

Green Hill Solar Farm

EN010170

Outline Soil Management Plan

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Issue Sheet

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Outline Soil Management Plan

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1 Introduction

1.1 Background

- 1.1.1 This Outline Soil Management Plan (SMP) forms part of Environmental Statement (ES) Chapter 20: Agricultural Circumstances **[EN010170/APP/GH6.2.20]** and is to be read in conjunction with the outline Construction Environmental Management Plan **[EN010170/APP/GH7.1]**.
- 1.1.2 This Outline SMP provides further details on the mitigation measures stated in Chapter 20: Agricultural Circumstances.

1.2 Scope

- 1.2.1 This Outline SMP sets out the strategy, approach, methodology and guidance of soil mitigation, and the key requirements for developing a detailed Soil Management Plan (detailed SMP) pre-construction for soil handling during the construction, operation and decommissioning phases in line with national policy and industry guidance in relation to soil resources protection.
- 1.2.2 This document covers the following aspects:
- Pre-construction phase planning;
 - Roles and responsibility;
 - Soil resources baseline;
 - Soil Management measures;
 - Site preparation;
 - Soil stripping;
 - Soil stockpiling;
 - Soil stockpile maintenance;
 - Soil reinstatement; and
 - Soil aftercare.
 - Soil Management during the operational phase; and
 - Soil Management during the decommissioning phase.

1.3 Guidance

- 1.3.1 In accordance with National Policy Statement for Energy (EN-1) (Ref.1.1), National Policy Statement for Renewable Energy Infrastructure (EN-3) (Ref.1.2), National Policy Statement for Renewable Electricity Networks Infrastructure (EN-5) (Ref.1.3) and local Council policies related to soil resources protection as stated in Chapter 20 Agricultural Circumstances **[EN010170/APP/GH6.2.20]**, this Outline SMP has been produced in line with the following guidance:
- Construction Code of Practice for the Sustainable Use of Soils on Construction Sites (Ref. 1.4);
 - Good Practice Guide for Handling Soils in Mineral Workings (Ref. 1.5);



- BS 3882 Specification for topsoil (Ref. 1.6);
- BS 8601 Specification for subsoil and requirements for use (Ref. 1.7);
- Soil Professional Competence Standards No. 1 (Foundation skills in field soil investigation, description, and interpretation) from the British Society of Soil Science (Ref. 1.8); and
- Soil Professional Competence Standards No. 4 (Soil science in soil handling and restoration) from the British Society of Soil Science (Ref. 1.9).



2 Pre-construction Phase Planning

- 2.1.1 It is the principal contractor's responsibility to manage soil management during construction, operation and decommissioning.
- 2.1.2 A soil survey will be undertaken by a suitably qualified and experienced soil scientist or practitioner in refined Cable Route Corridor where ALC survey is not conducted during the Environmental Impact Assessment (EIA).
- 2.1.3 A detailed SMP will be produced before construction based on soil data from the ALC survey at the EIA stage and from any subsequent pre-construction soil surveys of the Cable Route Corridor conducted post consent and pre-construction. The detailed SMP will provide detail on each section included in this Outline SMP to ensure the exact nature of works is clearly set out and the management measures are aligned to these to ensure the effective sustainable management and re-use of soils.



3 Soil Resources Baseline

- 3.1.1 The soils resource baseline, including a soil type/soil handling unit distribution map, topsoil and subsoil depth, soil volume will be established based on soil data from the ALC and soil surveys will be reviewed and updated as part of any additional surveys and included as part of the pre-construction detailed SMP.
- 3.1.2 The soil baseline information along with other soil mitigation measures will guide soil handling activities.



4 Roles and Responsibilities

4.1.1 It is Principal Contractor's responsibility to implement the SMP. The implementation of the soil management measures will require, as a minimum, the following roles and responsibilities:

- Site Environmental Manager;
- Soil Scientist; and
- Site Agent.

4.1.2 The Site Environmental Manager will be responsible for:

- Pre-construction planning;
- Effective vegetation and foreign object (e.g. plastic bottle, and metal scrap) clearance prior to soil stripping commencing;
- Confirmation that topsoil and subsoil resources have been correctly identified, and soil plasticity tests are undertaken and recorded ahead of soil stripping;
- Effective separation of soil types and layers during stripping and stockpiling, where data relating to the volume and type of topsoil and subsoil excavated, transported and stockpiled is recorded;
- Effective stockpile construction where locations and conditions are recorded, and monthly inspections of stockpile condition; and
- Effective backfilling of each layer in the correct sequence (where backfilling is required).

4.1.3 The Soil Scientist will be responsible for:

- Provision of training identifying soil types and undertaking soil plasticity assessment;
- Development and provision of toolbox talks; and
- Monitoring and auditing of all soil handling activities identified in the SMP.

4.1.4 The Site Agent will be responsible for effectively implementing soil handling activities.



5 Soil Management

5.1 General Soil Protection Measures

- 5.1.1 Soils will be handled when they are in a reasonably dry and friable state, or on the assumption they have passed the tests for soil plasticity assessment for soil handling suitability.
- 5.1.2 Work will be programmed, and plant and other site vehicles will be managed so that they do not traffic across in situ topsoil.
- 5.1.3 All areas which will not be stripped will be clearly demarcated with appropriate signage and fencing. Other potential constraints, such as relating to landowner boundaries, flood zones or archaeologically/ecologically sensitive features will also be clearly demarcated and specific toolbox talks delivered in relation to any additional requirements.
- 5.1.4 Machinery and its operation shall comply with the Construction Code of Practice for the Sustainable Use of Soils on Construction Sites (Ref 1.4) and the Good Practice Guide for Handling Soils in Mineral Workings (Ref 1.5). The exact plant to be used will be defined by the appointed contractor and the relevant information included in the detailed SMP.

5.2 Soil Training

- 5.2.1 The Soil Scientist will provide training on identifying topsoil, subsoil, soil type, and soil plasticity assessment to relevant personnel involved in soil handling and management activities.
- 5.2.2 The Soil Scientist will conduct site-specific toolbox talks on soil stripping and storage.

5.3 Site Preparation

- 5.3.1 Prior to soil stripping commencing any existing vegetation will be cleared, with arisings removed, to ensure the soil is free from significant quantities of green vegetative material or other materials which would make the soils unsuitable for their intended re-use.
- 5.3.2 All vegetative clearance works will be undertaken ensuring that soils are not damaged through the creation of ruts or mixing of topsoil and subsoil resources.

5.4 Soil Stripping

- 5.4.1 Soil stripping will follow the following principles:
- Soils to be stripped according to the thickness of soil horizons and soil types without mixing;
 - Soils to be stripped in the driest conditions possible with works stopped where necessary during wet ground conditions; and
 - Minimisation of dust and silt-laden runoff generation.
- 5.4.2 Topsoil and subsoil will be stripped to the correct soil depths to avoid the mixing of topsoil and subsoil resources.



5.4.3 Soil stripping will follow the sequence of removing the topsoil first, followed by the subsoil if required.

5.4.4 The exact depths of topsoil and subsoil and soil types will be defined in the detailed SMP.

5.5 Soil Stockpiling

5.5.1 Soil stockpiles will be located in appropriate locations to avoid increased flood risk, watercourses and topographic depressions.

5.5.2 Stockpiles will be designed to reduce the potential for damage to the physical condition and erosion and facilitate the shedding of water.

5.5.3 Soils will be stockpiled in designated stockpile area according to work design.

5.5.4 Soils will be stockpiled within the height as determined in the detailed SMP.

5.5.5 Stripped topsoil and subsoil resources will be stored separately in stockpiles.

5.5.6 Stockpiles to be seeded with low maintenance grass and clover mix to minimise risk of soil erosion and reduce the spread of weeds if stockpiled for over six months.

5.5.7 If soils are stockpiled less than six months, the stockpiles will be covered with material adequate to prevent erosion by wind or rainwater runoff and covers shall be maintained in good condition.

5.5.8 All stockpiles will be clearly labelled.

5.5.9 Weed control will be managed by spraying, mowing or strimming.

5.5.10 Soil movements and stockpile content to be recorded.

5.6 Soil Reinstatement

5.6.1 Soils will be reconditioned to restore a structured, uncompacted and well-aerated soil profile, using loos-tipping method, as stated in Construction Code of Practice for the Sustainable Use of Soils on Construction Sites (Ref. 1.4), to break big clods and dry soils to remove anaerobic condition.

5.6.2 For areas of landscape planting or habitat creation, soil profiles to be created using available soil resources that support the required end use.

5.6.3 Prior to any reinstatement, the quantity and characteristics of available soils should be assessed, and the soil profiles being reinstated will be designed to ensure the soils to be restored to their previous conditions and land to be restored to their previous ALC grades.

5.6.4 The full volume of soils to be reinstated (i.e. no materials will be taken off-site).

5.7 Aftercare

5.7.1 It takes some time for restored soils to be settled after reinstatement. Checking and monitoring will be conducted to ensure the restored soils to regain their previous condition by the end of aftercare period. Remediation will be implemented where necessary



5.8 Soil Management during the Operational Phase

5.8.1 During the operational phase, general maintenance and activities such as replacement of panels and batteries are expected to have minimal disturbance to soils and land. Good soil handling practice will be followed throughout the duration of the operational phase in line with the detailed Soil Management Plan tailored for operational phase, which will primarily include the following but not limited:

- Vehicles stay on access tracks;
- Avoid leaving access tracks when the ground is wet; and
- When replacement is required, site preparation, soil stripping, stockpile and reinstatement principles will be followed as per the developed operational detailed SMP.

5.9 Soil Management during the Decommissioning Phase

5.9.1 During the decommissioning phase, soils and land will be disturbed due to the removal of all infrastructure. Soil mitigation measures during the construction stage outlined in this outline SMP would still apply during decommissioning phase in principle. However, a final SMP will be needed to be in place to reflect weather, soil and land conditions to ensure the Sites returned to their original use and condition as far as practicable. The final Soil Management Plan for the decommissioning phase will primarily include the following but not limited:

- Site preparation;
- Soil stripping;
- Soil stockpiling;
- Soil reinstatement:
 - Soil profiles to be reinstated will be designed to ensure soils /land to be restored to previous condition;
 - Treatment of overburden and placement by subsoiler/ripper, especially for BESS where the ground has been sealed;
 - Restore field drainage where required to avoid waterlogging; and
 - Soil placement.
- Soil aftercare and remediation.



References

- Ref 1.1 DESNZ (2024). Overarching National Policy Statement for Energy (EN-1)
- Ref 1.2 DESNZ (2024). National Policy Statement for Renewable Energy Infrastructure (EN-3)
- Ref 1.3 DESNZ (2023). National Policy Statement for Electricity Networks Infrastructure (EN-5)
- Ref 1.4 Department for Environment, Food and Rural Affairs (DEFRA) (2009). Construction Code of Practice for the Sustainable Use of Soils on Construction Sites
- Ref 1.5 Institute of Quarrying (2021). Good Practice Guide for Handling Soils in Mineral Workings
- Ref 1.6 British Standards Institution. (2015). BS 3882:2015 Specification for topsoil. London: British Standards Institution
- Ref 1.7 British Standards Institution. (2013). BS 8601:2013 Specification for subsoil and requirements for use. London: British Standards Institution
- Ref 1.8 Foundation skills in field soil investigation, description and interpretation (BSSS, 2018). [redacted]
[redacted] [date accessed: 19/02/2025]
- Ref 1.9 Soil science in soil handling and restoration (BSSS, 2018), [redacted]
[redacted] [date accessed: 19/02/2025]