Frodsham Solar

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Appendix 3-1: Alternative Site Assessment

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1.0 ALTERNATIVE SITE ASSESSMENT

1.1 Introduction

1.1.1 This Alternative Site Assessment (ASA) has been prepared on behalf of Frodsham Solar Limited to accompany the application for a Development Consent Order (DCO) for the proposed development of a solar photovoltaic array exceeding 50MW generating capacity, associated infrastructure and landscaping and associated battery energy storage system (Proposed Development) on land at Frodsham Marsh, Frodsham, Cheshire West and Chester ('the Site').

1.1.2 The ASA sets out the approach adopted by the Applicant in consideration of alternatives sites for the Proposed Development. The government has demonstrated that there is need for nationally significant renewable infrastructure, which is urgent, and that substantial weight be given to that need (EN-1 paragraph 3.2.6). Whilst there is no requirement under the Infrastructure Planning (Environmental Impact Assessment) Regulations 2017 for applicants to consider alternative sites, and demonstrate why the site selected has been taken forward, there is a requirement to provide a description of reasonable alternatives studied by the development, which are relevant to the proposed project and its specific characteristics, and an indication of the main reasons for selecting the chosen option. EN-1 states at paragraph 4.3.9 that the NPS does not contain any general requirement to consider alternatives or to establish whether the proposed project represents the best option from a policy perspective.

1.1.3 EN-1 paragraph 4.3.22 guides the Secretary of State as to the weight that should be applied to the consideration of alternatives in the decision-making process. It states at paragraph 4.3.22 that, given the level and urgency of need for new energy infrastructure:

"the consideration of alternatives in order to comply with policy requirements should be carried out in a proportionate manner; and only alternatives that can meet the objectives of the proposed development need to be considered. The Secretary of State should be guided in considering alternative proposals by whether there is a realistic prospect of the alternative delivering the same infrastructure capacity in the same timescale as the proposed development."

1.1.4 The NPS is clear in that an application should not be refused simply because fewer adverse impacts may result from developing similar infrastructure on another site, and the decision-maker should have regard as appropriate to the possibility that all suitable sites for energy infrastructure of the type proposed may be needed for future proposals (paragraph 4.3.24).

1.1.5 The Proposed Development is located within the Green Belt. The Green Belt Assessment contained in the **Planning Statement [EN010153/DR/5.6]** provides an assessment of the status of the Site and Proposed Development in the context of national and local Green Belt policy. The Green Belt Assessment references paragraph 5.11.20 of EN-1 which states that there is a general presumption against inappropriate development, and that such development should not be approved except in very special circumstances (paragraph 1.1.3). The Proposed Development is not listed as being not inappropriate, however recent change to national policy has introduced the concept of 'grey belt' in which development should not be considered inappropriate where development meets criteria listed under paragraph 155 of the NPPF. The Assessment concludes that the Order Limits are within the grey belt, and the Proposed Development meets the relevant criteria such that, in the opinion of the Applicant, it is not inappropriate development.

1.1.6 Section 4.2 of EN-1 confirms the government has concluded that, to underpin its 2050 net zero ambitions, there is a need to fully decarbonise the power system by 2035. Within the energy sector, the Government's Clean Power 2030 Action Plan includes a target that Britain's electricity demand should be met entirely by "clean" generation by 2030, with at least 95% coming from low carbon technologies. Consequently, there is a critical national priority (CNP) for the provision of nationally significant low carbon infrastructure. The CNP policy applies following the normal consideration of the need case, the impacts of the project, and the application of the mitigation hierarchy.

1.1.7 Paragraph 4.2.16 states that, as a starting point, CNP infrastructure is to be treated as if it has met any tests set out in the NPS, or any other planning policy, including the very special circumstances required by Green Belt policy. This is encapsulated at paragraph 4.2.17 in concluding that: *"This means that the Secretary of State will take as a starting point that CNP Infrastructure will meet the following, non-*

exhaustive, list of tests…where development within a Green Belt requires very special circumstances to justify development."

1.1.8 The mitigation hierarchy has been applied in the design of the Proposed Development and the approach to this is described throughout the chapters of both the ES and PS. Therefore, in accordance with the principles set out in Section 4.2 of NPS EN-1, the requirement to demonstrate very special circumstances in order to justify inappropriate development has been met, should the Secretary of State conclude that the Order Limits are not considered to lie within the grey belt.

1.1.9 Nonetheless, and irrespective of the above i.e. consideration of grey belt and CNP status, the Green Belt Assessment demonstrates that very special circumstances do exist that clearly and demonstrably outweigh the potential harm to the Green Belt by reason of inappropriateness and any other harm. The assessment considers the impact of the development on the openness and purpose of the Green Belt, the wider harm to the Green Belt and any other harm. Irrespective, consideration of whether preferential alternative non-Green Belt sites should come forward instead of the Site is provided below.

1.1.10 Much of the Site is located within Flood Zone 3a, where a sequential assessment is required to steer development to areas with the lowest risk of flooding. This requires applicants to identify and determine whether there are alternative locations for the development in lower risk areas that are reasonably available, and which can deliver the development being proposed. Consequently, in this case, Flood Risk policy places a direct requirement on the applicant to consider potentially sequentially preferable alternative sites.

1.2 Methodology

1.2.1 There is no fixed approach set by policy or guidance when it comes to undertaking an alternative site assessment, given that what may be appropriate in one situation may not be relevant in another. However, it is important that the selection of the proposed location follows a systematic and logical step by step process having regard to relevant planning, operational and environmental factors.

1.2.2 In this case there were a number of reasons why the Site was originally identified as a potential location for the development.

1.2.3 Firstly most of the Site is under the ownership of a single owner Peel NRE (Peel), who at the outset of the project were also a joint venture partner of the Applicant.

1.2.4 Secondly, a large proportion of the Site also forms part of Frodsham Wind Farm. EN-3 is supportive of solar development that is co-located with onshore wind generation to maximise the efficiency of land use (paragraph 2.10.10). In recognition of this, and the urgent need for large scale renewable infrastructure to meet the UK's energy objectives, Peel commenced work on assessing the commercial feasibility and appropriateness of developing a commercial scale solar array at the Site in 2022. The outcome of the initial feasibility work concluded that a commercial scale solar array could be developed utilising the land available and owned by Peel, and one other landowner (Frodsham Wildfowlers). The small number of landowners, one of which was originally a joint venture partner of the Applicant, made the land acquisition process straight forward when compared with a potential site under the ownership of multiple parties, which is frequently the case for large, NSIP scale, solar developments.

1.2.5 In addition to being a site that is available (i.e. undeveloped and under the ownership of few landowners that support the project); and having the co-locational benefits of being next to the existing Frodsham Wind Farm, the Site is positioned within an 'energy corridor' between the Protos Energy Park in the west and the industrial area of Runcorn in the east. This corridor along the M56 is home to some of the UKs most energy intensive companies that require large amounts of electricity to operate. Driven by fiscal, legislative and corporate objectives, many of these energy intensive operators are actively looking to decarbonise. This provides a real and tangible

opportunity to deliver a direct wire 'behind the meter' connection which can be supplied without the need for additional transmission and distribution systems.

1.2.6 For all these reasons the Site was identified as potentially an ideal opportunity for the delivery of a commercial scale solar project.

1.2.7 Connection to a substation that has sufficient available capacity is critical in delivering the significant energy infrastructure which EN-1 confirms is urgently needed (paragraph 4.11.1). Paragraph 2.10.22 states: *"The capacity of the local grid network to accept the likely output from a proposed solar farm is critical to the technical and commercial feasibility of a development proposal…the connection voltage, availability of network capacity, and the distance from the solar farm to the existing network can have a significant effect on the commercial feasibility of a development proposal."*

1.2.8 Having secured the opportunity at the Site, the Applicant needed to ensure there was the necessary infrastructure and capacity within the transmission and distribution network to accommodate the electricity generated.

1.2.9 SP Manweb (part of SP Energy Networks) is the regional electricity District Network Operator (DNO) for Merseyside, Wirral, Mid Cheshire, North Wales, Dee Valley and Mid Wales.

1.2.10 Electricity is distributed through Merseyside by a series of interconnected GSP Substations that form what is known as the Mersey Ring, and is managed by the National Grid (NG ESO). Thereafter electricity flows onto the distribution level network at lower voltages managed by SP Energy Networks (SPEN). SP Manweb's online distributed generation heat map[1] provides an indication of the potential opportunities to connect distributed generation to the SPEN Distribution Network. Substations are colour coded to determine whether operational factors are within tolerable limits and therefore opportunities exist to connect additional generation without additional network reinforcement (Green); whether at least one factor is nearing operational limits, and hence reinforcement may be required (Amber); or

[1] https://www.spenergynetworks.co.uk/pages/sp_manweb_heat_maps.aspx (Accessed October 2024)

whether at least one factor is close to operational limit, and installation of most additional generation is highly unlikely without extensive reinforcement works (Red).

1.2.11 EN-1 does not require applicants to favour one connection over another (local distribution network or National Grid), simply that applicants should liaise with either the National Grid who own and manage the transmission network, or the relevant regional DNO to secure a grid connection. In this case the SPEN connection and National Grid connection are located adjacent to each other making both options directly comparable. There are demonstrable commercial benefits of connecting to the DNO network, both in terms of initial connection cost, and ultimately improved efficiency as a result of less transmission loss during operation.

1.2.12 Four potential connection points were identified by the Applicant in proximity to the Frodsham Wind Farm; a 132kV substation located at Ince and owned by SPEN; a 33kV substation owned by Peel Grid Co at Protos; a 257kV and 400kV substation owned by National Grid Electricity Transmission (NGET) at Frodsham; and Frodsham 132kV substation owned by SPEN.

1.2.13 Review of the heat map confirmed that the Ince substation is category red (see reference above) and consequently unable to provide an appropriate point of connection without extensive reinforcement works. This was the case at the time of early project development. The Peel Grid Co connection has been developed as part of the energy hub at Protos and could be subject to constraints during high generation export levels. Peel has allocated 50MW of export capacity to the Protos EfW, and a number of other developers on the energy park are expected to be allocated further tranches of generation capacity, further limiting the capacity available.

1.2.14 At the time of early project development, the Applicant contacted SPEN to confirm whether any capacity was available at the SPEN Frodsham Substation. SPEN confirmed the 132kV SPEN Frodsham Substation had 100MW of potentially available grid capacity.

1.2.15 Consequently, the SPEN Frodsham Substation represented the only available capacity within the sub-regional area and is the only feasible option to delivering a

commercial scale solar array that would help contribute to meeting the urgent need identified within EN-1.

1.2.16 The realistic prospect to provide direct wire connections to high energy uses in close proximity also offered the opportunity to deliver increased generating capacity at the Site, whilst additional flexibility by virtue of a BESS also presented additional generating capacity potential at the Site.

1.2.17 The purpose of this ASA is to establish the potential for alternative sites or areas that could accommodate a solar array of sufficient scale to generate at least 100MW which could connect into the SPEN Frodsham Substation, and then determine the suitability of these sites or areas by appraising them against appropriate criteria, when compared to the Site.

1.2.18 The methodology applies a reasonable distance from the SPEN Frodsham Substation, beyond which, given the constraints discussed below, connection to the network at Frodsham would start to become unfeasible . This then forms the 'search area', which in the context of the sequential flood test is considered to be the catchment area for the type of development proposed[2]. The methodology then aims to exclude areas from within the search area due to them being inappropriate or demonstrably unsuitable. Having identified potentially suitable sites or 'islands' within the search area, this ASA uses a series of factors, some of which are referenced within EN-3, and some of which are additional criteria that are considered appropriate in determining a site's suitability on the basis of policy and legislative tests, in order to conclude as to whether there are any other more sequentially preferable, reasonably available, sites or areas that could deliver the Proposed Development.

[2] *Paragraph: 027 Reference ID: 7-027-20220825 Planning Practice Guidance on Flood risk and coastal change*

2.0 SEARCH FOR ALTERNATIVE SITE AREAS

2.1 The Need for Speed

2.1.1 As set out within the Planning Statement Chapter 2.0 Statement of Need, the UK has a legally binding commitment to achieve net zero greenhouse gas emissions by 2050. Furthermore, the Government's Clean Power 2030 Action Plan targets Britain's electricity demand to be met entirely by "clean" generation by 2030, with at least 95% coming from low-carbon technologies. Notwithstanding progress made in recent years, the Climate Change Committee's 2024 Progress Report confirms that the UK is not currently on track to fulfil its future carbon budgets and 2030 climate goals. It states that, to meet the 2030 targets, the annual installation rate of renewable generation capacity must roughly double for wind and quintuple for solar compared to recent rates of deployment. In 2024 the UK added approximately 1.4 GW of new solar capacity, well short of the over 4 GW per year required to meet the 2030 goals[3].

2.1.2 On the 26 February 2025 the Climate Change Committee published its recommendations to the UK Government on total greenhouse gas emissions for the Seventh Carbon Budget covering the period 2038 to 2042. The recommended target given by the Climate Change Committee's advice is to achieve an 87% reduction in UK emissions by 2040, setting the 5-year budget for 2038 – 2042 at 535 MtCO2e. Not surprisingly, direct emission reductions are still the main factor in meeting the obligations, with around 60% of the work to 2050 from electricity decarbonisation (through wind and solar, topped up by some nuclear, battery, gas CCS and/or hydrogen) plus electrification of transport, heating and industry.

2.1.3 The rapid need for significant additional renewable infrastructure is clear. The Proposed Development would contribute directly to closing the renewable capacity gap, with an installed capacity of approximately 147 MW (0.147 GW), which importantly would be delivered ahead of the 2030 target. Consequently, it is critical that the available grid capacity is utilised quickly, and that the solar array is delivered

[3] *Climate Change Committee, (2024). 2024 Progress Report to Parliament. [online] Available at: https://www.theccc.org.uk/publication/progress-in-reducing-emissions-2024-report-to-parliament/*

without delay. This urgent need is important when assessing whether alternative sites are simply theoretically alternative or truly deliverable in the relevant timescales set by legal obligations, policies, and binding budgets.

2.2 Stage 1: Establishing a Search Area Radius

Overview

2.2.1 Chapter 2.10 of the NPS EN-3 states: "*the connection voltage, availability of network capacity, and the distance from the solar farm to the existing network can have a significant effect on the commercial feasibility of a development proposal*"[4]. As the distance between a solar array and a point of connection increases, the efficiency of transmission to the grid reduces and the connection becomes more costly. A longer grid connection also increases the number of associated environmental impacts, landowners and technical constraints that exist with a solar farm proposal, further reducing commercial feasibility and increasing complexity of the development. Proximity to the point of connection to existing District Network Operator infrastructure (SPEN Frodsham Substation) is therefore a fundamental criterion in identifying alternative sites or areas that can meet the objectives of the proposed development.

2.2.2 One of the influencing factors in determining the extent of a sustainable search area is that any cable connection will need to navigate physical and environmental constraints that will increase the length of any route beyond that from which the crow flies. Therefore, a search area needs to be within the confines of that which is technically realistic, and not be so great that it starts to have a significant effect on the feasibility of the project, when measured directly point-to-point.

2.2.3 In this case, the Frodsham SPEN substation is surrounded by a series of constraints that could significantly limit the feasibility of installing a greater than typical length grid connection due to the costs associated with directional drilling and/or alternative constraint avoidance measures. To the north and east are the Mersey Estuary, River

[4] https://assets.publishing.service.gov.uk/media/65a7889996a5ec000d731aba/nps-renewable-energy-infrastructure-en3.pdf (Accessed October 2024)

Weaver and Weaver Navigation and sensitive industrial facilities. Beyond the Weaver corridor is the town of Runcorn and to the south are the towns of Frodsham and Helsby. Major linear infrastructure to the south, including the elevated M56 corridor and Chester to Manchester railway line, also represent further constraining factors that would require abnormally costly solutions to avoid.

2.2.4 A search area of 5km from the point of connection to the SPEN Frodsham Substation was set as a reasonable distance given these factors. This is consistent with similar sized solar projects across the UK, the vast majority of which are located within the open countryside and consequently are not located within an area that is so constrained by the array of natural and manmade features outlined above.

2.2.5 The Search Area Radius is shown on Figure 1 of this Appendix.

2.3 Stage 2: Search for Brownfield Land, PDL and Exclusion of Urban Areas

2.3.1 The Clean Power 2030 roadmap commits to meeting 100% of the UK's annual electricity demand with "clean" sources by 2030[5] . The policy position is clear that roof top solar is required in addition to, not instead of, widespread roll out of commercial scale CNP infrastructure. EN-1 is clear that the Secretary of State should assess all applications for CNP on the basis that the government has demonstrated that there is a need, and that need is urgent. Accordingly, locations for roof top solar are not considered further.

2.3.2 Paragraph 2.10.11 of NPS EN-3 cites how the Government's seeks[6] large scale ground-mounted solar deployment across the UK, looking for development mainly on brownfield, industrial and low and medium grade agricultural land in order to help safeguard high grade agricultural land for food production.

2.3.3 NPS EN-3 states at 2.10.29 that "*While land type should not be a predominating factor in determining the suitability of the site location applicants should, where possible, utilise suitable previously developed land, brownfield land, contaminated land and industrial land".*

2.3.4 Stage 2 considers whether brownfield or previously developed land (PDL) sites exist within the Search Area that are of a size that could feasibly meet the scheme requirements. If there are, then consideration is needed as to whether that land is, or could be made, available for the development of a commercial solar array.

2.3.5 Paragraph 2.10.17 of NPS EN-3 states that:

"Along with associated infrastructure, a solar farm requires between 2 to 4 acres for each MW of output. A typical 50MW solar farm will consist of around 100,000 to 150,000 panels and cover between 125 to 200 acres. However, this will vary significantly depending on the site, with some being larger and some being smaller.

[5] *Department for Energy Security and Net Zero, (2024). Clean Power 2030 Action Plan. [online] Available at: https://www.gov.uk/government/publications/clean-power-2030-action-plan [Accessed 8 April 2025]*
[6] https://www.gov.uk/government/publications/powering-up-britain/powering-up-britain-energy-security-plan#a-future-of-cheap-clean-and-british-energy-1 (Accessed October 2024)

This is also expected to change over time as the technology continues to evolve to become more efficient. Nevertheless, this scale of development will inevitably have impacts, particularly if sited in rural areas".

2.3.6 As set out in Section 1 above, having identified the Site as available (occupied by landowners that would be willing partners to the development) and deliverable (vacant and free from conflicting uses), the Applicant established the extent of potential grid availability, and the additional capacity that could be developed within a scheme as a result of suitable battery storage alongside realistic potential direct wire connection. This resulted in a solar scheme that could have the potential to generate 147 MW capacity. Based on the assumption above (2 to 4 acres per MW), a 147 MW solar farm (the capacity of the Proposed Development) could require between 294 and 588 acres of land, equivalent to between 119 and 238 hectares of available land. For the purposes of site identification, the smallest possible site size (119 hectares) has been applied.

2.3.7 The Planning Practice Guidance (PPG) Flood Risk and Coastal Change has regard to what may be considered a 'reasonably available' site when applying the sequential test (Paragraph 028 Reference ID:7-028-20220825), specifically; *"…those in a suitable location for the type of development with a reasonable prospect that the site is available to be developed at the point envisaged by the development. These could include a series of smaller sites and/or part of a larger site if these would be capable of accommodating the proposed development"*. Consideration of the approach towards the appropriateness of alternative sites, and specifically that of a series of smaller sites together, was had by J. Holgate in Mead Realisations Ltd and SoS LUHC [2024] EWHC 279 (Admin) ('Mead'), in which he states (judgement at paragraph 110) that: *"I note that the PPG refers to a "series of smaller sites". The word "series" connotes a relationship between sites appropriate for accommodating the type of development which the decision-maker judges should form the basis for the sequential assessment. This addresses the concern that a proposal should not automatically fail the sequential test because of the availability of multiple, disconnected sites across a local authority's area. The issue is whether they have a relationship which makes them suitable in combination to accommodate any need or demand to which the decision-maker decides to attach weight."* In the context of

a solar farm, for a series of smaller sites to have a reasonable prospect of delivering the same infrastructure capacity as that proposed and within the same timescale, they would need to have a realistic potential to be 'connected together' as a single project (have a relationship that makes them suitable in combination to work), and be within the 5km Search Radius, and be currently unoccupied.

2.3.8 Brownfield Land availability has been ascertained from Brownfield Land Registers held by Cheshire West and Chester Council and Halton Borough Council. PDL has been identified using up to date Goggle aerial imagery.

2.3.9 For the purposes of this assessment, 'available' has been taken to mean that the group of sites would be vacant (unoccupied) and is not being actively promoted / allocated through the development plan process.

Brownfield Land Registers

2.3.10 Local Authorities are required under Regulation 17 of the Town and Country Planning (Brownfield Land Register) Regulations 2017 to maintain and review a Brownfield Land Register. Both Cheshire West and Chester Council's and Halton Borough Council's most recently updated Brownfield Land Registers were issued in 2023.

2.3.11 Cheshire West and Chester Council's Brownfield Land Register details only 12 sites larger than 5 hectares, and only 5 of those are greater than 15 hectares in area. The only sites which could realistically have any potential to offer an option for a group (or 'series') of sites are the largest sites on the brownfield register. For those sites to have any reasonable prospect of delivering the same infrastructure capacity as that proposed and within the same timescale, they would need to have potential to be connected, be within the 5km Search Radius, be available for development, and be currently unoccupied. Cheshire West and Chester Council's (CWACC) Brownfield Land Register confirms that all the sites greater than 15 hectares in size are currently either subject of planning applications for residential development (one of the five), or already have planning permission secured (four of the five), and thus are highly unlikely to be available for solar development. In any event, these sites are all located beyond the 5km Search Radius. In light of the above, none of the sites listed on CWACC Brownfield Land Register were taken forward for further consideration.

2.3.12 Halton Borough Council's Brownfield Register includes only one site larger than 5 hectares. As in the case of the sites identified within CWACC, the site is located beyond the Search Radius, on the opposite side of the River Mersey Estuary and Manchester Ship Canal to the Frodsham SPEN substation. In any event, the site benefits from planning permission for residential development and is therefore highly unlikely to be available for development of a solar array project. No sites from the Halton Borough Council Brownfield Register were considered suitable, and taken forward for further consideration.

Previously Developed Land

2.3.13 A review of aerial imagery was undertaken to identify any other possible PDL with the Search Area not picked up through the Brownfield Land Register search. The visual search confirmed no unoccupied PDL areas of a sufficient size exists within the 5km Search Area. No sites were therefore taken forward for further consideration.

Exclusion of Urban Areas

2.3.14 Urban areas (taken to comprise the settlement boundaries defined by local planning policy) are heavily constrained by existing uses and are by their very nature developed. Consequently, they have been excluded from the search for alternative sites.

Stage 2 Summary

2.3.15 In summary, no Brownfield Land or PDL has been identified within the 5km Search Area of sufficient size and availability to deliver the same infrastructure as that proposed in the same timescale. It is therefore concluded that the only option to develop a solar farm within the Search Area Radius, beyond the Site, would be to develop on vacant agricultural land located to the south of the towns of Frodsham and Helsby. This area of land located within the Search Radius is entirely within the Green Belt.

2.3.16 Following the exclusion of urban areas, the remaining land within the 5km Search Area naturally divides into three Option Areas: A, B and C. These Option Areas are shown on Figure 2 (of this ASA) and described as follows:

Option Area A: spans from the bank of the River Weaver, opposite Frodsham Substation, to the extent of the Search Radius to the south-west, east of Ince. Option Area A is bound to the north-west by the Manchester Ship Canal and the south-east by the M56. To the north-east the Search Area is bound by the River Weaver.

Option Area B: borders the M56 to the north and incorporates all land outside the settlement boundaries of Frodsham and Helsby, south of the River Weaver, to the extent of the Seach Radius to the south.

Option Area C: located north of Weaver Navigation and River Weaver, extending to the edge of the Search Radius, bound to the north by the M56 and the urban area boundary of Beechwood and Preston Brook industrial area.

2.4 Stage 3: Review of Three Identified Options

2.4.1 Stage 3 of the ASA has involved a review of the three Option Areas identified above in the context of the '*Factors influencing site selection and design'* detailed in NPS EN-3 in order to identify the preferable solution with regard to those factors. This review is presented within Table 2.1. For the purpose of the appraisal, Option A has been taken as the 'reference option', given the aim of the appraisal is to ascertain whether a preferable site area to that exists within the Search Radius which could accommodate a development comprising broadly the same infrastructure capacity as that proposed.

2.4.2 For each topic area in Table 2.1, Option Areas B and C are compared against Option Area A as being either better, worse or neutral when compared to the impacts of Option A, as follows:

Significantly Less Constrained	**++**	The option would be notably or substantially less constrained than Option A.
Less Constrained	**+**	The option would have fewer constraints when compared to Option A.
Neutral	**O**	The option would not be perceptibly different than Option A.
More Constrained	**-**	The option would be somewhat more constrained than compared to Option A.
Significantly More Constrained	**--**	The option would be notably or substantially more constrained than Option A.

2.4.3 The factors influencing site selection and design detailed in EN-3 are summarised as follows:

i) Network Connection – EN-3 identifies "*The capacity of the local grid network to accept the likely output from a proposed solar farm is critical to the technical and commercial feasibility of a development proposal…the connection voltage, availability of network capacity, and the distance from the solar farm to the*

existing network can have a significant effect on the commercial feasibility of a development proposal".

ii) Proximity to Dwellings – The two main impact issues that determine distances to sensitive receptors are therefore likely to be visual amenity and glint and glare.

iii) Agricultural Land Classification - where possible solar projects should utilise previously developed land, brownfield land, contaminated land, industrial land, or agricultural land which is not 'Best and Most Versatile'.

iv) Irradiance and Topography – Irradiance is affected by surrounding topography, with an uncovered or exposed site of good elevation and favourable south-facing aspect more likely to increase year-round irradiance levels. This in turn affects the carbon emission savings and the commercial feasibility of the site.

v) Accessibility - The suitability of access routes to the proposed site for both the construction and operation of a solar farm will need to be considered.

vi) Public Rights of Way – EN-3 identifies "*Public rights of way may need to be temporarily closed or diverted to enable construction, however, applicants should keep, as far as is practicable and safe, all public rights of way that cross the proposed development site open during construction and protect users where a public right of way borders or crosses the site… Applicants are encouraged where possible to minimise the visual impacts of the development for those using existing public rights of way, considering the impacts this may have on any other visual amenities in the surrounding landscape".*

vii) Security and Lighting – EN-3 identifies that site security is a key consideration for developers, and that visual impacts to local residents and the landscape and visual impacts of such infrastructure should be considered and minimised.

2.4.4 Other considerations (including environmental constraints, shown on Figure 3) which also form part of the review as to whether a preferable site to Option Area A exists have been reviewed in Table 2.2. The Search Areas have also been identified as preferential to or neutral to Option A, as per the system described above used for the review of the EN-3 'Factors'.

2.4.5 It is recognised that no site is free of constraints to development. In undertaking this analysis of whether a preferential site area exists compared to Option Area A, influencing factors and considerations applicable to each Option Area has been

considered holistically. This requires reasonable professional judgement using proportionate and rational analysis.

Table 2.1: Review of Option Areas in Relation to the Factors Influencing Site Selection and Design Identified by NPS EN-3

Factor	Reference Option (Area A) Area located north of the M56	Option Area B Area located South of the M56, west of the River Weaver	Rating	Option Area C Area located South of the M56, east of the River Weaver	Rating
Network Connection	Grid capacity and potential feasibility to connect to the SPEN Frodsham Substation has been established for the Search Area Radius. A solar farm within this Search Area could be positioned proximate (circa. 175m) to the SPEN Frodsham Substation. Technical constraints would be limited to one watercourse crossing. There are no roads or railway lines to be crossed. Option Area A is located proximate to several large energy users, many of which are either required to reduce their carbon emissions or are doing so as part of their corporate responsibilities. This includes industry within the heavy manufacturing sector along Weston Point, and resource related uses within the Protos Energy Recovery Park. The Option Area is well located such that it could connect relatively easily into other surrounding uses through private wire.	Grid capacity and potential feasibility to connect to the SPEN Frodsham Substation has been established for the Search Area Radius. Assuming a solar farm in this Search Area would be located southeast or south west of Frodsham, a Grid Connection would need to cross at least one watercourse, the M56, the A56, railway line and several local roads, making it relatively constrained. The route options would also be limited by the SSSIs and Ancient Woodland present in the Search Area. In light of the above it would be more challenging to deliver a grid connection to this Option Area than Option Area A.	-	Grid capacity and potential feasibility to connect to the SPEN Frodsham Substation has been established for the Search Area Radius. The Grid Connection to a solar farm in this Search Area would require a minimum of one river crossing. The M56, railway line, A56 and several local roads would also need to be crossed, making it relatively constrained. It would therefore be more challenging to deliver a grid connection to this Option Area than Option Area A.	-
Proximity to Dwellings	A limited number of isolated farmhouses are located within Option Area A. Any scheme should be able to	Option Area B has several dispersed individual dwellings and farmhouses, and the dispersed villages of Newton		The village of Aston is located centrally within Option Area C and the village of	

Factor	Reference Option (Area A) Area located north of the M56	Option Area B Area located South of the M56, west of the River Weaver	Rating	Option Area C Area located South of the M56, east of the River Weaver	Rating
	be designed to mitigate any impacts. The nearest properties in number are south of the M56, in Frodsham.	and Bradley. The towns of Frodsham and Helsby are located adjacent to the Option Area.	-	Sutton Weaver is located within its north western extent. There are large areas of land which do not contain dwellings but none which are large enough to accommodate a project of this size without mitigation being required in respect of residential properties.	-
Agricultural Land Classification	Site Option Area A is predominantly identified as Grade 3 land on the provisional agricultural land classification mapping (shown on Figure 4). Natural England's separate likelihood of BMV land mapping identifies that the Search Area is evenly divided between high likelihood (at the western section) and low likelihood (at the eastern section) of BMV land. The Applicant has also undertaken an Agricultural Land Classification survey for the Site (as set out in Appendix 17-2 of ES Vol 2 Appendix 1-1: Frodsham Solar Scoping Report [EN010153/DR/6.2]) that has established the land is predominantly grade 4, with some areas of grade 3b land in the west. The	Site Option Area B contains substantial swathes of land identified as Grade 2 land on the provisional agricultural land classification, the majority of the remaining land is identified as Grade 3 land, with patches of Grade 4 aligning with the River Weaver corridor and on the outskirts of the Option Area, south of Foxhill Wood. Natural England's separate likelihood of BMV land mapping identifies the majority of the land south of the M56 to carry high likelihood of being BMV land, with the remaining areas having moderate likelihood of BMV.	-	Site Option Area C contains a large central area of Grade 2 land according to the provisional agricultural land classification, the remaining land is identified as Grade 3 land. Natural England's separate likelihood of BMV land mapping also identifies Site Option Area C as containing a large central area of land with high likelihood of being BMV land. The land around that central area, to the extents of the Option Area are identified as having moderate likelihood of BMV.	-

Factor	Reference Option (Area A) Area located north of the M56	Option Area B Area located South of the M56, west of the River Weaver	Rating	Option Area C Area located South of the M56, east of the River Weaver	Rating
	Site is therefore not best and most versatile agricultural land.				
Irradiance and Topography	Irradiance levels of a site can vary according to a number of geographic and climatic factors at a regional level. The difference in irradiance levels between Option Areas A to C would be negligible. As shown on Figure 6, the topography of Option Area A is flat and exposed such that it is suitable for a commercial solar farm.	Irradiance levels of a site can vary according to a number of geographic and climatic factors at a regional level. The difference in irradiance levels between Option Areas A to C would be negligible. However, as shown on Figure 6, Option Area B features undulating landform to the south of Frodsham, with north and east facing slopes. The influence of topography would make Search Area B less suitable than Search Area A.	-	Irradiance levels of a site can vary according to a number of geographic and climatic factors at a regional level. The difference in irradiance levels between Option Areas A to C would be negligible. As shown on Figure 6, Option Area C features broadly flat landform to the south of Frodsham. The topography of Option Area C is considered neither more or less suitable than Option Area A.	O
Accessibility	Option Area A has access available from the M56, Grinsome Road (a private road), Marsh Lane and farm tracks serving Frodsham Wind Farm. It is possible to route HGV traffic to easily avoid the villages of Frodsham, Ince and Elton.	Option Area B could be accessed from the M56, with routes possible through Helsby or Frodsham. However, to get to an area potentially suitable for solar farm development, access would be required along local narrow roads that are likely unsuitable or highly constrained for HGV traffic. This would inevitably cause disruption to local villages and local traffic that utilises this part of the road network.	-	Option Area C could be accessed from the M56 via the Beechwood Junction (Junction 12). Aston Lane, which provides the most direct route into Area C from the north, is marked as 'Unsuitable for HGVs'. There is an alternative route from the north via the Whitehouse Industrial Estate and Aston Heath. Whilst access appears to be possible, potentially with some minor improvements / traffic management, the accessibility into Aprea C is constrained to	-

Factor	Reference Option (Area A) Area located north of the M56	Option Area B Area located South of the M56, west of the River Weaver	Rating	Option Area C Area located South of the M56, east of the River Weaver	Rating
		The topography and field pattern would allow temporary construction access to be provided if required, however construction of such routes would likely give rise to disruption to rural businesses and local residents during the construction phase.		a degree and is less preferential than Area A.	
Public Rights of Way	Option Area A contains a number of PRoWs. The PRoWs are a mix of Restricted Byways and Footpaths. The PRoWs that are present in this Search Area are located in close proximity to industrial development and some are adjacent to Frodsham Wind Farm. The Landscape and Visual Amenity Chapter of the PEIR recognises that users of the PRoWs experience contrasts between enclosure and exposure across the landscape. Mitigation would be developed in recognition of these contrasting experiential qualities.	Many PRoWs cross Option Area B creating a relatively dense network of routes. The landform is generally undulating with both distant and close views. The PRoW network is well connected to residential areas of Frodsham and Helsby, and it is likely that the footpath network is well used due to the proximity to residential development and the consequential linkages that are formed. The majority of PRoWs in this area are Footpaths which follow field boundaries and areas of woodland.	**O**	The PRoW network within Option Area C is less dense (not as many located in close proximity to each other) than that within Search Area B, but more dense than Area A. It remains likely that the footpath network is well used due to the proximity to residential development and the consequential linkages that are formed It is predominantly formed of Footpaths with some Restricted Byways located east of Aston.	**O**
	The relevant paragraphs of NPS EN-3 (2.10.46 to 2.10.48) that refer to security and lighting relate to the ability to incorporate such measures as part of site masterplanning, and that such	Refer to Option Area A.		Refer to Option Area A.	

Factor	Reference Option (Area A) Area located north of the M56	Option Area B Area located South of the M56, west of the River Weaver	Rating	Option Area C Area located South of the M56, east of the River Weaver	Rating
Security and Lighting	measures should be assessed for their landscape and visual impact. It is considered that appropriate security and lighting measures could be incorporated into the layout for a possible solar farm in any of Option Areas A, B or C, and therefore this is not a differentiating factor for selecting the most suitable Option Area.		**O**		**O**

Table 2.2: Review of Search Areas in Relation to Other Considerations Which Could Affect Whether Other Areas Are Preferential

Consideration	Reference Option (Area A) Area located north of the M56	Option Area B Area located South of the M56, west of the River Weaver	Rating	Option Area C Area located South of the M56, east of the River Weaver	Rating
Ecological Designations	The southern fringe of the Mersey Estuary Site of Special Scientific Interest (SSSI) is located within the northern extent of Option Area A. The Site is located in close proximity to the Mersey Estuary SPA and Ramsar Site.	Option Area B includes 3no. SSSIs all designated for their woodland and plant species. These sites are sporadically distributed across the Option Area, as opposed to being concentrated in a particular part of it. Given the reasons for the designation of the SSSI features, a large solar farm development could be accommodated within this Option Area without affecting these SSSIs.	++	Option Area C contains 1no. SSSI located at its south eastern extent, designated for their woodland and plant species. The Search Area includes a large enough area of land to accommodate a solar farm without interacting with this feature.	++
Statutorily Designated Cultural Heritage Assets	Option Area A does not include any Statutorily Designated Cultural Heritage Assets.	Option Area B includes multiple listed buildings (over 10 Grade II Listed Buildings) and 3no. Scheduled Monuments. A Registered Park and Garden is located on the outskirts of Frodsham, within the urban area. The presence of so many heritage assets across the Option Area makes it likely that the setting of heritage assets would form a constraint to development.	-	Option Area C includes multiple listed buildings (over 15 Grade II Listed Buildings) and 3no. Scheduled Monuments. The presence of so many heritage assets across the Option Area makes it likely that the setting of heritage assets would form a constraint to development.	-
Landscape Designations	The Option A Area is not located within any statutory or non-statutory landscape designation.	A large area within this Option Area directly to the south of Frodsham and land beyond to the north and west is subject of the 'Helsby and Frodsham Hills Area of Special County Value' defined by the '*Local Landscape Designations: Areas of Special*	-	The south western half of the Option Area is identified as part of the 'Weaver Valley Area of Special County Value' defined by the '*Local Landscape Designations: Areas of Special County Value in Cheshire*	-

Consideration	Reference Option (Area A) Area located north of the M56	Option Area B Area located South of the M56, west of the River Weaver	Rating	Option Area C Area located South of the M56, east of the River Weaver	Rating
		County Value in Cheshire West and Chester' document produced by CWACC in 2017 and protected by Policy GBC2 of the *Local Plan Part Two*. This designation is shown on Figure 5. It is noted within the LVIA (PEIR Volume 1 Chapter 6.0) that in 2021 the Cheshire Sandstone Ridge was shortlisted for potential designation as an AONB (now referred to as a National Landscape). It is considered likely that the extent of the National Landscape would be influenced by the aforementioned local landscape designation, As such much of Area B may become designated as a National Landscape.		*West and Chester'* document produced by CWACC in 2017 and protected by Policy GBC2 of the *Local Plan Part Two*. This designation is shown on Figure 5.	
Landscape Sensitivity	The CWACC '*Landscape Sensitivity Study and Guidance on Wind and Solar Photovoltaic Developments*' document (March 2016) identifies the sensitivity of each different landscape character area (LCA) to solar energy development. Option Area A is located within CWaCC LCA 4a, which is identified as having an overall high sensitivity to a 'very large solar farm'. However, the Sensitivity	The Option B Area would extend over LCAs 2a, 2b, 3a, 5b and 5f. Each of these are identified as having high sensitivity to 'very large' and 'large' solar farms. All bar LCA 5f also have a high sensitivity to 'medium' solar farms.	--	The Option C Area would extend over LCAs 8a and 15c. Both of these are	--

Consideration	Reference Option (Area A) Area located north of the M56	Option Area B Area located South of the M56, west of the River Weaver	Rating	Option Area C Area located South of the M56, east of the River Weaver	Rating
	Study identifies that *every* LCA within the CWaCC area has a high sensitivity to a 'very large solar farm'. The majority of the LCAs are also identified as having a high sensitivity to a 'large solar farm' (area 15-25 hectares). LCA 4a is one of the few LCAs that are identified as being less sensitive to a 'large solar farm'. Similarly, for smaller development typologies ('medium', 'small', and 'very small'), LCA 4a is identified as one the least sensitive LCAs. This strongly implies that LCA 4a is in relative terms less sensitive to solar energy development than other parts of the CWaCC area.			identified as having high sensitivity to 'very large', 'large', and 'medium' solar farms.	
Number of Landowners	The majority of the Option Area A is under the ownership of two large landowners (Peel NRE and Frodsham Wildfowlers). A short cable connection would be required from the solar array to the Frodsham SPEN substation. This would only involve two additional landowners. .	Option Area B represents a diverse area with a highly fragmented field pattern and numerous dispersed properties. It is likely that compiling a land parcel sufficient to develop a commercial scale solar array would require many different landowners and potentially complicated compulsory acquisition if required. The solar array would require a lengthy grid connection to the Frodsham SPEN that would avoid or	--	Beyond the village of Aston, Option Area C contains fewer dispersed properties. The field sizes are relatively large compared to Option Area B. It is therefore reasonable to assume that it would involve fewer landowners than Option Area B. Nonetheless it is likely that any area of sufficient size to accommodate a large solar farm would be subject of many	--

Consideration	Reference Option (Area A) Area located north of the M56	Option Area B Area located South of the M56, west of the River Weaver	Rating	Option Area C Area located South of the M56, east of the River Weaver	Rating
		circumnavigate Frodsham, the M56 corridor, railway line and river Weaver. This would need to be either above or below ground (or in part both) and would affect numerous landowners either temporarily or permanently.		landowners and potential compulsory acquisition if required. The solar array would require a lengthy grid connection to the Frodsham SPEN that would avoid Frodsham, the M56 corridor, railway line and river Weaver. This would need to be either above or below ground (or in part both) and would affect numerous landowners either temporarily or permanently.	
Flood Risk	A large part of the Option Area is in Flood Zone 3, with the rest in Flood Zone 1. Flood risk would be a consideration at master planning stage, and the sequential and exception tests would need to be met.	The majority of the Search Area is In Flood Zone 1.	**+**	The majority of the Search Area in in Flood Zone 1.	**+**
Green Belt	An assessment of the Green Belt in the context of the Order Limits is provided at Appendix A of the Planning Statement. The entirety of the Option Area is located within Green Belt. The Option Area accommodates Frodsham Wind Farm (125m to blade tip), 132kv (25m) and 400kv (50m) electricity pylons and is adjacent to the elevated M56 corridor. To the northeast of the Option Area is the heavily industrialised area of	The entirety of the Option Area is located within Green Belt. The Option Area comprises primarily agricultural fields surrounding the towns of Frodsham and Helsby. The fields are highly fragmented (compared to Option Area C). Several farmhouses and buildings exist through the Area. There are also several belts of mature and established woodland. Many local roads pass through the Option Area.	**--**	The entirety of the Option Area is located within Green Belt. The Option Area is formed of agricultural fields and sparsely located residential properties and farm buildings. There are also several parcels of woodland. The village of Aston is located centrally within the Option Area.	**--**

Consideration	Reference Option (Area A) Area located north of the M56	Option Area B Area located South of the M56, west of the River Weaver	Rating	Option Area C Area located South of the M56, east of the River Weaver	Rating
	Runcorn. Paragraph 5.11.2 of EN-1 confirms that *"the fundamental aim of Green Belt policy is to prevent urban sprawl by keeping land permanently open; the essential characteristics of Green Belts are their openness and permanence".* ***Openness*** EN-1 paragraph 5.11.2 states that the fundamental aim of Green Belt is to prevent urban sprawl by keeping land permanently open. This is consistent with Government policy within paragraph 142 of the NPPF which confirms that the Government attaches great importance to Green Belts, and that the essential characteristics of them are their openness and permanence. Assessing the impact of a proposal on the openness of the Green Belt requires a judgement based on the circumstances of the case. The courts have identified several matters which may need to be considered in making	***Openness and Permanence*** See summary as to the importance of openness and permanence to the Green Belt, and the factors taken into account when considering the impact of development on openness (including permanence) under the assessment of Option Area A. EN-1 states that: "*the fundamental aim of Green Belt policy is to prevent urban sprawl by keeping land permanently open; the essential characteristics of Green Belts are their openness and permanence"*. With regard to the impact on spatial or physical openness, a solar farm within Option Area B would cause some, harm. The physical aspects of the development would be generally low-lying and limited compared to other types of built development. It would be limited in terms of its duration and would be reversable. The degree of activity post construction would also be limited. The Green Belt south of Frodsham is largely undeveloped and unspoilt by development, as would be the case across Option Area C.		***Openness and Permanence*** See summary as to the importance of openness and permanence to the Green Belt, and the factors taken into account when considering the impact of development on openness (including permanence) under the assessment of Option Area A. EN-1 states that: *"the fundamental aim of Green Belt policy is to prevent urban sprawl by keeping land permanently open; the essential characteristics of Green Belts are their openness and permanence."* With regard to the impact on spatial or physical openness, a solar farm Within Option Area C would cause some harm. The physical aspects of the development would be generally low-lying and limited when compared to other types of built development. It would be limited in terms of its duration and would be reversable. The degree of activity post construction would also be limited. The Greenbelt to the south of Runcorn and Preston	

Consideration	Reference Option (Area A) Area located north of the M56	Option Area B Area located South of the M56, west of the River Weaver	Rating	Option Area C Area located South of the M56, east of the River Weaver	Rating
	this assessment. These include (amongst other things): - Openness can have both spatial and visual aspects – in other words, the visual impact of the proposal may be relevant, as could its volume. - The duration of the development and its remediability (i.e. its ability to return to its previous state or condition) taking into account any provisions to return land to its original state or to an equivalent (or improved) state of openness. - The degree of activity likely to be generated, such as traffic generation. The PPG clarifies what factors can be taken into account when considering the potential impact of development on the openness of the Green Belt (Paragraph 13 Reference ID 64-013-20250225). These include, but are not limited to:	In terms of the perceived openness (how the presence of the development would alter the overall perception of openness within the Green Belt) of Option Area B, much of the Option Area lies along a prominent ridge that is currently free from major development (occupied by sporadic farm buildings). The topography within this Option Area allows views towards large parts of the site across it The landscape is very rural in character (field pattern broken by hedgerows and trees). The introduction of new built development with a large footprint is likely to negatively affect the perception of openness, more so than Option Area A where the perceived openness is already largely affected by the presence of large industrial and energy related development. ***Purposes of the Green Belt*** The recently updated Planning Practice Guidance (PPG) provides specific guidance as to considering the question of the		Brook is largely undeveloped and unspoilt by development, made up mainly of large arable field patterns and established woodland (Beckets Wood, Birds Wood, Blackamoor Wood etc). In terms of the perceived openness (how the presence of the development would alter the overall perception of openness within the Green Belt) of Option Area C, the Area is largely very open and rural dominated by woodland, rural villages, arable fields and low hedgerows. Distant views across the Green Belt are available from the ridge north side of the Weaver Valley in all directions. The Weaver Valley itself is overlooked by higher ground to the north and south and any development located in the valley would be very apparent from these areas, with limited scope for effective mitigation. The landscape is strongly rural and free from large-scale industrial development. The introduction of new built development	

Consideration	Reference Option (Area A) Area located north of the M56	Option Area B Area located South of the M56, west of the River Weaver	Rating	Option Area C Area located South of the M56, east of the River Weaver	Rating
	- Spatial or physical aspects. - Degree of perceived openness. - Duration of development and remediability. - Degree of activity likely to be generated. Perceived (or the perception of) openness) goes beyond solely that of spatial and physical openness and reflects the wider visual setting which would change following the introduction of the Proposed Development. The extent to which the Green Belt is already developed can influence the harm that additional inappropriate development would have on openness. With regard to *spatial or physical* openness (the concept that openness relates to the absence of buildings), a solar farm would cause some degree of harm on the basis that it would result in development on a largely undeveloped site. The majority of the site would remain in agricultural use through the	contribution that land makes to the relevant Green Belt purposes (in respect of those purposes that are required for consideration of whether sites represent grey belt land), and consequently how each should be assessed. *(a) to check the unrestricted sprawl of large built-up areas:* The PPG (Paragraph 005 Reference ID: 64-004-20250225) confirms that areas that make strong contribution are: *"likely to be free of existing development and lack physical feature(s) in reasonable proximity that could restrict and contain development. They are also likely to include all of the following: be adjacent or near to large built up areas; if developed result in an incongruous pattern of development (such as extended finger of development into the Green Belt)."* Frodsham is located to the north of the Option Area and is not constrained by any physical barriers such as the M56 or River Weaver that prevents urban growth into the Green Belt.. Field pattern in this part of the Green Belt is undulating and inconsistent. Boundaries are made up predominantly of managed hedgerow and large hedgerow		with a large footprint, is likely to negatively affect the perception of openness, more so than Option Area A where the perceived openness is already impacted by the presence of large industrial development. ***Purposes of the Green Belt*** The recently updated Planning Practice Guidance (PPG) provides specific guidance as to considering the question of the contribution that land makes to the relevant Green Belt purposes (in respect of those purposes that are required for consideration of whether sites represent grey belt land), and consequently how each should be assessed. *a) to check the unrestricted sprawl of large built-up areas;* Whilst the M56 forms something of a barrier between the urban area of Runcorn and increased development south into the Green Belt, the Whitehouse Industrial Estate south of Preston Brook, and the Ashfield Industrial Estate south of	

Consideration	Reference Option (Area A) Area located north of the M56	Option Area B Area located South of the M56, west of the River Weaver	Rating	Option Area C Area located South of the M56, east of the River Weaver	Rating
	continued grazing of sheep around and under the solar panels. The solar panels and associated infrastructure would be relatively low-lying in the most part following the contours of the existing land, and would therefore not introduce large, incongruous built form when viewed from, too, and across the Green Belt. Given the nature of solar development (once constructed there is limited change or physical activity across the Site), there would be very limited harm to the openness of Green Belt at any of the Option Areas as a result of *activity* generated by the development. In terms of the *perceived* openness (how the presence of the development would alter the overall perception of openness within the Green Belt) of Option Area A, long views are available from and towards the Site. However, the Green Belt in this area is already partly developed. The Site is set against a series of abnormally large structures in relative close proximity to the Proposed Development. This includes the	trees, and the area is very rural in characteristic. Large commercial solar proposal in this location is likely to appear as an incongruous 'finger' of development into the Green Belt. It is the restriction on development that is imposed by Green Belt policy that helps prevent continuous unrestricted growth of Frodsham into the Green Belt. The Green Belt in this Area is judged to be fulfilling the purpose unlike that within Area A. *b) to prevent neighbouring towns merging into one another;* The PPG states (Paragraph 005 Reference ID: 64-004-20250225) that areas that make a weak or no contribution to this purpose are those that: *"…do not form part of a gap between towns; or form part of a gap between towns, but only a small part of this gap, without making a contribution to visual separation."* The nearest town in Frodsham directly to the north, however there are no large towns to the south that the Green Belt prevents from merging together with Frodsham. Consequently, the Green Belt is not serving this purpose in this location.		Runcorn have both encroached south of the M56. This means that it is only the function of the Green Belt in this location that is acting to check the unrestricted sprawl of Runcorn south into the open countryside. The PPG (Paragraph 005 Reference ID: 64-004-20250225) confirms that areas that make strong contribution are: *"likely to be free of existing development and lack physical feature(s) in reasonable proximity that could restrict and contain development. They are also likely to include all of the following: be adjacent or near to large built up areas; if developed result in an incongruous pattern of development (such as extended finger of development into the Green Belt)."* The Green Belt within Option C is strongly contributing to purpose (a). *b) to prevent neighbouring towns merging into one another;* The nearest town in Runcorn directly to the north. The River Weaver acts as a natural barrier, preventing Runcorn form connecting with Frodsham to the west.	

Consideration	Reference Option (Area A) Area located north of the M56	Option Area B Area located South of the M56, west of the River Weaver	Rating	Option Area C Area located South of the M56, east of the River Weaver	Rating
	Frodsham Wind Farm, elevated M56 corridor, railway line, 132 and 400kv pylon structures and elevated cables. In the middle-ground, the view is dominated by the industrial skyline of Runcorn to the east and Ince and Stanlow to the west. The marshland landscape of the Option Area is large scale and retains a generally open character despite the presence of the aforementioned development in views across it. ***Permanence*** The duration of the Proposed Development is long-term, 40 years, but it is not permanent. Further, there is a commitment to decommissioning the Proposed Development at the end of its operational life, such that it is reversible with the Site returning to its previous state of spatial openness at the end of the project life. During their operational life, solar farms are static and do not generate the material level of activity which might attract the eye and contribute towards a diminution of visual	*c) to assist in safeguarding the countryside from encroachment;* The Green Belt exists in part to form a green lung around large towns and cities so that urban areas do not sprawl indefinitely, and the benefits of living, working and relaxing within the open countryside can be enjoyed more easily and sustainably. The presence of Green Belt in this Option Area undeniably functions as a barrier to the town of Frodsham encroaching into the Cheshire countryside to the south. Consequently, it serves this Green Belt purpose well in this Area. *d) to preserve the setting and special character of historic towns;* The PPG states (Paragraph 005 Reference ID: 64-004-20250225) that areas that make a Moderate Contribution; *"…are likely to form part of the setting and/or contribute to the special character of a historic town but include one or more features that weaken their contribution such as: being separated to some extent from historic aspects of the town by topography or development;…not having an important visual, physical or experimental relationship to the historic*		There are no towns to the south. Consequently, the Green Belt is not serving this purpose in this location. *c) to assist in safeguarding the countryside from encroachment;* The Green Belt exists in part to form a green lung around large towns and cities so that urban areas do not sprawl indefinitely, and the benefits of living, working and relaxing within the open countryside can be enjoyed more easily and sustainably. The presence of the Green Belt in this Option Area acts as a barrier to safeguard the countryside from encroachment from the villages of Aston and Sutton Weaver (washed over by Green Belt) and Runcorn to the north. *d) to preserve the setting and special character of historic towns;* There are no historic towns within the Option Area, the setting of which the Green Belt serves to protect. *e) to assist in urban regeneration, by encouraging the recycling of derelict and*	

Consideration	Reference Option (Area A) Area located north of the M56	Option Area B Area located South of the M56, west of the River Weaver	Rating	Option Area C Area located South of the M56, east of the River Weaver	Rating
	/ perceived openness, that would typically be experienced with other built development that has high number of servicing vehicles (e.g. industry or commercial uses), or a high number of pedestrian footfall (e.g. residential or retail). ***Purposes of the Green Belt*** The recently updated Planning Practice Guidance (PPG) provides specific guidance as to considering the question of the contribution that land makes to the relevant Green Belt purposes (in respect of those purposes that are required for consideration of whether sites represent grey belt land), and consequently how each should be assessed.[7] *(a) to check the unrestricted sprawl of large built-up areas:*. The PPG (Paragraph 005 Reference ID: 64-004-20250225) confirms that areas that make only a weak or no contribution to	*aspect of the town."* In this case, the relationship with the rural area to the south of the town, and the town itself is such that it is judged to make a moderate contribution to the purpose of the Green Belt. The Option Area is directly adjacent and consequently linked without barrier to the southern part of the town where there exist several historical assets, albeit the location of a facility within the Option Area could be such that its impact on any asset may be limited. *e) to assist in urban regeneration, by encouraging the recycling of derelict and other urban land.* This purpose is intended to direct development away from the open countryside and towards derelict and other urban land, thereby assisting with the recycling and reuse of abandoned sites within the built-up area, and urban regeneration. The role that this part of the Green Belt plays in helping to achieve this purpose is only relevant when development		*other urban land.* This purpose is intended to direct development away from the open countryside and towards derelict and other urban land, thereby assisting with the recycling and reuse of abandoned sites within the built-up area, and urban regeneration. The role that this part of the Green Belt plays in helping to achieve this purpose is only relevant when development is proposed that could otherwise be directed to urban areas. ***Option Area C Green Belt Review Conclusion*** The Government attaches great importance to Green Belts, and the essential characteristics of them are their openness and permanence. The openness and the purposes of including land within them are interrelated. Regarding the spatial or	

[7] *Note: For the purposes of this Assessment of Alternative Sites grey belt tests have not been engaged*

Consideration	Reference Option (Area A) Area located north of the M56	Option Area B Area located South of the M56, west of the River Weaver	Rating	Option Area C Area located South of the M56, east of the River Weaver	Rating
	the Green Belt, are likely to include those that: *"are adjacent to or near to a large built-up area but containing or being largely enclosed by significant existing development."* The large built-up area of Runcorn is not restricted by virtue of the Green Belt, rather it is constrained from further growth by the physical restriction of the river corridor and the Weaver Navigation. The urban areas of Frodsham are constrained by the presence of the M56 corridor. It is concluded that on this basis, this part of the Green Belt does not contribute to checking the unrestricted sprawl of large built-up areas. *(b) to prevent neighbouring towns merging into one another:* The PPG states (Paragraph 005 Reference ID: 64-004-20250225) that areas that make a weak or no contribution to this purpose are those that: *"…do not form part of a gap between towns; or form part of a gap between towns, but only a small part of this gap, without making a contribution to visual separation."* The nearest towns are Runcorn and Frodsham. Physical	is proposed that could otherwise be directed to urban areas. ***Option Area B Green Belt Review Conclusion*** The Government attaches great importance to Green Belts, and the essential characteristics of them are their openness and permanence. The openness and the purposes of including land within them are interrelated. Regarding the spatial or physical openness (spatial and physical volume, duration and remediability, likely degree of activity generated), a solar farm would cause some degree of harm. This would be limited when compared to other forms of built development (due to the low-profile nature of the development, the temporary duration in which it would be in place and its reversibility, and the limited activity post construction). This would be largely similar irrespective of which Option is taken forward. In terms of perceived openness, this Option Area is free from built-up-development (only that considered typical of rural areas exists i.e. farmhouses and rural hamlets etc). The Option Area is		physical openness (spatial and physical volume, duration and remediability, likely degree of activity generated), a solar farm would cause some degree of harm. This would be limited when compared to other forms of built development (due to the low-profile nature of the development, the temporary duration in which it would be in place and its reversibility, and the limited activity post construction). This would be largely similar irrespective of which Option is taken forward. In terms of perceived openness, this Option Area is generally free from built-up-development (only that considered typical of rural areas exists i.e. farmhouses and rural hamlets etc). The Option Area is truly rural in character and any new development would appear unique and out of context with the arable field pattern and rural activities. This Option Area contains Green Belt which is meeting most of the purposes	

Consideration	Reference Option (Area A) Area located north of the M56	Option Area B Area located South of the M56, west of the River Weaver	Rating	Option Area C Area located South of the M56, east of the River Weaver	Rating
	barriers (M56, Rivers Mersey and Weaver) and not the Green Belt prevent these towns from merging. The Green Belt in this location is not therefore serving the second purpose. *(c) to assist in safeguarding the countryside from encroachment:* The Green Belt exists in part to form a green lung around large towns and cities so that urban areas do not sprawl indefinitely, and the benefits of living, working and relaxing within the open countryside can be enjoyed more easily and sustainably. This area of the countryside is not undeveloped and unspoilt. Whilst the Green Belt in this location may help in part to safeguarding the countryside from further encroachment, the reality is that it is very much encroached already by a wide variety of built structures. It is already encroached by a large wind farm, major electricity pylons, the elevated M56 corridor. The Green Belt in this area is considered to be contributing moderately at best to this purpose, and the existence of the Proposed Development	rural in character. Paragraph 187 of the NPPF recognises that planning decisions should protect and enhance valued landscape and recognise the intrinsic character and beauty of the countryside. Any new development would appear unique and out of context with the arable field pattern and rural activities. This Option Area contains Green Belt which is meeting most of the purposes of its designation preventing the town of Frodsham from encroaching into the countryside to the south. In accordance with paragraph 5.11.2 of EN-1 the fundamental aim of the Green Belt is to prevent urban sprawl by keeping land permanently open, their essential characteristics being their openness and permanence. Option Area B better serves the purposes of including land within the Green Belt, than does Area A given the existence of built development within Option Area A, the topography of the area, and the fact that natural and man-made features prevent the sprawl and encroachment into and across the Green Belt, as opposed to the designation itself.		of the Green Belt, preventing the town of Frodsham from encroaching into the countryside to the south unchecked. In accordance with paragraph 5.11.2 of EN-1 the fundamental aim of the Green Belt is to prevent urban sprawl by keeping land permanently open, their essential characteristics being their openness and permanence. Option Area C better serves the purposes of including land within the Green Belt, than does Option Area A given the existence of built development within Option Area A, the topography of the area, and the fact that natural and man-made features prevent the sprawl and encroachment into and across the Green Belt as opposed to the designation itself. The result of development within Option Area B (other than traditional rural-scale structures) would appear incongruous and out of keeping, contrary to that in Area A. It would also conflict with the purposes of the Green Belt, which the Green Belt serves well within Option B	

Consideration	Reference Option (Area A) Area located north of the M56	Option Area B Area located South of the M56, west of the River Weaver	Rating	Option Area C Area located South of the M56, east of the River Weaver	Rating
	would result in only limited conflict with the third purpose. . *(d) to preserve the setting and special character of historic towns:* The PPG states (Paragraph 005 Reference ID: 64-004-20250225) that areas that make a weak or no contribution to this purpose are those that: *"…do not form part of the setting of a historic town [or] have no visual, physical or experimental connection to the historic aspect of the town."* The town of Frodsham is located to the south of the Site, beyond the M56. It contains several historic assets (listed buildings, registered parks and gardens, and conservation areas) along with archaeological sites and locally important buildings. The setting and special character of the historic town is not reliant upon an unspoilt and open views across the Mersey Estuary, and the area of the Green Belt occupied by the Site is not considered to be contributing to this purpose. Consequently, the existence of the Proposed Development would not	The result of development within Option Area B (other than traditional rural-scale structures) would appear incongruous and out of keeping, contrary to that in Area A. It would also conflict with the purposes of the Green Belt, which the Green Belt serves well within Option B. .			

Consideration	Reference Option (Area A) Area located north of the M56	Option Area B Area located South of the M56, west of the River Weaver	Rating	Option Area C Area located South of the M56, east of the River Weaver	Rating
	conflict with the purposes of the Green Belt in this location. *(e) to assist in urban regeneration, by encouraging the recycling of derelict and other urban land:* This purpose is intended to direct development away from the open countryside and towards derelict and other urban land, thereby assisting with the recycling and reuse of abandoned sites within the built-up area, and urban regeneration. The role that this part of the Green Belt plays in helping to achieve this purpose is only relevant when development is proposed that could otherwise be directed to urban areas. ***Option Area A Green Belt Review Conclusion*** The Government attaches great importance to Green Belts, and the essential characteristics of them are their openness and permanence. The openness and the purposes of including land within them are interrelated. Regarding the spatial or physical openness (spatial and physical volume,				

Consideration	Reference Option (Area A) Area located north of the M56	Option Area B Area located South of the M56, west of the River Weaver	Rating	Option Area C Area located South of the M56, east of the River Weaver	Rating
	duration and remediability, likely degree of activity generated), a solar farm would cause some degree of harm. This would be limited when compared to other forms of built development (due to the low-profile nature of the development, the temporary duration in which it would be in place and its reversibility, and the limited activity post construction). This would also be largely similar irrespective of which Option is taken forward. In terms of perceived openness, the Green Belt at Option Area A is already partly developed by abnormally large structures which would limit the perception of the solar farm adversely impacting on the openness of the Green Belt in this location.. This Option Area contains Green Belt which is not meeting all the purposes of its designation. Green Belt in Option Areas B and C is concluded to be higher functioning when considered against the purposes of the Green Belt, and the impact on the perceived openness of the Green Belt..				

Summary of Review Table 2.1 and 2.2

2.4.6 Table 2.1 considers the Option Areas in relation to the factors influencing site selection and design identified within NPS EN-3. Table 2.2 considers further environmental considerations in addition to those in Table 2.1 that are considered appropriate criteria against which to consider the suitability of sites or areas. Together these form the appraisal criteria used to determine whether a better site to Option A exists that could be developed as a preferable alternative option. The appraisal concludes that in almost all criteria Option A is preferable to Option B and C.

2.4.7 Option A scored negatively (i.e. is more constrained) when compared to the alternatives in respect of:

i) proximity to ecological designations (significantly more constrained); and
ii) location partly within higher-risk flood area (more constrained).

2.4.8 Option A scored positively (i.e. is less constrained) when compared to the alternatives in respect of:

i) network connection (less constrained);
ii) proximity to dwellings (less constrained);
iii) agricultural land classification (less constrained);
iv) irradiance and topography (less constrained / neutral);
v) accessibility (less constrained);
vi) designated cultural heritage (less constrained);
vii) landscape designations (less constrained);
viii) landscape sensitivity (significantly less constrained);
ix) number of landowners (significantly less constrained); and
x) Green Belt (significantly less constrained).

2.4.9 Only with regard to ecological designations (due to the proximity of Option A to the adjacent SSSI and SPA) and flood risk (because Option A is part in Flood Zone 3a) does Option A fail to perform as the superior option. Most of the assessment criteria

in which Option B and C perform as the inferior option render the respective area as less preferential from a land-use planning perspective. These factors would in all likelihood mean that the scale/capacity of development that could be brought forward for consent would need to be reduced when compared to that which would be acceptable at Area A (e.g. landscape impact, agricultural land impacts, proximity to dwellings etc); and/or it would delay the timescale for infrastructure to be brought forward (e.g. accessibility, number of landowners etc.). Collectively this would significantly reduce the possibility of Areas B and C to offer a *"…realistic prospect of the alternative delivering the same infrastructure capacity in the same timescale …"* [EN-1 paragraph 4.3.22]

2.4.10 Both Area B and Area C are predominantly made up of several small non-uniform arable fields and irregular woodlands under multiple ownerships. In the event that a series of smaller sites were to be considered for development within Area B or C, which collectively could potentially be brought forward as an alternative solution to the Proposed Development within Area A, the same conclusions would occur in respect of how comparatively constrained the potential alternative would be. As is the case above, an alternative within Area B or C made up of a number of separate smaller sites, would not offer a realistic prospect of delivering the same infrastructure capacity in the same timescale.

2.4.11 As set out above, EN-1 paragraph 4.2.4 states that there is a critical national priority for the provision of nationally significant low carbon infrastructure. The CNP policy is explained at paragraph 4.2.15 in that: *"where residual non-HRA…impacts remain after the mitigation hierarchy has been applied, these residual impacts are unlikely to outweigh the urgent need…Therefore, in all but the most exceptional circumstances, it is unlikely that consent will be refused on the basis of these residual impacts."*

2.4.12 With regard to the impact on the adjoining ecological designations, the mitigation hierarchy has been applied (avoid, reduce, mitigate, compensate) to protect the environment and biodiversity. **ES Vol 1 Chapter 8: Ornithology [EN010153/DR/6.1]**concludes that this process has not only resulted in the avoidance of significant effects but has ensured that, through the application of good design, the proposed development would provide significant benefits overall in

relation to the integrity of the SPA. Consequently, whilst Option Area A is adjudged as less preferential than B and C in respect of ecology because of the direct proximity to the designated assets within the Mersey Estuary, through the implementation of the mitigation hierarchy, it would in fact provide significant ecological benefits.

2.4.13 With regard to flood risk, a Sequential Assessment and Exception Test have been provided at Section 2.4 below.

2.4.14 The negative elements identified are appropriately mitigated, by delivering net biodiversity benefit in terms of ecology, and justification through good design in terms of the flood risk exception test, such that the magnitude of the negative elements identified, is clearly outweighed when considered against the positive elements identified.

2.4.15 Overall analysis presented above shows that Option Area A is preferable to the only other areas identified that *could* potentially deliver the CNP infrastructure urgently needed to help achieve the energy objectives, ensure national security and deliver the economic, commercial, and net zero benefits set out in EN-1.

2.5 Sequential Assessment and Exception Test

Introduction

2.5.1 This section of the report represents a sequential assessment which provides the process through which the site location for the proposed development has been assessed in accordance with relevant Flood Risk Policy. The NPPF requires Local Authorities to apply a Sequential Test in consideration of new development. This assessment determines whether there is sequentially preferable land on which to develop the Proposed Development when considered against the requirements of National Policy Statement, National Planning Policy Framework and Planning Practice Guidance.

2.5.2 EN-1 states at paragraph 5.8.6 that the aims of planning policy on development and flood risk are to ensure that flood risk from all sources is considered at all stages in the planning process to avoid inappropriate development in areas at risk of flooding. It states (paragraph 5.8.9) that:

*"If following application of the Sequential Test [213], it is not possible (**taking into account wider sustainable objectives**), for the project to be located in areas of lower flood risk the Exception Test can be applied as defined in https://www.gov.uk/guidance/flood-risk-and-costal-change#table2."* (our emphasis).

2.5.3 Footnote 213 refers to the Planning Practice Guidance on Flood Risk and Coastal Change – *The sequential approach to the locations of development*. It states (paragraph 024 Reference ID: 7-024-20220825) that:

*"The Sequential Test ensures that a sequential, risk-based approach is followed to steer new development to areas with the lowest risk of flooding, taking all sources of flood risk and climate change into account. Where it is not possible to locate development in low-risk areas, the Sequential Test should be used to compare **reasonably available** sites within medium risk areas, and then only when there are **no reasonably available** sites in low and medium risk areas, within high-risk areas."* (our emphasis)

2.5.4 In terms of the Exception Test, the NPS EN-1 states at paragraph 5.8.11 that: "*To pass the exception test it should be demonstrated that: - the development would provide wider sustainability benefits to the community that outweigh the flood risk; and - the development will be safe for its lifetime taking account of the vulnerability of its users, without increasing flood risk elsewhere, and, where possible, will reduce flood risk overall*."

Sequential Assessment

2.5.5 The government has concluded that there is a Critical National Priority (CNP) for the provision of nationally significant low carbon infrastructure. Section 4.2 of EN-1 confirms that the Secretary of State will take as a starting point for decision-making that such infrastructure should be treated as having met any tests which are set out in the NPS, or any other planning policy, which requires a clear outweighing of harm, exceptionality or very special circumstances.

2.5.6 The CNP presumption does not remove the need for consideration of the Sequential Test in terms of reducing flood risk, and para 4.2.15 of NPS EN-1 notes exceptions to the CNP presumption, which includes where residual impacts present an unacceptable risk to onshore flood risk. However, the CNP presumption does set the starting point of that process in the context of a duty on all to ensure that opportunities to deliver renewable infrastructure and consequently help meet the urgent need are fully met.

2.5.7 In Mead Realisations Ltd and SoS LUHC [2024] EWHC 279 (Admin) ('Mead') the judgement considered the scope of what could comprise *'reasonably available sites appropriate for the proposed development'* in areas with a lower risk of flooding. The judgement concluded it to be: *"...a broad, open-textured policy…*[which]*…on the face of it, the question of appropriateness is left open as a matter of judgement for the decision-maker."* (paragraph 97).

2.5.8 Critically, the question of whether alternative sites are appropriate for the proposed development can take into account many factors, including questions of need. It states in Mead (at paragraph 101) that: *"Para 027 of the PPG suggests that the relevant catchment area or area of search for some types of development will be*

affected by need considerations. On that basis, I do not see why all considerations of need must be excluded when considering "appropriateness" of alternatives."

2.5.9 It is therefore ultimately a matter of judgement for the decision-maker as to whether development meets an identified need, and then whether the sequential assessment is justified or should adopt a broader or different approach given the specific circumstances that may apply.

2.5.10 Many factors can influence whether an alternative site represents a reasonably available alternative. In this case, critical is proximity and relationship of any site to a substation with capacity, as recognised by NPS EN-1. This includes not only the distance, as the crow-flies, but also the existence of other factors that can prevent or seriously restrict accessibility to the point of grid connection (e.g. rivers, railways, motorways etc). These physical restrictions can render the selection of alternatives as simply not a reasonable alternative.

2.5.11 EN-1 recognises that wider sustainability objectives need to be taken into account in following the sequential test. The ASA provided above, has considered a series of factors that, to a greater or lesser extent, are important in determining whether possible alternative sites exist that could represent reasonably available alternatives. The assessment has ultimately concluded that there are no alternative reasonably available sites should be developed ahead of the Proposed Development.

Site Suitability

2.5.12 The majority of the proposed Solar Array Development (the area of the Site in which solar panels would be located), is located within Flood Zone 1 (low probability of flooding). The remainder (the eastern portion of the Site) is within Flood Zone 3 (high probability of flooding), albeit within an area protected by flood defences. The eastern portion of the Site comprises agricultural land, and fallow agricultural land, known as Frodsham Marshes, which is intersected by a series of ditches / watercourses. The western half comprises part of the former Manchester Ship Canal Dredging Deposit Ground, and includes Cells 1, 2 and 5. The cells have been restored to agricultural land and are now grazed by sheep / cattle.

2.5.13 As set out above, the Application Site was initially selected because it provides the opportunity to develop a commercial scale solar array on a site that was known to be available and deliverable (is free from development that would be incongruous with a solar farm and under the ownership of one or two supportive parties), with the potential to deliver a private wire connection to high-energy using neighbouring land uses, and co-located with the existing Frodsham Wind Farm, the latter of which is supported EN-3 paragraph 2.10.10 which states: "*The British Energy Security Strategy…is supportive of solar that is 'co-located' with other functions (for example agriculture, onshore wind generation, or storage) to maximise the efficiency of land use."*

2.5.14 Turning to the appropriateness of the site context, the Proposed Development would be located within an area of the Green Belt that is already partially developed by several established large elements of infrastructure, including the elevated M56 corridor, large scale overhead powerlines and Frodsham Wind Farm itself.

2.5.15 The national policy recognises how critical renewable infrastructure cannot be deployed without available and proximate connection to surplus grid supply. EN-3 paragraph 2.10.34 states that: "*In either case [national grid or local distribution network] the connection voltage, availability of network capacity, and the distance from the solar farm to the existing network can have a significant effect on the commercial feasibility of a development proposal*."

2.5.16 Planning Practice Guidance on Flood Risk and Coastal Change paragraph 027 Reference ID 7-027-20220825 states that:

"For individual planning applications subject to the Sequential Test, the area to apply the test will be defined by local circumstances relating to the catchment area for the type of development proposed."

2.5.17 EN-1 paragraph 4.2.21 confirms that the Secretary of State will make his or her own consideration of any project from a starting point that, from the position of energy security and decarbonisation. Whilst Cheshire West and Chester Local Plan (Part Two) Land Allocations and Detailed Policies is adopted, and Policy DM40 *Development and Flood Risk* states that: *"…flood risk should be avoided or reduced*

by locating development within areas of lower flood risk through application of a borough-wide sequential test..” this is not considered wholly consistent with national policy relevant to low carbon infrastructure, which is urgently needed, and requires applicants to ensure that where grid capacity is available, this should be maximised.

2.5.18 Having identified available capacity at the SPEN Frodsham Substation, in accordance with the NPS, development needs to come forward that can maximise that capacity. In order for that to not have a critically influencing effect on the commercial feasibility of the development, it needs to be within a 5km distance from the substation. Consequently, it is neither appropriate nor consistent with the national objective, to consider potential borough-wide sites outside of that 5km area.

2.5.19 Having identified the Site as potentially suitable to host a commercial scale solar scheme the Applicant reviewed the capacity of substations in relative proximity to the site. This was undertaken in light of the increasing cost of making connection to the electrical grid with increasing distance from the connection point, and the fact that the available capacity on the existing network is limited. No other available connections were identified.

2.5.20 100MW of available capacity was identified, and has been secured, at the SPEN Frodsham Substation. Given the urgent need for nationally significant renewable energy infrastructure, it is vitally important that the opportunity arising from the available grid capacity is fully utilised.

Sequentially Alternative Options

2.5.21 EN-1 recognises that, in considering alternatives, the decision maker should only do so for those that can deliver the Proposed Development. Paragraph 4.3.22 states that: “*Given the level of urgency of need for new infrastructure, the Secretary of State should, subject to any relevant legal requirements (e.g. under the Habitats Regulations) which indicate otherwise, be guided by the following principles when deciding what weight should be given to alternatives… **only alternatives that can meet the objectives of the proposed development need to be considered**.”*

2.5.22 This is further amplified at paragraphs 4.3.23 and 4.3.24, which states: “*The Secretary of State should be guided in considering alternative proposals by whether*

there is a realistic ***prospect of the alternative delivering the same infrastructure capacity in the same timescale****…The Secretary of State should not refuse an application for development on one site simply because fewer adverse impacts would result from developing similar infrastructure on another suitable site.*"

2.5.23 EN-1 paragraph 5.8.23 states consideration of alternative sites should take account of the policy of alternatives set out in Section 4.3. In effect, it ties the requirement for Sequential Testing back to the policies on alternatives set out above (that they are in a suitable location for the type of development with a reasonable prospect that the site is available to be delivered at the point in time envisaged for the development). These policies highlight the fact that alternative sites need to be able to deliver the same capacity at the same time, and even where that can be achieved and a site has fewer adverse impacts, it should not be a reason to refuse consent.

2.5.24

2.5.25 The Mead judgement set a series of principles in the interpretation of the sequential test which would apply in this case, and which collectively come together and justify the fact that the sequential test policy is broad and open-textured.

2.5.26 Paragraph 93 clarified the question of whether "suitable site" meant suitable for meeting deficiencies in the area, or suitable for the development proposed by the applicant. The judgement decided on the later, and as such it is not a case of whether an application *could* come forward on an alternative site, rather whether the application before the decision-maker could.

2.5.27 Paragraph 99 recognises that the unique nature of some development types mean that the sequential test must be applied broadly. It states that: *"Some development may be of a specialised or highly specific nature with particular or intrinsic requirements as to the site, form, and scale of development, access and catchment."* It identifies one such example of this being a power station, or transport infrastructure, where due to the nature and scale of the development, lots of requirements need to come together for the purpose of a successful sequential assessment. Consequently, the simple apparent existence of undeveloped land is not sufficient to represent a reasonably available site.

2.5.28 Paragraph 101 introduces the concept that the need for a facility, and consequently the ability of the site in question to deliver that need, may not be excluded when considering the appropriateness of it, or that of any alternatives.

2.5.29 Paragraph 106 presents the concept that judgement has to be applied by the decision-maker as to whether any alternative site is 'reasonably available' as regards to ownership so that a site can be developed.

2.5.30 In the case of the alternative Option Areas appraised located within the Green Belt but beyond the flood zone, neither of them can offer what the Order Limits do in terms of required, form, scale, apparent land availability, or meeting the required need, and as such they don't deliver what is expected as a reasonably available alternative either in terms of policy, or in terms of the Mead judgement..

2.5.31 In consideration of whether a series of smaller sites might provide a sequentially preferable alternative, it was concluded in Mead that a 'series' implies a relationship between sites (not simply a number of separate sites) that together would be appropriate for accommodating the development proposed. There needs to be more than simply multiple, disconnected, separate sites to operate effectively as a feasible, solar array, rather there needs to be a relationship that enables the sites to work together.

2.5.32 The Applicant has reviewed through the ASA process, whether or not there are any reasonably available alternative sites (sites in a suitable location for the type of development with a reasonable prospect that the site is available to be developed at the point in time envisaged for the development), within a feasible distance of the available grid connection, that could deliver the Proposed Development, and consequently utilise the identified grid capacity. Consideration has also been had above to the potential for delivering a series of smaller sites within either brownfield alternatives, or within alternative option areas.

2.5.33 The ASA process confirms that the only areas identified that could have 'potentially' delivered the Project, and which could theoretically utilise the capacity at the SPEN Grid Connection, are limited to a swathe of the greenbelt south of the M56 / Frodsham corridor. Whilst these areas may be within a lower flood risk area than part

of the Site, the ASA has demonstrated that these areas / sites do not offer a "…*realistic prospect of the alternative delivering the same infrastructure capacity in the same timescale*…" [EN-1 paragraph 4.3.22], and consequently do not represent a reasonable alternative irrespective of whether they are within areas at lower risk of flooding or not. As a result, the requirements of the Sequential Test (as detailed in National Planning Practice Guidance[8]) are met in this case.

2.5.34 As above, EN-1 paragraph 5.8.23 requires projects to apply the Sequential Test to the location of development within the site. The Frodsham Solar Substation and BESS comprise the critical components of the solar infrastructure. These are located within Flood Zone 1. The Alternatives Chapter of the PEIR describes the alternative locations considered for these elements of infrastructure in the design process.

The Exception Test

2.5.35 The development of a solar farm is classified as "Essential Infrastructure" i.e. *"Essential utility infrastructure which has to be located in a flood risk area for operational reasons, including electricity generating power stations and grid and primary substations"* (NPPF Annex 3). Table 2 of the government Flood Risk and Coastal Change guidance (paragraph 079) states that where essential infrastructure is in Flood Zone 3, the 'Exception Test' is required to be met.

2.5.36 The approach to the Exception Test, and specifically its relationship to the Sequential Test, is set out at EN-1 paragraph 5.8.10 which states that: *"It would only be appropriate to move onto the Exception Test when the Sequential Test has identified reasonably available, lower risk sites appropriate for the proposed development where, accounting for wider sustainable development objectives, application of relevant policies would provide a clear reason for refusing development in any alternative locations identified."*

2.5.37 The Exception Test is designed to allow appropriate and safe development to proceed in scenarios where the Sequential Test has been passed (i.e. where it has been shown that suitable sites at a lower risk of flooding are not available). For the

[8] https://www.gov.uk/guidance/flood-risk-and-coastal-change#para25 (Accessed October 2024)

Exception Test to be passed it requires two additional elements to be satisfied, namely that: *"(a) the development would provide wider sustainability benefits to the community that outweigh the flood risk; and (b) the development will be safe for its lifetime taking account of the vulnerability of its users, without increasing flood risk elsewhere…".*

Wider sustainability benefits to the community that outweigh the flood risk

2.5.38 The National Policy Statements are clear and unequivocal. There is an urgent need for new renewable electricity generating capacity to meet our energy objectives, transition to net zero, and meet our statutory carbon budgets. This is manifest most notably in section 3.2.6 of EN-1 where it is confirmed that the Secretary of State should assess all development covered by the NPS on the basis that the government has demonstrated there is need for it which is urgent, and that substantial weight should be given for this need.

2.5.39 As set out above, the urgent need for new electricity generating capacity is woven throughout the NPSs. Section 2.0 of the **Planning Statement [EN010153/DR/5.6]** provides further detail on legislative and government policy in relation to the need for additional renewable energy capacity. The development would provide a significant supply of renewable energy to the District Network, and potentially directly to industry via private wire. Consequently, the wider sustainability benefits that outweigh the flood risk have been appropriately demonstrated. Nonetheless, it remains a prerequisite on applicants to ensure that new energy infrastructure is designed to ensure it can remain operational and will be safe for its lifetime and will not increase flood risk elsewhere (EN-1 paragraph 5.8.7 and EN-3 paragraph 2.4.11).

Safe for its lifetime taking account of the vulnerability of its users, without increasing flood risk elsewhere

2.5.40 The Project has been designed so that the elements of the Proposed Development that are critical to the ongoing functioning of the generating station in the event of an extreme flood would be located within the Flood Zone 1 areas of the site (the BESS compound, substation compound etc). The only operational elements of the Proposed Development proposed in Flood Zone 3 would comprise some of the PV

panels, PCUs / transformer stations, below ground electric cables, security fencing and CCTV camera, the OHL connection to SPEN Frodsham Substation (raised well above the extreme flood levels), and access tracks (largely permeable and constructed at grade to avoid impact of runoff and conveyance) etc.

2.5.41 In relation to those elements of the Proposed Development within Flood Zone 3a, **ES Vol 1 Chapter 2: The Proposed Development [EN010153/DR/6.1]** describes how the components of electrical infrastructure which are vulnerable to inundation in a flood event have been raised above the design flood level for the Site, enabling the Proposed Development to remain operational in periods of flooding. This has been calculated via flood modelling (refer to **ES Vol 2 Appendix 9-1: Flood Risk Assessment and Drainage Strategy [EN010153/DR/6.2]**for details of the flood modelling).

2.5.42 **ES Vol 2 Appendix 9-1: Flood Risk Assessment and Drainage Strategy [EN010153/DR/6.2]** also describes how surface water runoff from impermeable areas of the Proposed Development would be managed to greenfield runoff rates. It also addresses the impact of development within the flood zone in relation to displacement of flood water. In this regard the Proposed Development would not impact flood risk elsewhere.

2.5.43 In relation to the safety of users the Proposed Development will not be permanently staffed, but would be temporarily occupied during routine maintenance visits. The Site will also be occupied during construction.

2.5.44 When a flood warning is in place, any construction works would not take place. During the operational phase, maintenance visits would not be undertaken when a flood warning is in force. The Site is capable of being operated remotely, and would be for the majority of its operational life. As such the generating station could continue to operate during a flood event and there would be no requirement for staff to be present. In this regard site users would not be vulnerable during a flood event. An **Outline Flood Warning and Evacuation Plan** has been prepared and is provided at **Appendix M** of **ES Vol 2 Appendix 9-2: Water Framework Directive Assessment [EN010153/DR/6.2]**.

2.5.45 As set out above, the potential vulnerability of the Proposed Development is laid out within the Flood Risk Vulnerability Classification set out in Annex 3 of the NPPF, and there are no ‘users’ of the development per se. This confirms that solar farms are essential infrastructure. Table 2 of the government Flood Risk and Classification guidance (paragraph 079), confirms that for essential infrastructure in flood zone 3a the exception test is required in so far as it should be designed and constructed to remain operational and safe in times of flooding.

2.5.46 This prerequisite for essential infrastructure is demonstrated above, and accordingly the development is considered to have passed the requirements of the Exception Test.

3.0 CONCLUSIONS

3.1 Introduction

3.1.1 There is no requirement under the Infrastructure Planning (Environmental Impact Assessment) Regulations 2017 for applicants to consider alternative sites and demonstrate why the site selected has been taken forward. However, there is a requirement to provide a description of reasonable alternatives studied by the development, which are relevant to the proposed project and its specific characteristics, and an indication of the main reasons for selecting the chosen option.

3.1.2 This report sets out the approach adopted by the Applicant in initially identifying the Application Site, and then further considering whether there are any alternatives that may meet the objectives of the Proposed Development. Importantly, EN-1 paragraphs 4.3.22 - 4.3.23 guide the Secretary of State as to the weight that should be applied to the consideration of alternatives in the decision-making process, given the level and urgency of need for critical national priority infrastructure. These paragraphs convey how the Secretary of State should consider the prospect of alternative sites delivering the same infrastructure capacity in the same timescale, and require alternatives to be considered in proportionate manner cognisant of the need for new energy infrastructure.

3.1.3 Paragraph 4.2.21 provides specific guidance in relation to circumstances where HRA is engaged and which is indicative of the approach adopted to the consideration of alternatives. It requires the Secretary of State to start their decision making from the position *"that energy security and decarbonising the power sector to combat climate change…requires a significant number of deliverable locations for CNP Infrastructure and for each location to maximise its capacity…the fact that there are other potential plans or projects deliverable in different locations to meet the need for CNP Infrastructure is unlikely to be treated as an alternative solution"*.

3.1.4 EN-1 is unambiguous that there is an urgent need for significant amounts of new large-scale energy infrastructure to meet its energy objectives, and that just because other types of CNP Infrastructure could be delivered elsewhere, such locations should not be treated as alternative solutions.

3.1.5 It is also clear that the existence of other alternatives, including alternative sites which in some respects may be considered to be less impactful, should not be a reason to constrain the development of Critical National Priority infrastructure.

3.1.6 Nonetheless, there are instances where considering the potential for alternative sites is relevant to the decision-making process. As such the Applicant has provided this report.

3.2 ASA

3.2.1 This ASA has considered whether there are any alternative site options that could deliver the Proposed Development within the proposed timescales.

3.2.2 In accordance with the government requirement to urgently deploy large scale ground-mounted solar across the UK, the Applicant wishes to utilise the limited available capacity at the SPEN Frodsham substation. To do so, the ASA identified sites or areas within a feasible distance (5km) of the substation, and then appraised those areas of land that are undeveloped (i.e. not urban) against the '*Factors Influencing Site Selection'* set out in NPS EN-3.

3.2.3 The assessment concludes that there are no sites or areas that offer a realistic prospect of delivering the same infrastructure capacity within the same timescales as that proposed by the Applicant.

3.2.4 NPS EN-1 confirms that the need for nationally significant renewable infrastructure is urgent, and that substantial weight be given to that need. In light of this, Option Area A has been progressed to design stage, a workable scheme developed, and an Environmental Statement (ES) prepared for that scheme.

3.3 Sequential Assessment and Exception Test

3.3.1 NPS EN-1 sets out that the aim of planning policy on development and flood risk are to ensure that flood risk from all sources is considered at all stages in the planning process to avoid inappropriate development in areas at risk of flooding. This requires, in some instances, for a sequential assessment to be undertaken to steer development to areas with the lowest risk of flooding, and where this is not possible for the exception test to be applied.

3.3.2 As part of the Proposed Development lies within Flood Zone 3 this process has been undertaken. The ASA process confirms that the only areas that could 'potentially' deliver the Project, and which could viably utilise the capacity at the SPEN Grid Connection, are limited to a swathe of the greenbelt south of the M56 / Frodsham corridor. Whilst these areas may be within a lower flood risk area than part of the Site, the ASA has demonstrated that these areas / sites do not offer a "…*realistic prospect of the alternative delivering the same infrastructure capacity in the same timescale*…" [EN-1 paragraph 4.3.22], and consequently do not represent a reasonable alternative, irrespective of whether they are within areas at lower risk of flooding or not. As a result, the requirements of the Sequential Test (as detailed in National Planning Practice Guidance[9]) are met in this case.

3.3.3 The report also demonstrates that the development would provide wider sustainability benefits to the community that outweigh the flood risk; and the development will be safe for its lifetime taking account of the vulnerability of its users, without increasing flood risk elsewhere. As such the exception test for the Proposed Development is met.

[9] https://www.gov.uk/guidance/flood-risk-and-coastal-change#para25 (Accessed October 2024)

Figures

Q:\3251-3300\3272-01 Frodsham Solar DCO\Dwgs\GIS\Workspaces\ASA\TR\ASA Figure 1.qgz

SPEN Frodsham Substation (Point of Connection)

5km Search Area

N

0 800 1,600 2,400 3,200 4,000 m

0344 8700 007
axis.co.uk

Project

Frodsham Solar Alternative Site Search

Figure Number

Figure 1

Figure Title

Search Area

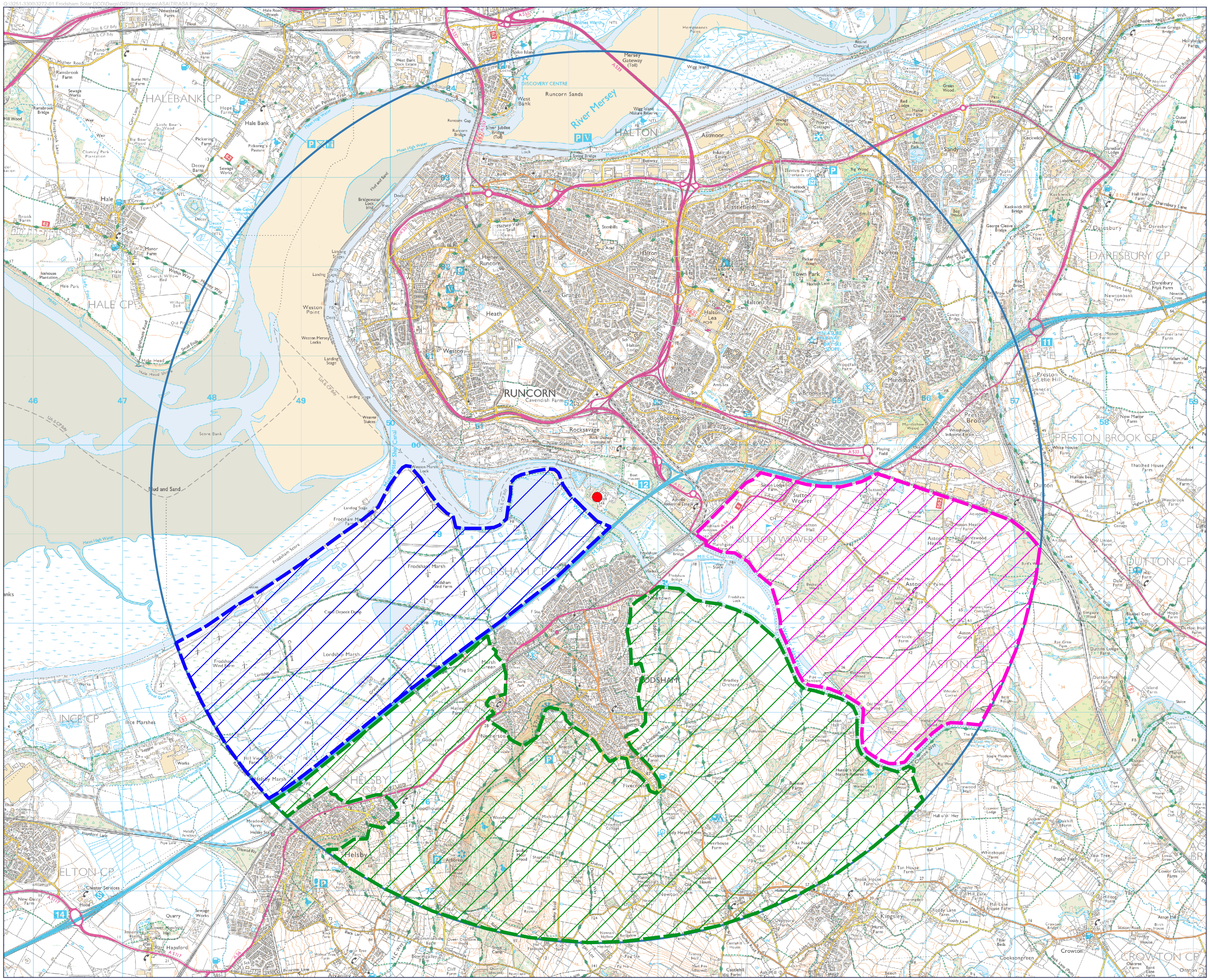
Scale

1:40000@A3

Date

September 2024

Q:\3251-3300\3272-01 Frodsham Solar DCO\Dwgs\GIS\Workspaces\ASA\TR\ASA Figure 2.qgz



SPEN Frodsham Substation (Point of Connection)

5km Search Area

Option Area A

Option Area B

Option Area C

N

0 | 800 | 1,600 | 2,400 | 3,200 | 4,000 m

0344 8700 007

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Project

Frodsham Solar
Alternative Site Search

Figure Number

Figure 2

Figure Title

Option Areas

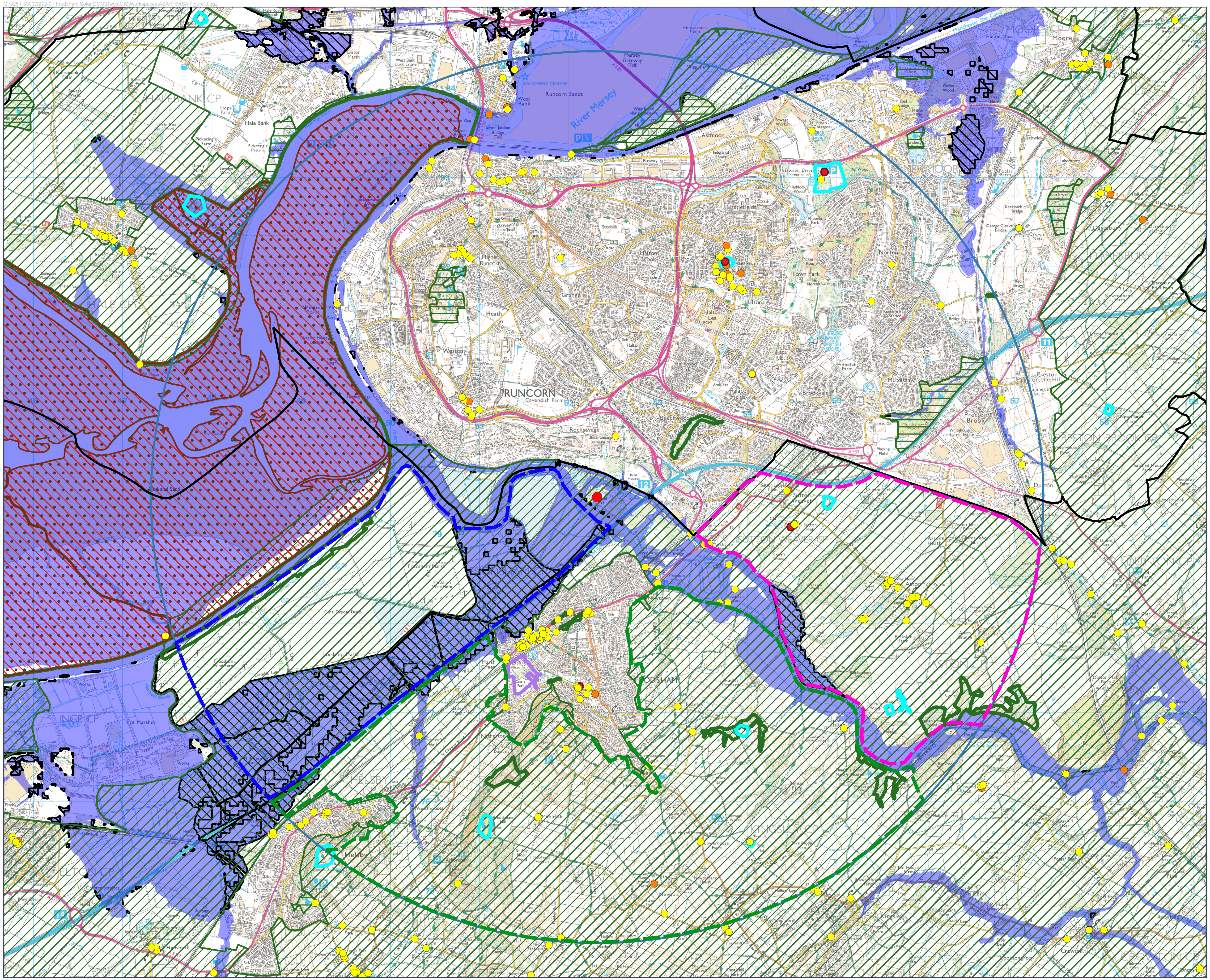
Scale

1:40000@A3

Date

September 2024

Q:\3251-3300\3272-01 Frodsham Solar DCO\Dwgs\GIS\Workspaces\ASA\TR\ASA Figure 3.qgz



SPEN Frodsham Substation (Point of Connection)

5km Search Area

Option Area A

Option Area B

Option Area C

Local Authority Boundary

Green Belt

Site of Special Scientific Interest (SSSI)

Special Protection Area (SPA)

Ramsar Site

Local Nature Reserve

Flood Zone 2 (note: Flood Zone 3 sits within the extents of Flood Zone 2)

Reduction in Risk of Flooding from Rivers and Sea

Grade I Listed Building

Grade II* Listed Building

Grade II Listed Building

Scheduled Monument

Registered Parks and Garden

0 800 1,600 2,400 3,200 4,000 m

N

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Frodsham Solar
Alternative Site Search

Figure Number

Figure 3

Figure Title

Environmental Constraints

Scale

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Date

September 2024

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SPEN Frodsham Substation (Point of Connection)

5km Search Area

Option Area A

Option Area B

Option Area C

Provisional Agricultural Land Classification:

Grade 1

Grade 2

Grade 3

Grade 4

Grade 5

Non Agricultural

Urban

N

0 800 1,600 2,400 3,200 4,000 m

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Project

Frodsham Solar Alternative Site Search

Figure Number

Figure 4

Figure Title

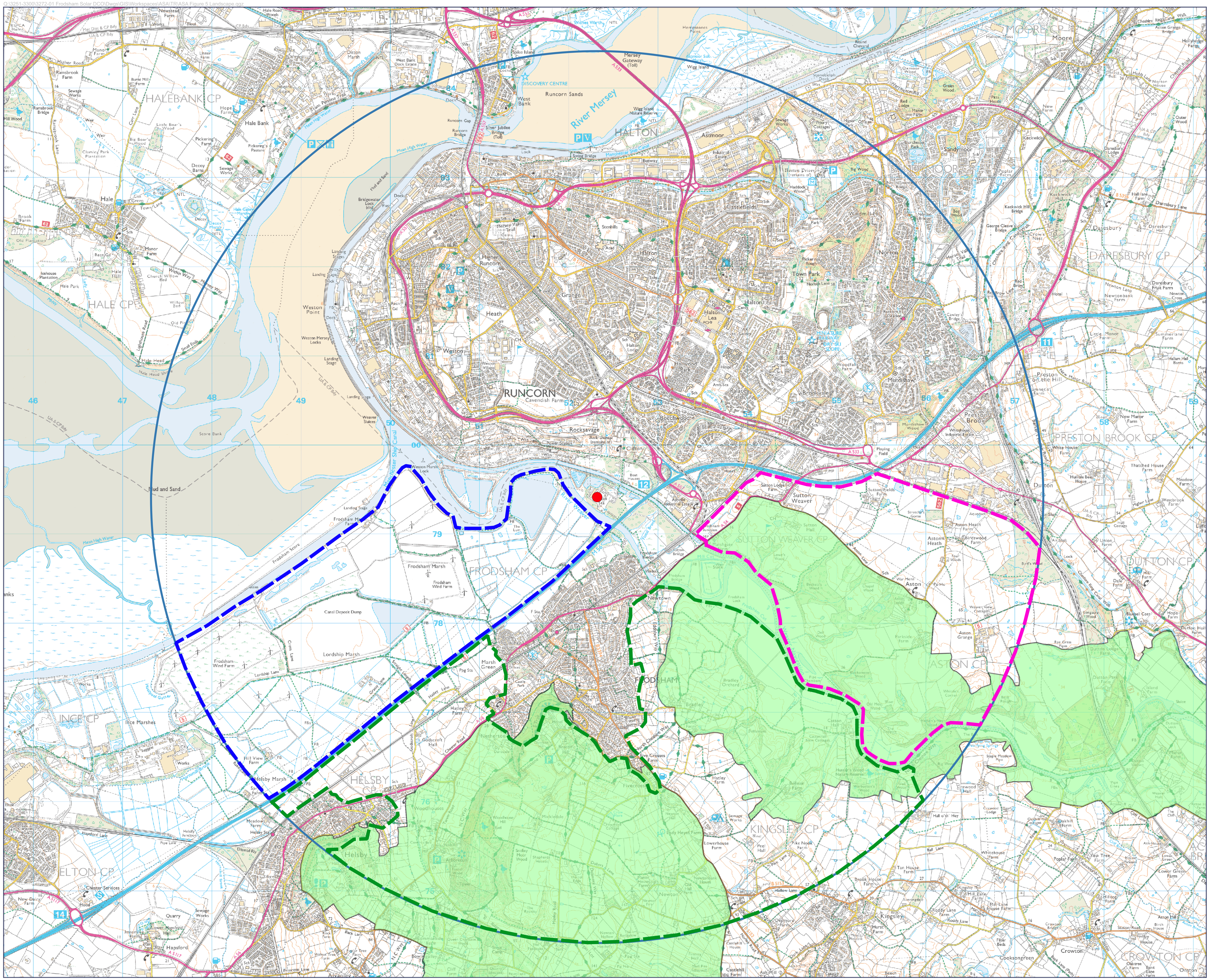
Provisional Agricultural Land Classification

Scale

1:40000@A3

Date

September 2024



SPEN Frodsham Substation (Point of Connection)

5km Search Area

Option Area A

Option Area B

Option Area C

Area of Special County Value (Local Landscape Designation)

0 | 800 | 1,600 | 2,400 | 3,200 | 4,000 m

N

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Frodsham Solar Alternative Site Search

Figure Number

Figure 5

Figure Title

Local Landscape Desigantion: Areas of Special County Value

Scale

1:40000@A3

Date

September 2024

Q:\3251-3300\3272-01 Frodsham Solar DCO\Dwgs\GIS\Workspaces\ASA\TR\ASA Figure 6 Topography.qgz

SPEN Frodsham Substation (Point of Connection)

5km Search Area

Option Area A

Option Area B

Option Area C

Topography (metres above ordnance datum)

- 0 - 10m
- 10 - 20m
- 20 - 30m
- 30 - 40m
- 40 - 50m
- 50 - 60m
- 60 - 70m
- 70 - 80m
- 80 - 90m
- 90 - 100m
- 100 - 110m
- 110 - 120m
- 120 - 130m
- 130 - 140m
- 140m +

N

0 800 1,600 2,400 3,200 4,000 m

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Frodsham Solar Alternative Site Search

Figure Number

Figure 6

Figure Title

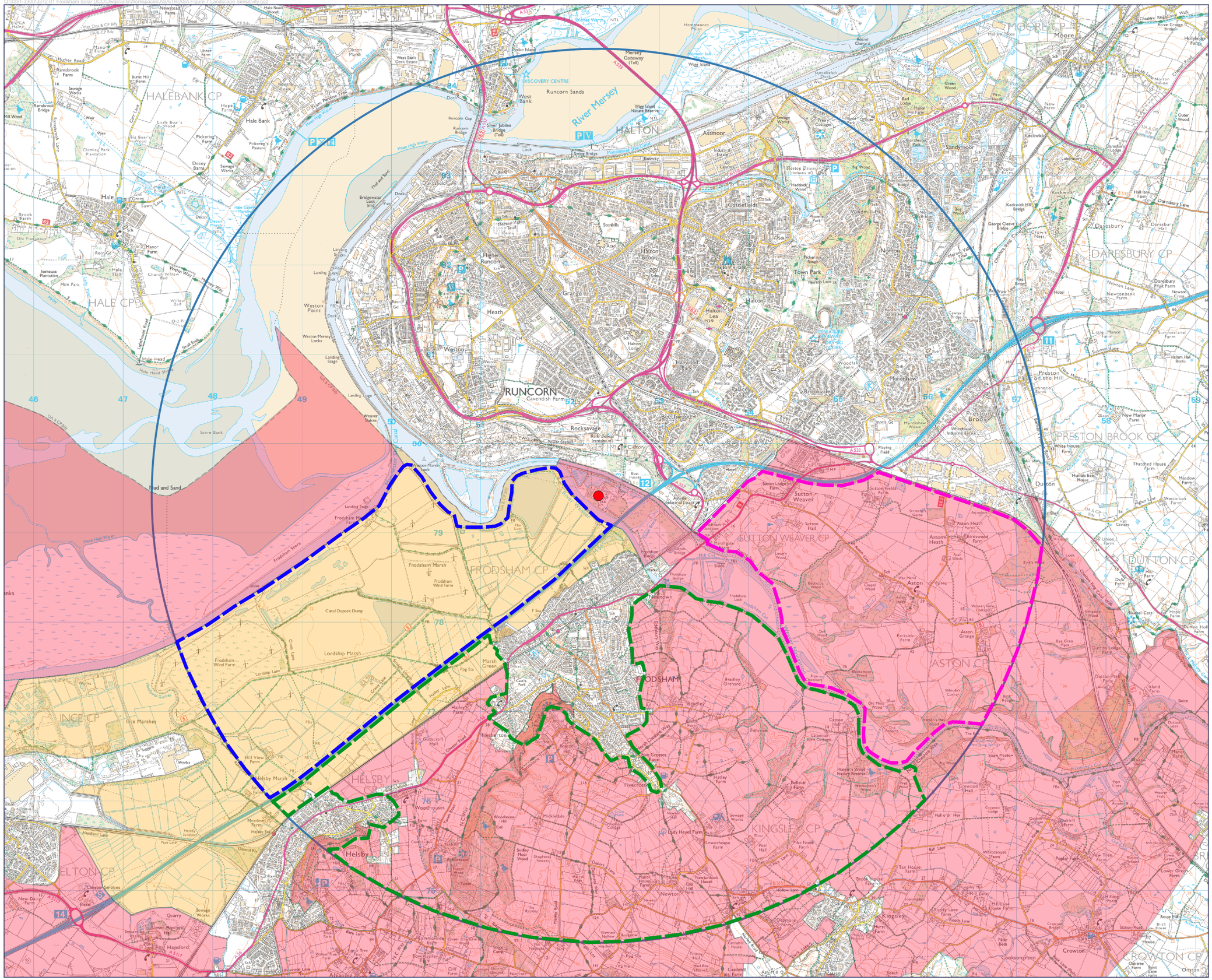
Topography

Scale

1:40000@A3

Date

September 2024



SPEN Frodsham Substation (Point of Connection)

5km Search Area

Option Area A

Option Area B

Option Area C

Cheshire West and Chester Landscape Sensitivity Study and Guidance on Wind and Solar Photovoltaic Developments (2016):

High Sensitivity to Large Scale Solar Farms

Moderate-High Sensitivity to Large Scale Solar Farms

N

0 800 1,600 2,400 3,200 4,000 m

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Frodsham Solar Alternative Site Search

Figure Number

Figure 7

Figure Title

Landscape Sensitivity to Large Scale Solar Farms

Scale

1:40000@A3

Date

September 2024