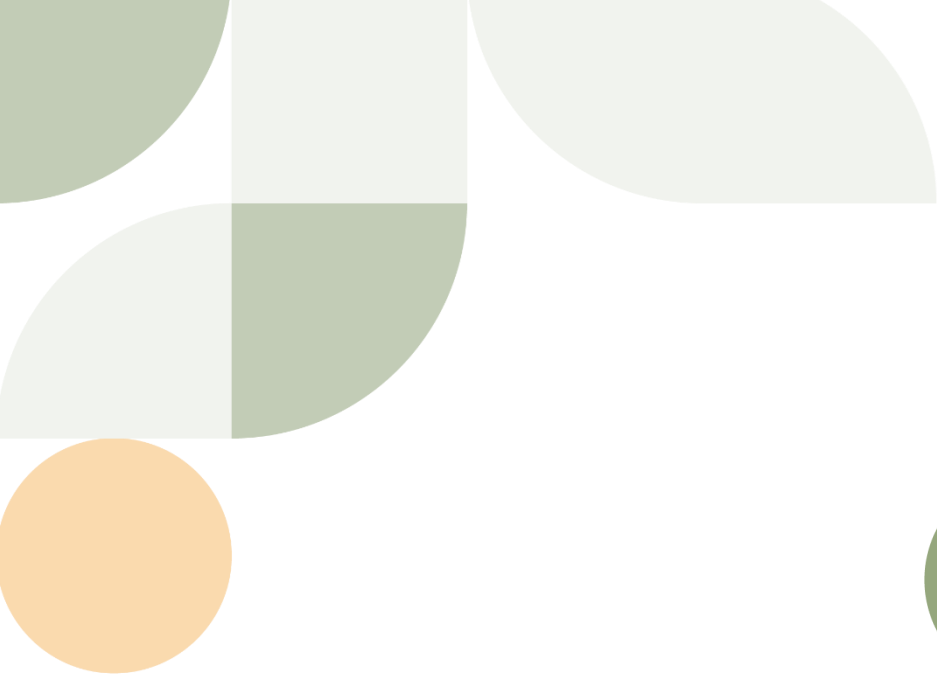




Lime Down

Solar Park

Outline Soil Resources Management Plan (Tracked)

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Revision 56

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Schedule of Changes

Revision	Section Reference	Description of Changes	Reason for Revision
2	Throughout	Clarification provided that the SRMP applies throughout the lifetime of the Scheme.	Updated in response to Wiltshire Council Comments provided at Deadlines 1 and 1A of Examination.
	Paragraph 1.8.30 to 1.8.32	Confirmation of boreholes analysed by a suitably qualified soil scientist at decommissioning and restoration methodology for stockpiles.	Updated in response to ExQ1 (LSF1.9 and LSF1.15) for Deadline 3 of Examination
	Paragraph 1.8.26	Updates to clarify hardstanding will be decommissioned.	Updated in response to Wiltshire Council Written Questions submitted at Deadline 2 of Examination.
3	Paragraph 1.8.22	Addition of principles for locating soil stockpiles	Updated in response to ExA comment at Issue Specific Hearing 2.
	Paragraph 1.8.24	Addition of maximum parameters for soil stockpiles.	Updated in response to ExA comment at Issue Specific Hearing 2.
4	Paragraph 1.8.37 to 1.8.41	Addition detail provided for monitoring procedures and remediation of soil compaction.	Updated in response to Wiltshire Council comments on the Statement of Common Ground.
5	Paragraph 1.8.23	Updates in relation to exclusions pertaining to stockpile locations.	Updated at Deadline 6 of Examination in relation to Wiltshire Councils Deadline 5 (DCO2.1h) Submission.
	Paragraph 1.1.5	Spelling error corrected.	Updated at Deadline 6 of Examination as a result of Applicant due diligence
	Paragraph 1.8.40	Included cross reference to the Water Management Plan to be produced as part of the detailed CEMP.	Updated at Deadline 6 of Examination in relation to Wiltshire Councils Deadline 5 (FHW2.6a) Submission.
6	<u>Paragraph 1.8.23</u>	<u>Addition of hydrology text regarding storage outside of Flood Zones 2 and 3 and additions to LVIA and ecology lists following ISH7.</u>	<u>Updated at Deadline 7 of Examination following requests made by Wiltshire Council at ISH 7 (Action 34 in EV13-010).</u>
	<u>Paragraph 1.8.41</u>	<u>Additional monitoring measures added to ensure vegetation establishment.</u>	<u>Updated at Deadline 7 of Examination following discussions at ISH 5 (Action 11 in EV11-010).</u>

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Outline Soil Resources Management Plan

1.1 Introduction

- 1.1.1 This document provides an Outline Soil Resources Management Plan (SRMP) for the construction, operation, maintenance and decommissioning of Lime Down Solar Park (the Scheme). It includes the overall approach to managing soil resources affected by the Scheme.
- 1.1.2 This Outline SRMP sets out the measures that will be developed in more detail in the detailed SRMP, the production of which is secured through the Development Consent Order (DCO), as well as setting out the monitoring and recording activities to ensure that these measures are carried out.
- 1.1.3 The detailed SRMP will be produced for the Scheme following the appointment of the contractor prior to the commencement of construction. This Outline SRMP provides the structure of the detailed SRMP and the types of controls that are anticipated to be included to deliver the Scheme.

The Scheme

- 1.1.4 The Scheme will entail the construction, operation, maintenance and decommissioning of several components, including:
- Solar PV Panels mounted on Solar PV Mounting Structures;
 - A Battery Energy Storage System (BESS) area;
 - Conversion Units / 33 kV Sub-distribution Switch Rooms;
 - Up to three 132 kV Substations;
 - One 400 kV Substation;
 - On-site cables connecting Solar PV Panels to the Conversion Units;
 - Interconnecting cables connecting the Conversion Units to the Substations; and
 - Grid connection cables connecting the Substations to the Existing National Grid Melksham Substation.
- 1.1.5 The Scheme sits within the administrative boundaries of Wiltshire Council and crosses the parish boundaries of Sherston, Norton, St Paul Malmesbury Without, Hullavington, Luckington and Alderton, Grittleton, Yatton Keynell, Chippenham Without, Biddestone and Slaughterford, Corsham, and Melksham Without.

- 1.1.6 The land required for the Scheme is primarily in agricultural use and mostly arable, with grassland most frequently found at the southern end of the Cable Route Corridor.

Project team roles and responsibilities

- 1.1.7 Specific roles and responsibilities in managing the soil resources will be set out in the detailed SRMP but are likely to include:
- An Agricultural Liaison Officer (ALO) who will act as a liaison between the landowners and the contractor; and
 - A suitably qualified soil practitioner who will undertake such tasks as the on-site assessments of soil suitability for handling, or who will otherwise be able to instruct the contractor on how to undertake the necessary tests.

Structure of the Outline Soil Resources Management Plan

- 1.1.8 The Outline SRMP includes:
- Details of relevant policies and guidance relating to soil resources and their management;
 - Relevant background information, including climate, geology, altitude, topography, soil type and land use;
 - Descriptions of the soil resources identified in the survey work undertaken across the Solar PV Sites and the Cable Route Corridor;
 - Appropriate soil handling methods for stripping, stockpiling and reinstatement of soils; and
 - Monitoring procedures.

1.2 Relevant policy and guidance

1.2.1 Relevant policies for soil protection include:

- Overarching National Policy Statement for Energy (EN-1) (Ref 1);
- National Policy Statement for Renewable Energy Infrastructure (EN-3) (November 2023) (Ref 2);
- National Policy Statement for Electricity Networks Infrastructure (EN-5) (November 2023) (Ref 3);
- National Planning Policy Framework (NPPF) paragraph 187 (Ref 4); and
- Defra Soil Strategy for England (Ref 5).

1.2.2 Relevant guidance notes for soil protection include:

- Defra Construction Code of Practice for the Sustainable Use of Soils on Construction Sites (Ref 6);
- Institute of Quarrying, Good Practice for Handling Soils in Mineral Workings (Ref 7);
- Natural England, Guide to assessing development proposal on agricultural land (Ref 8);
- British Society of Soil Science, Working with Soil Guidance Note Document 3: Benefitting from Soil Management in Development and Construction (Ref 9);
- Institute of Environmental Assessment and Management, A New Perspective on Land and Soil in Environmental Assessment (Ref 10); and
- Soils in Planning and Construction Task Force, Building on soil sustainability: Principles for soils in planning and construction (Ref 11).

1.2.3 Paragraph 187 of the NPPF indicates that planning decisions should protect and enhance soils (in a manner commensurate with their statutory status or identified quality in the development plan).

1.2.4 The relevant guidance listed generally sets out the principles of good soil management, with also practical guidance offered by the Code of Practice (Ref 6) and the Good Practice Guide (Ref 7).

1.3 Scope

- 1.3.1 The detailed SRMP will apply to the management of soils during the construction phase and throughout the lifetime of the Scheme. Although most soil resources that will be affected are in agricultural use, the detailed SRMP will apply to all soil resources in all land uses.
- 1.3.2 Although primarily designed for the construction phase, the soil protection measures contained within the detailed SRMP will also be applied to any monitoring, maintenance, repair or replacement works that need to occur during the operation of the Scheme and that affect soil resources. The measures will also be relevant to works during the decommissioning phase, subject to relevant good practice measures in place at that time.
- 1.3.3 Soil management methodologies to be included within the detailed SRMP, include:
- Soil handling methods (stripping, stockpiling and reinstatement) for any soils that will be disturbed by the construction of the Scheme;
 - Monitoring procedures required for all soils (disturbed or those left in situ) during the construction of the Scheme, including details of roles and responsibilities;
 - Restoration methods for land that is disturbed temporarily during construction and subsequently returned to agricultural use for the operation of the Scheme;
 - Any measures required to ameliorate soils to ensure the original land quality is achieved upon reinstatement;
 - Monitoring required during the operation of the Scheme; and
 - Works required at decommissioning to establish the soil condition at the time and to inform the reinstatement and handover process.

1.4 Sources of information

- 1.4.1 All the agricultural land within the Solar PV Sites that will be subject to disturbance has been surveyed, as well as Substation locations along the Cable Route Corridor and other points along the Cable Route Corridor covering each mapped soil type. The baseline soil characteristics were established through these surveys. The soils have been described according to the Soil Survey Field Handbook (Ref 12) which is the recognised source for describing soil profiles and characteristics according to the revised Agricultural Land Classification (ALC) guidelines (Ref 13).
- 1.4.2 The following characteristics were assessed at each surveyed location:
- Depth of horizon;
 - Soil texture;
 - Stone content;
 - Colour (including localised mottling);
 - Consistency;
 - Structural condition; and
 - Free carbonate.
- 1.4.3 In total, 29 topsoil samples were submitted for further laboratory determination of particle size distribution (to confirm hand texturing in the field), pH, organic matter content and nutrient contents (Phosphorus (P), Potassium (K) and Magnesium (Mg)).
- 1.4.4 The soil characteristics recorded were then analysed according to the ALC guidelines and used to develop the ALC mapping.

1.5 Description of soils in the Development Area

1.5.1 The surveys identified two predominant soil types present across the Solar PV Sites, and a third subordinate type present in the east. The types are broadly defined as follows:

- Deep slowly permeable clays, often calcareous;
- Shallow fine loamy or clayey soils over brashy limestone; and
- Deep sandy soils.

1.5.2 Each type is summarised below in **Table 1**.

Table 1 Summary of soil types

Type	Topsoil	Subsoil	ALC Grade
Deep slowly permeable clays	Dark greyish brown, non-calcareous, stoneless to slightly stony, heavy (silty) clay loam, clay or silty clay.	Greyish brown or light olive brown, increasingly calcareous with depth, stoneless or slightly stony, clay or silty clay	Subgrade 3b or Grade 4
Shallow fine loamy over brashy limestone	Dark greyish brown, non-calcareous, slightly to moderately stony, silty clay loam or clay loam.	Brown, moderately to very stony, moderately calcareous, silty clay loam or clay.	Subgrade 3a or 3b
Deep sandy soils	Dark greyish brown, non-calcareous, stoneless, sandy loam, loamy sand or sandy silt loam	Brown, stoneless, non-calcareous, medium sand, loamy sand or medium sandy loam	Grade 2

1.6 Characterisation of soil types

- 1.6.1 The sensitivity of soils to handling, stockpiling and reuse is determined by their texture, wetness class (WC) and local agro-climatic conditions, particularly the number of days when soils are at field capacity and can accept no further rainfall.
- 1.6.2 Soils, when in a wet condition, generally have a lower strength and less resistance to compression and smearing than when dry. Lower strength when soils are wet also affects the bearing capacity of soils and their ability to support the safe and efficient operation of machines than when in a dry state.
- 1.6.3 In terms of resilience and susceptibility to soil wetness, the clay content of the soil largely determines the change from a solid to a plastic state (the water content at which this occurs is the plastic limit). This is the point at which increasing soil wetness reduces the cohesion and strength of the soil and its resistance to compression and smearing.
- 1.6.4 Whilst coarse textured sandy soils are not inherently plastic when wet, they are still prone to compaction when in a wet condition. Hence, handling all soils when wet will have adverse effects on plant root growth and soil profile permeability.
- 1.6.5 The Institute of Sustainability and Environment Professionals (ISEP, previously known as IEMA) has characterised the sensitivity of topsoil and subsoil resources based on its resilience to structural damage, as shown in **Table 2**.

Table 2 Sensitivity of soil types (Ref 10)

Sensitivity of topsoil and subsoil	Soil texture, Field Capacity Days and Wetness Class
High sensitivity (low resilience to structural damage)	Soils with high clay and silt fractions (clays, silty clays, sandy clays, heavy silty clay loams and heavy clay loams) and organo-mineral and peaty soils where the Field Capacity Days (FCD) are 150 or greater. Medium-textured soils (silt loams, medium silty clay loams, medium clay loams and sandy clay loams) where the FCDs are 225 or greater. All soils in WC V or VI.
Medium sensitivity (medium resilience to structural damage)	Clays, silty clays, sandy clays, heavy silty clay loams, heavy clay loams, silty loams and organo-mineral and peaty soils where the FCDs are fewer than 150.

Sensitivity of topsoil and subsoil	Soil texture, Field Capacity Days and Wetness Class
	Medium-textured soils (silt loams, medium silty clay loams, medium clay loams and sandy clay loams) where FCDs are fewer than 225. Sands, loamy sands, sandy loams and sandy silt loams where the FCDs are 225 or greater or are in WC III and IV.
Low sensitivity (high resilience to structural damage)	Soils with a high sand fraction (sands, loamy sands, sandy loams and sandy silt loams) where the FCDs are fewer than 225 and are in WC I and II.

- 1.6.6 The number of FCDs across the Development Area ranges from 171 to 188, which is higher than the average for lowland England (150).
- 1.6.7 The heavy textured soils (those with a high clay fraction) within the Development Area are therefore categorised as high sensitivity and low resilience to structural damage, and the medium textured soils are categorised as medium sensitivity and medium resilience to structural damage. All coarse textured soils are categorised as low sensitivity and high resilience to structural damage.
- 1.6.8 There are no soils in WC V or VI within the Order Limits, so no soils are categorised as high sensitivity solely on their wetness class.

1.7 Soil disturbance

- 1.7.1 Topsoil stripping would be required from areas proposed for access tracks, compound locations, the BESS, Conversion Units and all Substations. There is a potential requirement for localised site levelling, which would also involve stripping of topsoil prior to regrading. This disturbance to the topsoil would be temporary, but long-term, spanning the lifespan of the Scheme (approximately 60 years). The specific areas and volumes of topsoil and subsoil of each soil type to be excavated from these areas will be confirmed in the detailed SRMP.
- 1.7.2 The detailed SRMP will also describe where and for how long these soils would be stockpiled; how soil within the stockpiles would be managed, having regard to different soil types and neighbouring land uses; and how and when any of the soils would be reused within the Scheme during operation, for example in landscaping.
- 1.7.3 The proposed method of the cable installation across the agricultural land is primarily open cut excavation (other than where trenchless crossings of crossing points and Avoidance Areas, for example, impact on agricultural land). Open cut excavation would involve stripping the topsoil and subsoil and placing it next to the cable route within the same land holding where possible, installing the cables, then backfilling the exposed trench with the original soils in the correct sequence. This disturbance is temporary and short-term.

1.8 Soil handling methods

Soil stripping methods and suitability criteria

Principles

- 1.8.1 Soil stripping, handling, storage and reinstatement procedures will conform with the relevant guidance set out in Section 1.2 (or any replacement guidance), particularly the Construction Code of Practice for the Sustainable Use of Soils on Construction Sites (Ref 6) and the Good Practice Guide for Handling Soils in Mineral Workings (Ref 7). Although the Good Practice Guide is designed specifically for mineral workings, it is the replacement of the earlier Ministry of Agriculture, Fisheries and Food Good Practice Guidance for Handling Soils (2000), and has wider applicability to developments other than mineral workings.
- 1.8.2 The main impacts on soils during construction occur as a result of trafficking by vehicles and plant, and excavating and handling soils in inappropriate conditions, largely when the ground conditions and soils are too wet. These can both cause damage to soil structure from compaction and smearing, which can be difficult to ameliorate.
- 1.8.3 It is recognised that compaction can reduce infiltration capacity on affected soils and lead to increases in runoff if left unmanaged. Measures to deal with flood risk and drainage are set out within **ES Volume 3, Appendices 11-1 to 11-9: Flood Risk Assessment and Outline Drainage Strategies** [**REP4-021, REP5-047, REP5-049, REP6-010, REP5-053 to REP4-036, REP5-060, and REP3-063**].
- 1.8.4 The following general good practice measures should be adopted and employed by the contractor to avoid damage to soil structure, and should be included in the detailed SRMP:
 - Suitably qualified soil scientists will be appointed by the contractor to oversee and define all soil management good practice measures set out in this Outline SRMP;
 - Soil resources will be clearly identified (usually by texture and/or colour) to avoid mixing of topsoils with subsoils when excavating and filling the trenches;
 - No trafficking of vehicles/plant or materials storage will occur on reinstated soil wherever practicable;
 - Disturbance to soils will be minimised at all stages; for example, avoiding unnecessary repeat movements over the same ground;

- The movement of vehicles and plant will be restricted to designated access and haul routes;
- Multiple handling of soils will be avoided;
- Soil handling, including tracking over the soil with machinery, will only take place in suitable soil moisture and weather conditions;
- Soils will only be stored in designated stockpiles;
- Long-term (over 6 months) stockpiles will be seeded to prevent wind and water erosion; and
- Records of soil handling operations and stockpiles will be kept.

Soil moisture conditions for handling

- 1.8.5 Handling soils in appropriate moisture conditions will avoid damage to soil structure, particularly from compaction and smearing. As high sensitivity and low resilience soil textures are confirmed within the Development Area, adherence to the moisture conditions for handling is extremely important.
- 1.8.6 The Good Practice Guide for Handling Soils (Ref 7) provides indicative regional summaries of the optimal times for soil handling based on soil moisture deficits, field capacity days and soil textures. Within this model, the Scheme is within climatic zone 2. The indicative months when soils might be in a sufficiently dry condition to move are shown in **Table 3**.

Table 3 Indicative months when soils are sufficiently dry for handling (from Good Practice Guide for Handling Soils)

Soil clay content	Handling window
Topsoil (0-30cm) <10% clay 10-27% clay >27% clay	Late March to early November Early May to early November Not given
Upper subsoil (30-60cm) <10% clay 10-27% clay >27% clay	Mid April to early November Early May to early November Early June to early November
Lower subsoil (>60cm) <10% clay 10-18% clay 18-27% clay >27% clay	Mid April to early November Early May to early November Early June to early November Early June to mid October

- 1.8.7 This guide is intended to assist with planning soil handling and movement operations at an early stage and broad scale for projects. It will also assist in communicating the likely requirements for access with landowners. It will not be relied on in practice when deciding operationally whether to proceed with soil handling on the ground, given the actual variation in weather events and soil moisture conditions from year to year and within years.
- 1.8.8 Nevertheless, in planning soil handling operations for the Scheme, it is evident that there is generally likely to be a smaller window when the heavier textured subsoils are suitable for handling. For most of the panel areas, the subsoils will not be disturbed and the soils will only be trafficked in suitable soil moisture and weather conditions. For the cable installation, it is important that subsoils are reinstated in a suitably dry condition as otherwise the reinstatement could lead to compaction and poor drainage at depth which would be difficult to remedy. If soils are wet when due for reinstatement, they should be moved into smaller windrows prior to reinstatement to enable them to dry to a suitable moisture condition.
- 1.8.9 It is important to note that soil handling operations will be completed in time to enable a new vegetation cover to become established on reinstated land (or on the surface of a stockpile) prior to the onset of winter in order to keep the soils in as dry a condition as possible and prevent erosion over winter.
- 1.8.10 The above gives a broad indication of when soils are likely to be suitable to be moved but the contractor must set out the procedures for assessing on site whether soils are in a suitably dry condition for handling in the detailed SRMP.
- 1.8.11 The initial testing will be carried out by professional soil surveyors but suitably trained site operatives can carry out and record the testing during operations, with periodic reviews undertaken by the professional soil surveyors.
- 1.8.12 The tests will be undertaken in the field, with samples taken from at least five locations in the soil handling area and at each soil horizon to the full depth of the horizon to be stripped. The tests comprise visual examination of the soil and physical assessment of the soil consistency. The criteria are taken from the Good Practice Guide for Handling Soils (Ref 7) and set out below in **Table 4** and **Table 5**.

Table 4 Visual examination test for suitably dry soils (from Good Practice Guide for Handling Soils)

Visual examination	Action
If the soil is wet, films of water are visible on the surface of soil particles or aggregates (e.g. clods or peds)	No soil handling to take place
If a clod or ped is squeezed in the hand and readily deforms into a cohesive 'ball'	No soil handling to take place
If the sample is moist (i.e. there is a slight dampness when squeezed in the hand) but it does not significantly change colour (darken) on further wetting, and clods break up/crumble readily when squeezed in the hand rather than forming into a ball	Soil handling can take place
If the sample is dry, it looks dry and changes colour (darkens) if water is added, and it is brittle	Soil handling can take place

Table 5 Consistency test for suitably dry soils (from Good Practice Guide for Handling Soils)

Consistency tests (not applicable to sands and coarse loams)	Action
First test: Attempt to mould soil sample into a ball by hand	
Impossible because soil is too dry and hard	Soil handling can take place
Impossible because soil is too loose and dry	Soil handling can take place
Impossible because the soil is too loose and wet	No soil handling to take place
Possible - Go to second test	
Second test: Attempt to roll ball into a 3mm diameter thread by hand:	
Impossible because soil crumbles or collapses	Soil handling can take place
Possible	No soil handling to take place

- 1.8.13 The contractor must also include a rainfall protocol in the detailed SRMP for stopping and restarting soil handling operations. The following guidelines are commonly used and are taken from the Good Practice Guide for Handling Soils (Ref 7), assuming that the soils are in a suitably dry condition (following the above tests in **Table 4** and **Table 5**) before the rainfall event:

- In light drizzle, soil handling may continue for up to four hours unless the soils are already at/near to their moisture limit;
- In light rain, soil handling must cease after 15 minutes; and
- In heavy rain and intense showers, soil handling shall cease immediately.

1.8.14 Once the rainfall event has passed, the visual examination and consistency tests should be applied to determine if soil handling operations can restart, provided that the ground is free from ponding and ground conditions are safe to do so.

1.8.15 These are general guidelines, and decisions to proceed or stop should be made at the local site level and based on the actual wetness state of the soils being handled.

Preparatory works

1.8.16 Before commencing any work on site that involves vehicles running over ground, the contractor will ensure that the following areas are marked and signposted within the Development Area:

- Construction exclusion zones around trees;
- Areas from which soils will be stripped;
- Locations of topsoil and subsoil stockpiles; and
- Access routes.

Topsoil stripping methods

1.8.17 Any areas required temporarily for compounds, machinery storage etc., will normally be stripped of topsoil. Topsoils will be stripped in accordance with good practice as set out in the Good Practice Guide for Handling Soils (Ref 7) or any subsequent revision, and which will be described further in the detailed SRMP.

1.8.18 Likely plant required will include excavators, tracked dozers and dump trucks.

1.8.19 The locations and depths of topsoils to be stripped will be confirmed in the detailed SRMP.

Subsoil stripping methods

1.8.20 Subsoils will be stripped in accordance with good practice as set out in the Good Practice Guide for Handling Soils or any subsequent revision, and which will be described further in the detailed SRMP.

- 1.8.21 Likely plant required will include excavators, tracked dozers and dump trucks.
- 1.8.22 The locations and depths of subsoils to be stripped will be confirmed in the detailed SRMP.

Stockpiling

Locations of stockpiles

- 1.8.23 The locations of topsoil and subsoil stockpiles will be determined in the detailed SRMP as the information becomes available. Good practice determines that stockpiles should not be positioned within the root- or crown-spread of trees, adjacent to watercourses or in locations where they will be disturbed or contaminated by other construction activities (Ref 6). The following controls will also be applied:

Hydrology, Flood Risk and Drainage

- Long-term soil stockpiles that are to remain in-situ during the operational lifetime of the Scheme will be located within Flood Zone 1 and outside identified principal surface water flow routes. This will protect the stored soil resource from erosion, mobilisation or loss during flood events and ensure that stockpiles do not displace floodwater or obstruct existing flood conveyance routes;
- Temporary stockpiles will be located outside of the Flood Zone 3 flood extent and away from drainage systems. If areas located within Flood Zone 2 are to be utilised for the storage of construction materials, then a standard rules permit will be sought from the Environment Agency; and
- Stockpiles will not be located within Flood Zone 3b and, where practicable, will be located outside the 1 in 100 year flood extent

Cultural Heritage

- Soil should not be stockpiled upon any areas identified for archaeological mitigation in the form of preservation in situ. Stockpiling can occur in areas identified for archaeological mitigation by record (i.e. SMS excavation) once the mitigation has been carried out and the area signed off for construction works; and
- Consideration to the nature of stockpiling (i.e. dimensions) should be given where proposed to be located adjacent to built heritage assets, to ensure there are no further impacts as a result of changes to the setting of the asset beyond that identified as a result of other infrastructure associated with the scheme. Where there is a potential

for indirect impact to a built heritage asset as a result of stockpiling, stockpiles should be sited away from the asset.

Ecology and Biodiversity

- No stockpiles should be placed within ecological buffer zones as set out in **ES Volume 3, Appendix 9-8 CONFIDENTIAL Schedule of Protective Ecological Buffers [APP-205]**;
- Stockpiles shall only be created in fields where ecological pre-commencement/pre-clearance checks have been undertaken, in line with the relevant Method Statements of the **Outline EPMS [REP5-081]**, and absence of active nests for ground-nesting bird species and other ecologically sensitive features such as additional badger setts/sett entrances has been confirmed by the Ecological Clerk of Works. Should such features be identified, appropriate buffers should be adhered to in line with the relevant Method Statements of the **Outline EPMS [~~REP5-081~~REP6-039]** in determining stockpile locations; ~~and~~
- As an alternative to stockpiling subsoil, the resource may be used to simulate topsoil inversion in ecological mitigation areas where practicable to lower the residual surface fertility of former agricultural soil and reducing competition between sown species and weeds; ~~and~~
- No stockpiles shall be located in field areas that are identified to provide ecological mitigation areas for ground nesting birds, as set out in Table 7 of the **Outline LEMP [REP6-037]** where that would conflict with the purpose of the mitigation. The applicable fields are those referenced A1, A11, A12, B12, C1, C6, C8, C9, C10 and C24 in **ES Volume 2, Figure 2-2-1 to 2-2-5 Field Boundaries and Numbering [APP-078]**.

Landscape and Visual

- No stockpiles should be stored within the Landscape and Visual buffer zones as set out in Table 8-11 of **ES Volume 1, Chapter 8: Landscape and Visual [~~REP3-025~~REP6B-005]**; ~~and~~
- Consideration to the nature of stockpiling (i.e. dimensions) should be given where proposed to be located adjacent to the Cotswold National Landscape, to ensure there are no further impacts as a result of changes to the setting of the CNL, beyond that identified as a result of other infrastructure associated with the scheme.

Building stockpiles

- 1.8.24 Stockpiles will be built according to the good practice methodologies as set out in the Good Practice Guide for Handling Soils (Ref 7) or any subsequent revision, and which will be described further in the detailed SRMP.
- 1.8.25 Stockpiles of topsoil will be constructed to a maximum height of 3m and stockpiles of subsoil will be constructed to a maximum height of 4.5m. The sides of each stockpile will be firmed and graded such that the maximum side slope is 1 in 2 (or 25°) for long-term stockpiles that are to be seeded.
- 1.8.26 Stockpiled soils may need to be sampled and the nutrient status ascertained in order to inform potential suitability for re-use.

Maintenance of stockpiles

- 1.8.27 For each stockpile a plan must be kept and maintained, detailing:
- Material type (topsoil or subsoil);
 - Date/time when soil was stockpiled and weather conditions;
 - Volume of material;
 - Stockpile location;
 - Source location of material; and
 - Management of stockpile, particularly in respect of weed control and other biosecurity considerations.

Reinstatement

Construction phase

- 1.8.28 Reinstatement of soils from any compound areas and access tracks that have been stockpiled should involve excavating and replacing the soil according to good practice guidance set out in the Good Practice Guide for Handling Soils (Ref 7) or any subsequent revision, and which will be described further in the detailed SRMP. This also includes areas of hardstanding which will be decommissioned and returned to agricultural use.
- 1.8.29 Reinstatement of the soils in the Cable Route Corridor should occur as soon as reasonably practicable after installation of the cable, and as agreed with the landowner, such that the soil handling conditions are likely to be similar at the point of excavation and reinstatement.

- 1.8.30 Liaison will take place between the ALO, contractor and landowners to agree the timing and management of the reinstatement of soil over the cable.
- 1.8.31 The soils must be reinstated in order, i.e. subsoil first then topsoil. Normally, any surplus material from the cable void that would need to be removed from site would be subsoil, retaining the full topsoil resource on site, although there may be occasions where the landowner is seeking to restore land to a particular habitat that requires less topsoil resource. These matters and the process for agreement with landowners would be set out in the detailed SRMP.

Decommissioning phase

- 1.8.32 It is anticipated that, with the exception of cables which may be left in-situ, all infrastructure will be removed at decommissioning, including the solar panels, BESS, substations, access tracks and hardstanding and the land reinstated to its pre-construction condition.
- 1.8.33 Upon reinstatement, soil inspections will be undertaken by a suitably qualified soil scientist in order to establish the condition of the land at the end of decommissioning, prior to the end of the relevant landowner lease. The inspections will involve auger boreholes and soil pits being dug across the Solar PV Sites to evaluate soil structures, and to identify issues such as compaction that may have arisen during the decommissioning works. Remedial actions such as subsoiling should be undertaken by the contractor before re-establishing agricultural operations.
- 1.8.34 Reinstatement of the soil profiles in areas of built infrastructure, such as the BESS and substations, will be undertaken in accordance with best practice measures at that time. Stockpiled topsoils will be subject to testing for the nutrient status before being reinstated, such that nutrient amendments can be made promptly if required. Sampling methodologies will be included in the detailed SRMP.

Monitoring procedures

- 1.8.35 This section of the detailed SRMP will set out the mitigation and management measures to be included as a minimum during construction and operation.
- 1.8.36 Monitoring procedures during construction and operation will apply to all soils that are disturbed, either by excavation or tracked by machinery.
- 1.8.37 Guidelines for monitoring the soil resource during construction and operation will be included in the detailed SRMP. Continuous, live monitoring by the contractor of soil handling/weather conditions, as well as

visual monitoring of ground conditions, will be required. Monitoring of weather and ground conditions can be used to inform additional mitigation decisions during works, such as machinery selection.

1.8.38 Compaction of in-situ soil resources will be monitored during construction by inspecting the soil following installation of piles but prior to fixing the panels. The main cause of compaction will be tracking by machinery, the location of which would be visually evident from the ground surface condition. Small hand-dug soil pits to investigate the depth and severity of soil compaction through a Visual Evaluation of Soil Structures (VESS) (Ref 14) will inform the necessity for and type of amelioration most suitable according to the depth of treatment needed. If compaction is identified, remedial action must be taken while the ground remains accessible to the machinery required to relieve compaction and before the panels are fixed. The efficacy of the remedial action may be confirmed with additional small hand-dug pits to ensure the remediation approach targeted the soils to the correct depth.

1.8.39 Monitoring the soil resource during construction will primarily involve the contractor who is responsible for ensuring the detailed SRMP is adhered to. Periodic monitoring by a suitably qualified soil practitioner may also be required.

1.8.40 The land beneath and between the solar panels will enter the operation and maintenance phase in a suitable condition but general visual monitoring of the in-situ soils in the Solar PV Sites will be ongoing during operation. Surface water and flooding will also be monitored throughout the construction, operational (where appropriate), and decommissioning phases. Monitoring will be undertaken in accordance with the Water Management Plan, which will form part of the detailed Construction Environmental Management Plan, Operational Management Plan, and Decommissioning Strategy, as applicable. This may also provide an additional means of identifying any residual soil compaction. Incidences such as surface water ponding or ~~vegetation failure~~rutting will be recorded and should be further investigated by a suitably qualified soil practitioner and addressed when ground conditions are suitably dry to allow access without causing further damage.

~~1.8.40~~1.8.41 Vegetation establishment provides a vital function in ensuring favourable soil structure particularly with regards to preventing surface water runoff. Incidences of vegetation failure will be recorded and will be suitably remediated in line with the **Outline Landscape and Ecological Management Plan [REP6-037]**. Prior to any significant reseedling a suitably qualified soil practitioner should perform checks by means of small hand-dug pits and/or nutrient sampling to determine if compaction or other soil related issues are contributing to the vegetation failure. Should

structural soil issues be determined as the cause of vegetation failure, appropriate mitigation such as loosening of the topsoil or upper subsoil, as appropriate, or nutrient amendments, should be implemented prior to any subsequent sowing.

~~1.8.41~~1.8.42 Should there be sheep grazing beneath the solar panels at any time during the operation and maintenance phase, there is a potential for shallow surface compaction to occur through trampling. Shallow compaction by sheep (or machinery) can resolve on its own through repeated natural wetting and drying cycles of clay soils, as well as continued growth of plant roots, however this should be visually monitored as detailed above in 1.8.39.

~~1.8.42~~1.8.43 Any remedial actions undertaken in one year shall be monitored in subsequent years as part of ongoing visual monitoring by site workers. The remedial actions will be considered as having been to a suitable standard if there are no subsequent issues arising, e.g. there is no recurrence of surface waterlogging and the vegetation cover re-establishes.

~~1.8.43~~1.8.44 All reinstated soils within the Cable Route Corridor will be assessed by or on behalf of the contractor and signed off by the contractor to record that the soils and land are in a suitable condition to hand back to the landowner. Site meetings will take place with the landowner following completion of the works to confirm that the landowner is reasonably satisfied with the reinstatement of land. Any defects identified and agreed between the landowner, contractor and ALO will be ameliorated by the contractor prior to handing back the land.

1.9 References

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- Ref 3 Department for Energy Security and Net Zero (2023) National Policy Statement for Electricity Networks Infrastructure (EN-5). Available at: <https://assets.publishing.service.gov.uk/media/65a78a5496a5ec000d731abb/nps-electricity-networks-infrastructure-en5.pdf> [Accessed July 2025].
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- Ref 14 Agriculture and Horticulture Development Board (2026). How to Assess Soil Structure. Available at: <https://ahdb.org.uk/knowledge-library/how-to-assess-soil-structure> [accessed July 2026]