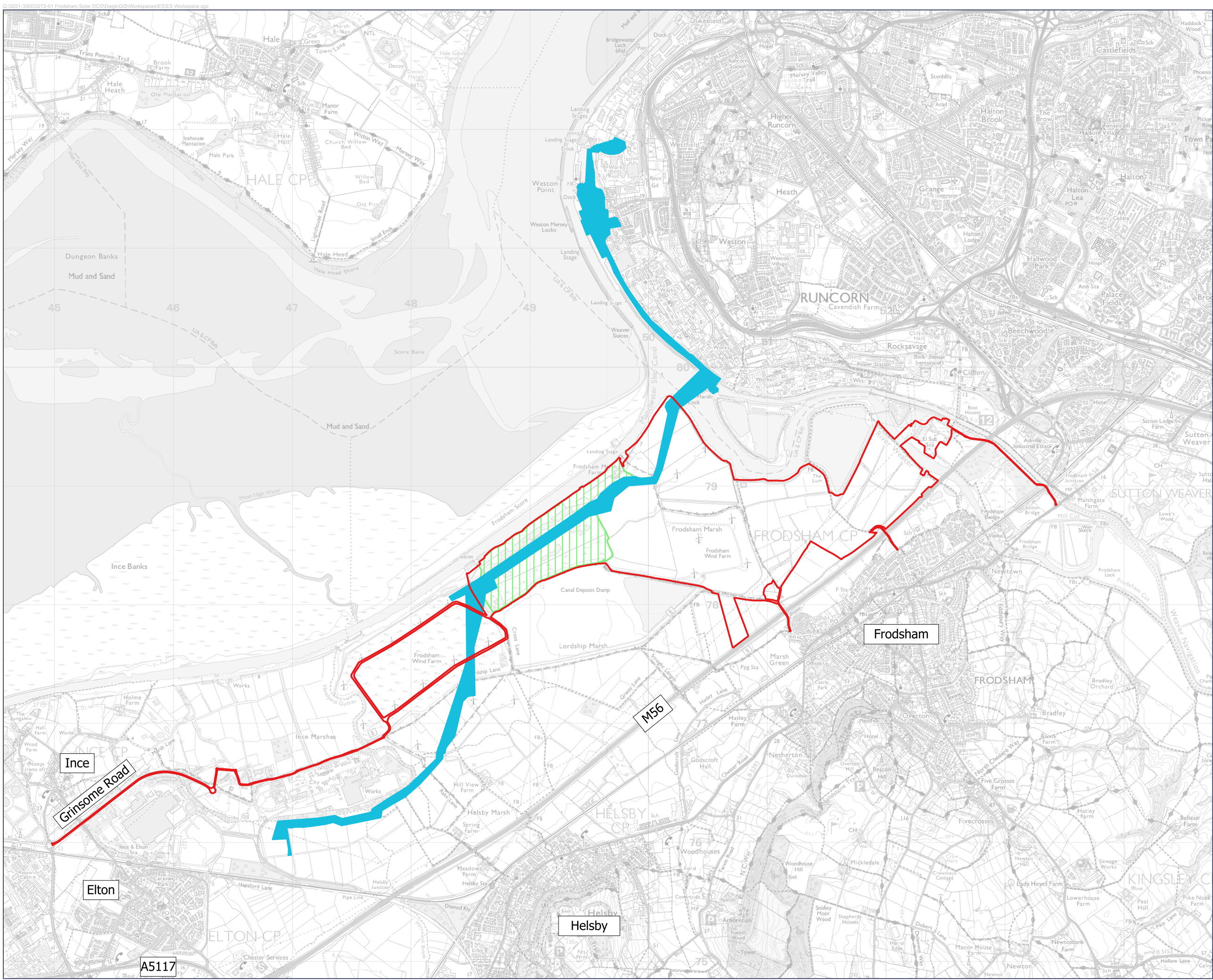
Topic Area	Assessment of Cumulative Effects
Climate Change	The cumulative climate change impacts associated with the proposed construction method are not considered to be materially different from those associated with the currently proposed method. The alternative technique would cover the same overall length but would utilise different materials and resources, such as an increased use of drilling fluids, while requiring less excavation. Overall, the resulting emissions profile is therefore expected to be broadly comparable. Based on this, the cumulative effects of constructing the pipeline after the completion of the NBBMA, using the proposed methodology, are unlikely to be significant.
Landscape and Visual Amenity	The proposed trenchless method would reduce landscape and visual effects compared with the open-cut trench methodology currently proposed, as it would involve less ground disturbance and a reduced presence of construction plant and personnel within Cells 1, 2 and 3. Based on this, the cumulative effects of constructing the pipeline after the completion of the NBBMA, using the proposed methodology, are unlikely to be significant.
Terrestrial Ecology	The proposed method would reduce potential impacts on terrestrial ecology receptors as it would involve substantially less ground disturbance and reduced activity within the affected areas. It would also avoid direct impacts on habitats created within the NBBMA, as well as other habitats established within the section of the solar array that would otherwise be subject to disturbance under an open-cut trench approach. Based on this, the cumulative effects of constructing the pipeline after the completion of the NBBMA, using the proposed methodology, are unlikely to be significant.
Ornithology	As noted above, the proposed method would reduce potential impacts compared with an open-cut trench

	<p>approach. The currently proposed method already requires entry and exit pits at the same locations that would be used for the extended trenchless technique. As such, impacts associated with the terminal works would be broadly similar to those currently assessed. It is also noted that the works would be undertaken outside the core non-breeding bird period. Based on this, the cumulative effects of constructing the pipeline after the completion of the NBBMA, using the proposed methodology, are unlikely to be significant. The same logic would also allow for an in-combination assessment to conclude no adverse effects on integrity for HRA purposes.</p>
Flood Risk and Surface Water	<p>The same water quality protection measures would be required at the entry and exit pits to control drilling fluids and manage fuels and chemicals used by the drilling equipment as proposed in the current pipeline application. As underground infrastructure, the pipeline would have no impact to flood risk. Consequently, the cumulative effects in relation to flood risk and surface water are expected to be the same as those currently assessed. Based on this, the cumulative effects of constructing the pipeline after the completion of the NBBMA, using the proposed methodology, are unlikely to be significant.</p>
Ground Conditions	<p>A trenchless technique beneath the cells would avoid the need for soil stabilisation within the Site and would retain the existing soil structure at the surface. Impacts on deeper ground conditions are unlikely to differ significantly from those associated with the currently proposed method. Based on this, the cumulative effects of constructing the pipeline after the completion of the NBBMA, using the proposed methodology, are unlikely to be significant.</p>
Cultural Heritage and Archaeology	<p>Impacts on cultural heritage and archaeology are expected to be limited under both open-cut and trenchless construction techniques. While a longer trenchless section could theoretically increase the potential to disturb buried archaeology beneath the dredging deposit cells, this risk is considered negligible given the diameter and depth of the pipeline and the findings of the desk-based archaeological assessments undertaken for the Site and the standard archaeological mitigation measures that would be secured via both consents. Based on this, the cumulative effects of constructing the pipeline after the completion of the NBBMA, using the proposed methodology, are unlikely to be significant.</p>
Tourism and Recreation	<p>An extended trenchless method would result in reduced direct and indirect impacts on users of public rights of way, as construction activity and associated disturbance along the route would be reduced compared with an open-cut trench approach. Based on this, the cumulative effects of constructing the pipeline after the completion</p>

	of the NBBMA, using the proposed methodology, are unlikely to be significant.
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5.0 CONCLUSIONS

- 5.1.1 This report has considered the potential cumulative effects associated with the construction of the CO₂ Runcorn Spur Pipeline in the scenario where the pipeline is delivered after the establishment of the Non-Breeding Bird Mitigation Area (NBBMA).
- 5.1.2 The assessment shows that by adopting suitable construction methods, such as extending the use of trenchless techniques beneath the NBBMA, the potential impacts on the habitats created within the NBBMA, and the species using those habitats, along with other environmental receptors along the pipeline route can be significantly reduced or avoided. Based on this, the assessment indicates that the cumulative effects of constructing the pipeline after the completion of the NBBMA, using appropriate trenchless methods, and the mitigation measures outlined in the pipeline application, are unlikely to be significant.
- 5.1.3 It is noted that this scenario does not reflect the currently proposed pipeline construction methodology as set out in the LBCCS planning application. However, should LBCCS decide to proceed with construction of the pipeline after the creation of the NBBMA, this assessment demonstrates that it would be possible to implement the pipeline without resulting in likely significant environmental effects, or adverse effects to integrity to the Mersey Estuary SPA, in combination with the Proposed Development. Crucially, however, this would require that LBCCS be mandated to use trenchless methods to ensure this outcome could be achieved.



-  Site Boundary
-  Spur Pipeline Route
-  Non-Breeding Bird Mitigation Area(NBBMA)

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Environmental Statement: Volume 3

Project **FRODSHAM SOLAR**

Figure Number **Figure 1**

Figure Title **CO2 Runcorn Spur Pipeline and NBBMA**

Scale **1:30000@A3**

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