



GS VOGT LTD

HAWTHORN FARM SOLAR FARM

TECHNICAL NOTE: CONSTRUCTION MANAGEMENT

NOVEMBER 2021

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1 INTRODUCTION

1.1.1 This Technical Note has been prepared to provide additional information on how the construction of the proposed solar farm will be managed, as requested by the case officer in the determination of a re-submitted planning application (LPA reference DMPA/2021/0315) for a proposed solar scheme on a site in Scropton, Derbyshire.

1.1.2 The following comments were received from the case officer on 18 August 2021 via email following deferral at the planning committee on 17 August 2021:

Please can you provide additional consideration of how construction will be managed in terms of different start times and key moments in the construction of the solar farm in relation to the seasons. For instance how will a winter commencement be managed in comparison to a summer commencement of construction and in times of inclement weather in terms of impacts on amenity, dust, mud, noise and water etc? This can be as a Construction Management Plan update or within a standalone cover letter to accompany the construction management plan submitted for example.

1.1.3 These comments have been addressed within this technical note.

2 CONSTRUCTION PROGRAMME

2.1.1 The construction period for the proposed solar farm is estimated to take 3-4 months, with an additional month prior to the construction period for the procurement and delivery of materials on site.

2.1.2 Table 1, below, outlines the estimated timescales and programme for the construction of the solar farm, from the onset of the procurement works completion of the project.

Table 1. Programme of Works					
	Month				
	1	2	3	4	5
Procurement Works					
Material Deliveries					
Construction					

2.1.3 Further detail regarding the programme of construction is shown below within Table 2. This is not an exhaustive programme, but highlights the construction of key elements of the development.

Table 2. Programme of Construction Works					
	Month				
	1	2	3	4	5
Fencing and Gates					
Piles and Frames					
Modules					
Cabling					
Roadways					
Inverter, Control and Customer Cabins					
Security Systems					
Connection to Power Grid					
Quality Assurance and Control					
Final Commissioning and Testing					

2.1.4 Subject to planning approval being granted in December 2021, procurement works will be undertaken within the same month, with construction beginning in January (Month 2 within Tables 1 and 2) and estimated to complete in April.

2.1.5 The below sections (Sections 3 – 5) outline the key mitigation measures and dates within the construction calendar, which will be observed where necessary throughout the construction period.

3 SOILS AND DRAINAGE

3.1.1 Construction of the solar farm should be undertaken when soils are sufficiently dry as to minimise damage during handling or trafficking, typically between April and September. However, given the variable weather conditions experienced in the UK (with high levels of rainfall seen throughout the year), construction during the winter months can be made acceptable with the implementation of suitable mitigation measures, which are also applicable during wet conditions throughout the year.

3.1.2 MAFF guidance¹ and the updated IQ guidance includes methods for soil handling in wet weather, however the main issue on site will be moving vehicles on wet ground. Churning up of soils may cause vehicle sliding and mud splattering in the vicinity of the solar panels. Damage to soils, including compaction, may leave furrows and mounds

^[1] Good Practice Guide for Handling Soils (MAFF, 2000). Available at: <http://www.persona.uk.com/a5dunstable/deposit-docs/DD076-DD100/DD-093.pdf> [Accessed on 10/04/18].

meaning that there is inadequate permeability in the soil and areas of the site may end up with standing water in wet conditions year-round.

3.1.3 The already-established grassland cover will minimise damage to soil structure, reduce compaction, minimise the risk of soil erosion, and protect soils from damage from trafficking. The site will only require re-seeding in places where the plant cover would be damaged.

3.1.4 To minimise damage to/loss of soil resources, good practice soil storage, handling and reinstatement methods (i.e. construction mitigation measures) will be used as standard for all construction-related operations. The construction mitigation measures will be based on such guidance as Defra's 'Construction Code of Practice'² and MAFF's 'Good Practice Guide for Handling Soils'¹. The construction mitigation measures, will include (but are not limited to) the following:

- Avoiding or limiting soil handling after periods of heavy rainfall or during periods when soils are waterlogged to minimise compaction and damage to soil structure;
- Limiting the number of plant/machine movements within defined areas in order to minimise compaction and damage to soil structure;
- Establishment of vegetative cover as soon as possible in order to maintain soil structure and prevent soil loss through erosion; and
- Reducing the potential for soil compaction via the use of Low Ground Pressure (LGP) tracked or wheeled tyres in order to spread the weight of vehicles, limiting the height of soil stockpile mounds, restricting construction traffic to demarcated working areas and loosening the area afterwards using recognised practices and equipment to remove any compaction.

3.1.5 Additional mitigation measures will further lessen impacts on soils. These measures where appropriate may include:

- Ground protective boarding to spread the weight of vehicles (this will not prevent soil compaction but may make machine movement easier);

^[2] Construction Code of Practice for the Sustainable Use of Soils on Construction Sites (Defra, 2009). Available at https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/69308/pb13298-code-of-practice-090910.pdf [Accessed 10/04/18].

- Limiting the weight of vehicles that are allowed onto site or certain areas or site;
- Limiting the number of vehicles that move around on site to a minimum;
- Restrict vehicle movement to designated pre-defined tracks with ground protection;
- Use only low ground pressure and tracked vehicles;
- No working on areas with standing water or that are waterlogged;
- If there is likely to be overground flows of water which will move soil and sediment, sediment traps may be required to protect watercourses and reduce pollution; and
- Limit working days to 'dry days' and days where rainfall has not caused ground waterlogging in the previous 24 hrs.

3.1.6 In areas that will be frequently trafficked for extended duration, such as site entrances, exits, works compounds and main trackways, it may be necessary to strip and stockpile the topsoil prior to workings and create a temporary hardstanding surface. The topsoil will require reinstating at the end of the project with adequate soil decompaction and reseeded.

3.1.7 After works have been completed remediation may be required, including:

- Reinstating of stripped soils
- Decompaction, releveling and/or reseeded as soon as possible
- Importation of quality topsoil to restore heavily degraded areas.

3.1.8 For further detailed information please refer to the Soils and Agriculture Assessment (WA, 2021), submitted in support of the planning application.

4 DUST

4.1.1 The main activities which have the potential to raise dust and fine particulate matter emissions are those which involve materials handling and excavation; including laying the temporary road surface, excavating the cable trenches and then back-filling these once cable laying is completed. These activities are anticipated to take place within months 2 – 4 of the construction programme (January – March, subject to planning approval).

- 4.1.2 The main source of dust and fine particulate matter is associated with the movement of construction phase vehicles across the temporary road when accessing the site. Dust and dirt can be re-suspended into the atmosphere as a result of the movement of vehicle's wheels across an unpaved surface.
- 4.1.3 Given construction may take place from January to April, a period with typically slightly higher rainfall in comparison to the summer months, it is not anticipated that large amounts of dust and fine particulate matter will become airborne.
- 4.1.4 Nevertheless, the following measures will be implemented at the development site during the construction of the solar array in order to reduce the potential for nuisance from dust for local residents:
- Solid screens or barriers will be erected around operations where there is a high potential for dust production, and will be kept clean;
 - Materials that have the potential to produce dust will be removed from site as soon as practically possible;
 - All cutting, grinding and sawing equipment will be used in conjunction with suitable dust suppression techniques such as water sprays. An adequate water supply will be available on site for dust suppression purposes;
 - Drop heights from loading shovels and other material handling equipment will be minimised in order to reduce the potential for emissions of dust and fine particulate matter;
 - Wheel washing facilities will be provided for all vehicles accessing the site; and
 - Vehicles entering and leaving the site will be covered to prevent the escape of materials.
- 4.1.5 For further detail please refer to the Dust Management Plan (WA, 2021), submitted in support of this application.

5 ECOLOGY

- 5.1.1 There are a number of key dates and months to be noted within the construction programme in relation to ecology. These are detailed within Table 3, below.

Table 3. Ecological Timescales	
Activity	Timescales
Checks for amphibians and reptiles	These checks will be undertaken prior to vegetation clearance.
Removal of vegetation from hedgerows	Undertaken outside of the main breeding season for birds (March – August) and ideally in January or February. Should this not be practical, the ECoW will survey the area(s) to check for the presence of nesting birds. The survey will be undertaken no more than 48 hours in advance of works.
Pre-construction badger survey	To be undertaken at any time prior to construction.
Pre-construction hedgehog survey	To be undertaken at any time prior to construction and hedgerow removal.
Pre-vegetation clearance/ Pre-construction hare survey	To be undertaken should the vegetation clearance / construction works begin during the hare breeding season (March – September).

5.1.2 Aside from the removal of vegetation from hedgerows, the remaining activities outlined within Table 3 can be undertaken throughout the year and do not constrain the construction timescales as outlined within Section 2 of this report.

5.1.3 The removal of vegetation is recommended to take place outside of the breeding bird season (March – August). Should the construction works begin in January, any vegetation removal will take place within the recommended timeframes.

5.1.4 For further detailed information regarding the above, and further mitigation measures, please refer to the Biodiversity Management Plan (WA, 2021), submitted in support of the application.

6 SUMMARY

6.1.1 This report outlines the programme of works for the construction of the proposed solar development, and identifies key mitigation measures and timescales to be adhered to.

6.1.2 Given the implementation of such mitigation, it is anticipated that the construction of the solar farm will be well managed during the proposed construction period (January – April), subject to receipt of planning permission in December 2021. There are mitigation measures in place to ensure the management of construction remains effective throughout varied weather events and conditions. It is therefore expected that there will be no adverse effects on the site and surrounding area as a result of the construction of the proposed solar farm.

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