



Frodsham Solar Design Principles

(Previously included as Appendix A of Design Approach Document – APP-130)

January 2026



PINS Ref: EN010153

Document Ref: EN010153/DR/8.34

**Planning Act 2008; and Infrastructure Planning (Applications:
Prescribed Forms and Procedure) Regulations Regulation 5(2)(q)**

Revision P02

| Project Design Principle | Measures to Achieve the Project Design Principle | NIC Design Principles | | | |
|--|--|-----------------------|--------|--------|-------|
| | | Climate | People | Places | Value |
| Design Principle 1: Renewable Energy Delivery of significant amount of affordable, low carbon, renewable energy to support policy objectives and national targets for reducing carbon emissions to net zero by 2050 | a. Provide 147MW of installed renewable energy capacity | | | | |
| | b. Provide approximately 100MW of battery storage capacity | | | | |
| | c. Explore and where feasible provide private wire connections to local businesses | | | | |
| | d. Provide interpretative material to enhance public knowledge of the benefits of renewable energy, reflecting the presence of historic, current and future energy generation infrastructure locally | | | | |
| | e. The embodied carbon of materials and components will be factored into the procurement process, and where reasonably practicable lower-carbon or locally sourced materials will be selected, in order to minimise the Proposed Development's lifecycle greenhouse gas emissions. | | | | |
| Design Principle 2: Landscape and Views Develop the proposals in a manner sensitive to their landscape setting and reflecting the value placed on the landscape by local communities, reducing visual impacts from nearby properties, recreational routes and key viewpoints | a. Retain and enhance the open character of Frodsham Marshes, where feasible | | | | |
| | b. Retain and enhance existing vegetation cover that defines character and provides visual screening | | | | |
| | c. Undertake new planting of trees, scrub and hedgerows which is consistent with character and to provide further screening | | | | |
| | d. Contain development within established field boundaries to retain landscape pattern | | | | |
| | e. Provide generous development-free buffers alongside existing landscape features | | | | |
| | f. Provide long-term management and maintenance of the landscape of the Order Limits | | | | |
| | g. Retain open vistas looking across Frodsham Marshes and the wider estuary, where feasible | | | | |
| | h. Give consideration to impacts upon the long-range views from Frodsham War Memorial and Helsby Hill | | | | |
| | i. Consider, and seek to mitigate where possible, adverse impacts upon users of public rights of way and other routes within and close to the Order Limits | | | | |
| | j. Consider, and seek to mitigate where possible, adverse impacts upon views from properties, with particular reference to those located at closer distances such as at the northern edge of Frodsham | | | | |

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| | k. Consider potential impacts arising from glint and glare and mitigate if adverse effects are identified | | | | |
| Design Principle 3: Biodiversity and Green Infrastructure Protect and enhance green infrastructure within the Order Limits and in doing so create the conditions for enhanced biodiversity locally | a. Achieve a minimum of 10% increase in habitat and hedgerow units, and no net loss in watercourse units | | | | |
| | b. Manage, maintain and increase vegetation cover within the Order Limits for the lifespan of the Proposed Development | | | | |
| | c. Provide mitigation associated with potential impacts on the Mersey Estuary SSSI, SPA and RAMSAR site | | | | |
| | d. Retain and enhance existing site features, and introduce development-free buffers around hedgerows, ditches and other features of biodiversity value. Buffers will be a minimum of 5m around hedgerows and a minimum of 10m around watercourses | | | | |
| | e. Reduce impacts on valuable habitat features through good design, e.g. minimising culvert crossings, avoidance of impacts on high value habitat, best practice construction methods | | | | |
| | f. Enhance ecological connectivity, both within the Order Limits and with features outside its boundary. Create and/or enhance wildlife corridors | | | | |
| | g. Provide interpretative material to explain the ecology of the Order Limits to visitors | | | | |
| Design Principle 4: Public Access and Recreation Retain, enhance and encourage public access through the life of the proposals, including during construction and decommissioning where feasible | a. Create new permissive pathways to link up existing routes, filling gaps in the existing network and creating loops where possible, to enhance appeal to users and to improve connectivity | | | | |
| | b. Provide wayfinding signage and information about the variety of routes available within the Order Limits and in respect of onward connections. Information to consist of both physical signage on site and published material to provide guidance to potential visitors | | | | |
| | c. Design and install interpretative material along access routes, providing information regarding the social and natural history of the Order Limits and its present use for generating energy | | | | |
| | d. Provide and signpost potential formal public car parking area(s) if parking demand evidences a need for it | | | | |

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| | e. Construction/decommissioning activities to be planned and implemented in such a way as to limit the need for any temporary closures and/or diversions to public rights of way | | | | |
| Design Principle 5: Flooding Safeguard the surrounding hydrological systems, ensure the scheme is resilient to flooding and will not increase flood risk elsewhere, taking account of the impacts of climate change | a. Ensure key electrical infrastructure (e.g. substations, transformers, inverters) are designed and located to minimise impacts from potential flooding | | | | |
| | b. Ensure that all infrastructure is located at a minimum 10m offset distance from watercourses save for cable and access crossings | | | | |
| | c. Avoid impacts on existing flood defences | | | | |
| | d. Maintain the existing drainage regime at the site to minimise flood risk on site and in the surrounding area | | | | |
| Design Principle 6: Cultural Heritage Develop the proposals so that they are sensitive to the presence of heritage assets, their settings, and the wider historic environment | a. Retain established boundary features as evidence of historic land use pattern | | | | |
| | b. The square brick hollow towers within the Order Limits, which relate to the historic use of the site for the deposit of dredgings from the Manchester Ship Canal would be subject to a programme of recording (likely a photographic survey) if they require demolition. Any which do not need to be lost / damaged to facilitate the Proposed Development will be retained | | | | |
| | c. Maintain views from the Order Limits (and their surroundings) to heritage assets located on the higher ground | | | | |

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| | d. Retain the legibility of the flat topography within the Order Limits and views to the river in views from the higher ground | | | | |
| | e. Provide interpretative material explaining the relationship between the Order Limits and the surrounding historic landscape | | | | |
| Design Principle 7: Amenity Develop all elements of the proposals, including during construction and decommissioning so that they do not adversely affect the amenity or safety of local residents and users of public rights of way. | a. Consider all infrastructure elements at the design stage and whether it is possible to enhance the amenity of the Order Limits through minor adjustments or rationalisation – e.g. avoidance of unnecessary signage or excessively large areas of hardstanding | | | | |
| | b. Ensure that all temporary works are removed where not required for the operational Proposed Development | | | | |
| | c. Develop a Construction Environmental Management Plan to ensure that all construction activities are managed sensitively and in accordance with all statutory requirements and recognised good practice | | | | |
| | d. Ensure that CCTV uses infra-red technology to minimise potential impacts from lighting | | | | |
| | e. All lighting would be 'on-demand' only and would only be switched on during maintenance works, or in the event of an emergency or security breach | | | | |
| Design Principle 8: Traffic and Transport Vehicular access to the Order Limits will be safe and will not adversely affect the local highways network, or the local public rights of way network. | a. Access from the public highway network to utilise existing access tracks suitable for use by HGVs to minimise the need for new access tracks | | | | |
| | b. An appropriate Order Limits speed limit (e.g. 10mph) will be imposed on site roads, recognising that many of the access routes are also used by pedestrians and cyclists | | | | |
| | c. Existing field access points would be used wherever possible | | | | |