

Studley Solar Farm, Atworth, Melksham
Construction Phase Surface Water
Management Plan
Planning Condition 10 (REF: PL/2021/08690)

Verdant Energy

April 2026

Prepared for:

Belectric Solar Ltd
Unit 11 Callow Park
Callow Hill
Brinkworth
Wiltshire
United Kingdom
SN15 5FD

Construction Phase Surface Water Management Plan April 2026

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1. INTRODUCTION

- 1.1. This report has been prepared by PFA Consulting on behalf of Belectric in regards to the proposed Melksham Solar Farm at Studley Farm, Atworth, Melksham.
- 1.2. Planning permission for the '*Installation of a solar farm and battery storage facility with associated infrastructure*' was granted permission by Wiltshire Council (Planning Ref: PL/2021/08690) subject to a number of conditions.
- 1.3. This Plan has been informed by the Surface Water Drainage Technical Note (B826-TN01), produced by PFA Consulting Ltd, dated October 2025.
- 1.4. The site is located south to the village of Atworth, Wiltshire, approximately 450m south of the A365. The extent of the site is shown edged in red on Figure 1.1 below.

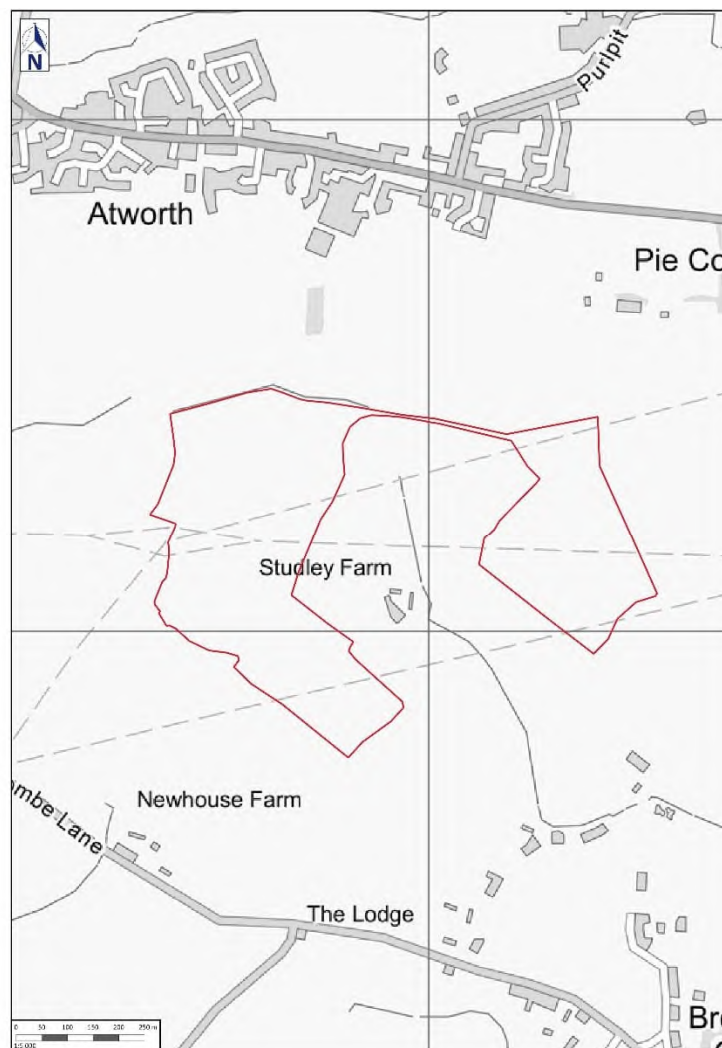


Figure 1.1: Site Location Plan

Co Contains OS data © Crown Copyright [OS VectorMap Local] (2025)

- 1.5. This Construction Phase Surface Water Management Plan has been prepared to provide material suitable for the discharge of planning Condition 10 attached to planning permission reference PL/2021/08690.

- 1.6. This document sets out principles which would be developed further by the construction contractor who would have control on the phasing and delivery of the development and surface water drainage scheme.
- 1.7. This document should be read in conjunction with the Construction Ecological Management Plan (CEMP), which has been prepared by Antea Group to discharge Condition 7 (PL/2021/08690).

2. SURFACE WATER AND CONSTRUCTION

Surface Water Management Summary

- 2.1. A high level summary of the surface water management scheme is set out below to inform the construction contractor of the purpose, and function, of the surface water drainage, and its components, including the proposed interception swales.
- 2.2. The majority of the solar farm development results in minimal change to ground cover when compared with pre-development site conditions. The control equipment is distributed across the site which would following the construction of the development become a permanently grassed field. The effect of the impermeable area created by the control equipment on the hydrological response of the site to rainfall is negligible due to the presence of permanent grass cover across the site.
- 2.3. Due to the distribution and minimal footprint of the impermeable areas of the site from the discrete areas of control equipment, the drainage strategy consists of a “simplified” surface water drainage scheme consisting of the implementation of interception swales at low points of the site with regards to site topography and overland flow routes to intercept flows. Figure 2.1 below shows a typical cross section of an interception swale.

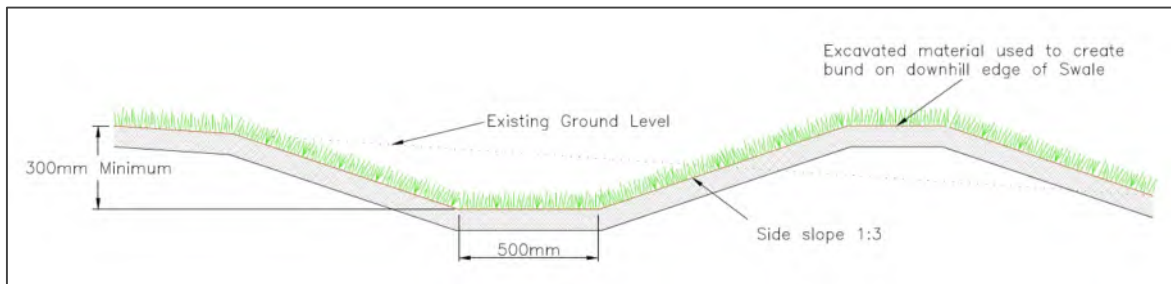


Figure 2.1: Typical Interception Swale

- 2.4. A series of French Drains is proposed to drain the BESS area which flows to an interception swale, as indicated on the Proposed Drainage Arrangements, Drawings No. B827-04-05-06, contained in Appendix A. This also shows the locations of interception swales across the site.
- 2.5. During ‘day to day’ rainfall events, runoff which does not naturally infiltrate into the ground would flow overland and be intercepted and temporarily stored within the interception swales. The interception swales would be periodically wet and encourage infiltration into the underlying ground. If capacity is exceeded they would overtop as sheet flow mimicking the natural response to rainfall from the site with the benefit of ‘slowing the flow’. A boggy/wetland base may form in the interception swale.

Surface Water Management in Construction

Construction Phasing

- 2.6. A proposed construction phase program is shown in Table 2.1 below:

Table 2.1: Proposed Completion Stage Dates

Construction Phase	Start	Duration
Site set up & mobilisation	2026 (TBC)	4 weeks (TBC)
Core construction period	2026 (TBC)	26 weeks (TBC)
Commissioning	2026 (TBC)	8 weeks (TBC)

2.7. Due to the size and nature of the proposed development construction would happen in one core construction period. The general activities in each phase are summarised below:

- Site set up & mobilisation / enabling works:
 - o Installation of crushed stone internal access tracks / temporary roads
 - o Construction of the swales
 - o Preparation of earthworks and foundations.
 - o Installation of perimeter fences.
- Core construction period
 - o Solar panel installation
 - Installation of solar array support structures (piling / assembly).
 - Installation of solar panels and wiring along solar arrays.
 - Installation of below ground cabling between solar arrays and control equipment (trenching).
 - o Electrical Infrastructure Installation
 - Installation and connection of relevant cables
 - Installation of substation.
 - Installation of security fencing and CCTV infrastructure.
 - o Installation of grid connection (trenching/DNO substation).
- Commissioning
 - o Landscape planting installation.
 - o Testing and energisation of equipment.
 - o Removal of site compound and any temporary works.

2.8. The phasing of the construction activities would be dependent on the site manager to confirm taking into account site conditions, availability of equipment/materials/labour, amongst other factors.

2.9. Due to the nature of construction work to install a solar farm the impact on runoff quality and quantity can be managed by adopting best practice construction site management and measures are set out below.

Pollution Prevention and Control

2.10. Adopting best practice construction site management with adequate contingency planning, and following the principles of pollution prevention guidance would reduce the risk of water pollution during the construction phase.

2.11. Construction management measures would be set out in the CEMP. Supplementary measures to be implemented to reduce the risk of water pollution include the proper supervision of construction activities using appropriately experienced and qualified staff and supervisors, and strict adherence to Health and Safety Regulations, Codes of Practice, and Consent Conditions. Other measures which could be implemented as necessary include:

- Contractors would employ best practice, good housekeeping and adopt the principles set out in the CIRIA Toolbox Talks: Environmental¹, CIRIA C532², CIRIA C741³, CIRIA C648⁴ and in general accordance with advice given in Chapter 31 of the SuDS Manual CIRIA C753⁵;
- The contractor would provide additional street cleaning facilities as necessary to keep highways leading to the site clear of mud and prevent sediment contaminating surface water runoff. Wheel cleaning facilities, appropriate stockpiling of topsoil, suitable timing of earthwork and earthmoving operations, and dust suppression measures would be used to prevent migration of sediment and other potentially polluting substances onto the highway and into watercourses;
- Vehicle and plant washing would be carried out on designated areas at least 10m from any watercourse or surface water body;
- Contractors would use well maintained plant, but the likelihood of spills would be reduced through adoption of pollution prevention principles;
- Where construction activities occur in close proximity to watercourses (including highway drainage ditches), additional silt management measures would be required. Geotextile silt fences should be erected along the boundary of watercourses to minimise silt laden runoff entering the on-site watercourses and the use of Siltbusters (or similar approved product) may be necessary;
- Effective contingency plans would be put in place to manage the risk associated with accidents and/or unforeseen circumstances. For example, information relating to the use and location of accidental spill kits and an action plan in the event of an environmental incident would be relayed to the construction personnel;
- Only light machinery would be used to install the solar panels and all HGVs would be restricted to accesses and any temporary construction compounds;
- Construction vehicles and plant would be restricted to agreed access routes within the site to minimise compaction and disturbance of ground conditions;
- The significant storage of fuels, lubricants or chemicals on site is not expected. Any relevant materials would be stored in accordance with the appropriate pollution prevention principles to reduce the likelihood of spillage and with an impermeable base and suitable bunding or double skinned tanks;
- Any temporary construction compound would be constructed of crushed stone permeable material (such as MOT Type 3 subbase or similar approved) to retain the runoff characteristics for the site. Temporary matting would be placed to support weight bearing

¹ CIRIA (2016) Toolbox talks: Environmental. Available at:

https://www.ciria.org/Resources/All_toolbox_talks/Env_toolbox_talks/environmental_tbt.aspx (accessed June 2023).

² CIRIA (2001) Control of water pollution from construction sites. Guidance for consultants and contractors CIRIA C532.

³ CIRIA (2015) Environmental good practice on site guide CIRIA C741.

⁴ CIRIA (2016) Control of water pollution from linear construction projects. Site guide CIRIA C649.

⁵ CIRIA (2015) The SuDS Manual (Version 6 including 2016, 2018, 2019) CIRIA C753.

plant and equipment. The construction compound would be removed after construction is finished;

- Suitable erosion control would be provided to limit the amount of sediment mobilisation occurring on disturbed areas of the site. The erosion control activities could include scheduling construction activities to minimise the area and period of soil exposure; establish temporary (vegetated or geotextile/geocellular confinement and erosion control fabrics) or permanent cover (vegetated or bound surface) as soon as feasible after final grading is complete. The installation of cut off drains (ditches/filter drains) to convey runoff around areas of exposed soil could be considered; and
- De-watering operations should consider passing the discharge water over a grass area / through a temporary gravel strip/temporary drainage feature / device (e.g. Siltbuster or similar product) to promote settlement of suspended solids.
- The on-site watercourses and the ground surface where potentially polluting construction activities are being undertaken or potential contaminating substances are stored would be inspected regularly to check for any unforeseen discharges from the site (changes in colour, transparency, oil sheen (iridescence) or foam build up). If any deterioration in the quality of the on-site watercourses is identified, or a spillage of a potential contaminant identified on the ground surface, this should be reported to the construction site manager and contamination procedure set out in section 6.7 of the CEMP should be followed;
- A site maintenance plan would be implemented so that all construction plant is routinely checked and maintained to reduce the likelihood of leakages during the construction phase; and
- The CEMP includes measures that will be put in place to prevent pollution from construction plant.

Water Quantity (Runoff / Flood Risk) Management Measures

- 2.12. The site's drainage regime may be temporarily disrupted during the construction phase by construction activities such as storage of materials, movement of vehicles and trenching associated with the installation of below ground cables. This could cause minor increases in the runoff rates, minor disruption to overland flow routes and soil compaction in verge/arable field areas.

Soil Compaction Mitigation

- 2.13. Soil compaction would be limited during construction, operation, and decommissioning of the solar farm. During construction, only light machinery is required to install the solar arrays and vehicle movements would be minimised. Low ground pressure vehicles are recommended during wet weather working. Any HGVs are usually restricted to a temporary construction compound near the Site's entrance. The majority of operational vehicle movements would be restricted to onsite access tracks to minimise the risk of soil compaction.
- 2.14. If necessary, to alleviate the effects of any compaction during the construction process, any affected areas are harrowed (or, if necessary, chisel ploughed or similar) and seeded.
- 2.15. During the operation of the Proposed Development, maintenance of the panels is expected to be infrequent, minimal and would only require light machinery. Thus, the infiltration rate of the underlying ground is unlikely to be changed by the Proposed Development.

Welfare and Laydown Area Surface Water Management

- 2.16. The welfare/laydown area and surrounding access tracks are located in an area at risk of surface water flooding. To mitigate this, a series of connected French Drains are proposed to collect surface flows around the access routes and convey them to a proposed interception swale to the south. The swale is intended to operate as a diffuser outfall, filling up and overflowing back into the surface water flow route and watercourses to the south.
- 2.17. The proposed drainage strategy for the Welfare/Laydown area is indicated on the Proposed Drainage Arrangements, Drawing Number B826/04, Rev C, contained in Appendix 1.
- 2.18. The indicative overland flow routes are shown on Drawing Number B826/09, Rev A, contained in Appendix 2, and demonstrate overland flows are directed towards the proposed swales.

Retention of Vegetation

- 2.19. Retaining vegetation on site as far as practicable is highly recommended through the construction phase. The retention of covering vegetation binds the soil together and reduce the rate of runoff from exposed soil and the rate of soil erosion.
- 2.20. Use of temporary matting / temporary trackways should be considered if areas of bare earth persist through the construction phase to minimise disturbance of soil (and mobilisation of sediment).
- 2.21. Proposals for the establishment of landscape planting (grassland, hedgerows etc), landscape maintenance and retention of vegetation across the site are shown indicatively on the Landscape and Ecological Management Plan (LEMP) by Antea Group, reproduced in Appendix 3. This plan shows the proposed planting and wildflower planting across the site and details. Planting best practice, should be followed during the construction phase in accordance with the LEMP.
- 2.22. In areas where vegetation cannot be maintained, the proposed interception swales should be implemented early in the construction phase to intercept overland flows.
- 2.23. On the completion of the construction, if necessary to alleviate the effects of any compaction, it is recommended any affected areas should be harrowed and seeded in accordance with the LEMP prior to commissioning.

Best Practice Construction Site Management

- 2.24. The main construction activities associated with the solar farm which could result in disturbance of the ground (and therefore impact surface water runoff) is associated with the piling of solar array support structures, installation of onsite crushed stone access tracks and trenching associated with below ground cable routes. It is considered these activities when best practice construction site management measures are taken into account (as discussed below) the impact on runoff (rates, volume or direction of flow) is considered to minimal and formal construction drainage measures are not proposed for this element of the development. The phased delivery of the interception swales is considered a suitable mitigation measure for the management of runoff from construction and discussed in more detail in the sections below.
- 2.25. Adopting best practice construction site management would reduce the impact of the construction of the cable routes on surface water run-off and avoid (as much as possible) creating additional runoff or mobilisation of sediment which can increase blockage of receiving drainage systems. Construction management measures are set out in the CEMP. Supplementary measures which could be implemented as necessary include:

- Construction programme would aim to minimise length of open trench to minimise the area of disturbance at any one time;
- Highway drainage gullies (or other drainage feature) on adjoining roads would be protected during the construction phase utilising temporary covers or silt traps. Any excess sediment or debris would be removed from affected gullies at the cessation of construction activities to ensure any affected highway drainage system can continue to function;
- Any dewatering activities of trenches would be via an appropriate silt management measure (such as Siltbusters (or similar approved technique)) and would be at a rate which does not pose a risk to flood risk downstream;
- Any temporary spoil stockpiles from excavation activities should be situated away from highway gullies and drainage ditches. Any temporary spoil stockpiles should be protected from erosion with the appropriate technique (e.g. covering if long term storage is anticipated) and sediment management measure provided (e.g. silt curtains).
- The construction site would be monitored for signs of uncontrolled runoff and erosion/ sediment mobilisation.

Phasing of Interception Swales during Construction

2.26. The swales would be constructed as part of the enabling works as follows:

- Site set up & mobilisation / enabling works:
 - o Installation of crushed stone internal access tracks / temporary roads
 - o Construction of the swales
 - o Preparation of earthworks and foundations.
 - o Installation of perimeter fences.

2.27. The provision of interception swales at the outset would intercept overland flows and act as silt traps to mitigate the disturbance of construction activities on site drainage. The interception swales would be located around the low lying perimeter of the site to intercept overland flows.

2.28. If during construction it is evident that the surface of the site is becoming significantly disturbed, then the interception swales would act to restrict potential runoff and act as silt traps. Interception swales would need to be remediated and any build-up of silt removed on completion of the construction phase to ensure the features can continue to function throughout the operational lifespan of the proposed development.

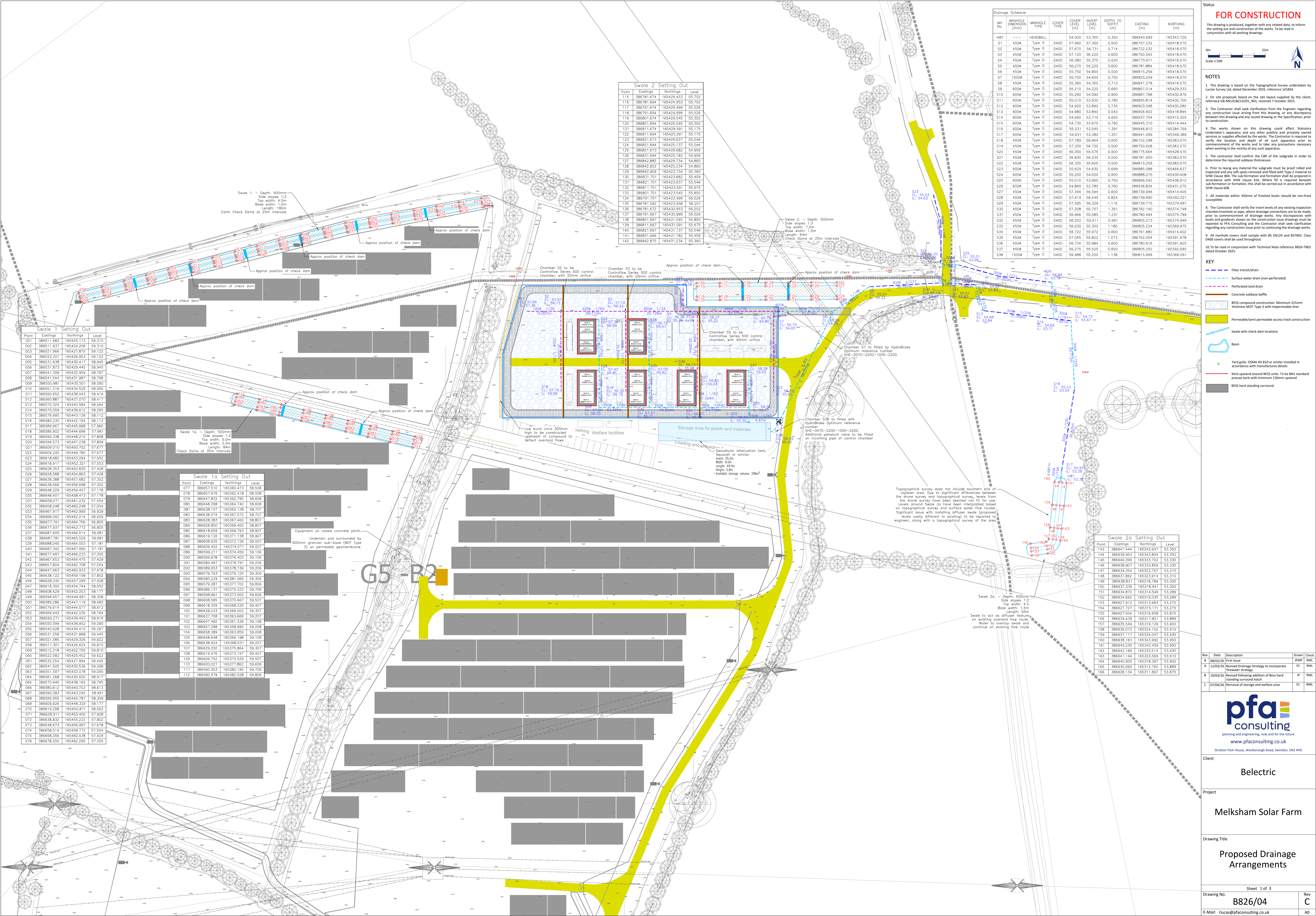
2.29. The implementation of the final vegetation/landscaping scheme should follow in accordance with the landscape specification (e.g appropriate season / avoid periods of extreme weather).

2.30. The interception swales should be fully rehabilitated to the original design formation levels before handover. Details of the handover inspection procedure is described below.

2.31. It is important that SuDS components (e.g. the interception swales) are inspected throughout the construction phase to confirm that the as-built system complies with the design and pick up any matters that need resolving (e.g. silt accumulation). The initial inspections would be visual and informed by additional measures / surveys of depths, slope angles and checks of what landscaping

3. SUMMARY

- 3.1. This Construction Phase Surface Water Management Plan sets out principles for pollution control, sediment/erosion control and phasing of the surface water drainage system (piped drainage and interception swales). The construction contractor would have control on the phasing, and delivery, of the development and surface water drainage scheme and would complete construction activities in accordance with the principles established in this document.
- 3.2. Construction management measures are proposed to minimise the impact of the construction of the proposed development on water quality and mobilisation of sediment which can increase blockage of receiving drainage systems. Construction management measures are set out in the CEMP prepared by Antea Group to discharge Condition 7 (PL/2021/08690) and would be complemented by the measures set out in this report. The CEMP includes measures to control and manage noise, dust and impact on ecological receptors during the construction phase. The measures set out in this document seek to avoid the construction of the development creating additional surface water runoff and safeguard the quality of the runoff.
- 3.3. A construction commissioning checklist is contained in Appendix 4 to support inspections during the construction and handover phases.
- 3.4. The implementation of construction management measures would ensure surface water is managed appropriately during the construction phase of the solar farm and flood risk to sensitive receptors would not increase.
- 3.5. The approach to surface water management set out in this report should be adhered to throughout the construction phase of the solar farm so as not to increase the flood risk onsite or elsewhere during construction of the scheme.



Point	Easting	Northing	Level
115	386781.674	165429.453	55.702
116	386781.694	165424.953	55.702
117	386791.674	165429.499	55.598
118	386791.694	165424.999	55.598
119	386801.674	165429.545	55.350
120	386801.694	165425.045	55.350
121	386811.674	165429.591	55.175
122	386811.694	165425.091	55.175
123	386821.673	165429.637	55.046
124	386821.694	165425.137	55.046
125	386831.673	165429.682	54.939
126	386831.694	165425.182	54.939
127	386842.682	165429.734	54.860
128	386842.702	165429.734	54.860
129	386842.909	165423.734	55.360
130	386831.701	165423.682	55.459
131	386821.701	165423.637	55.546
132	386811.701	165423.591	55.675
133	386801.701	165423.545	55.850
134	386791.701	165423.499	56.026
135	386781.692	165423.458	56.201
136	386781.672	165430.953	55.202
137	386791.667	165430.999	56.026
138	386801.667	165431.045	55.850
139	386811.667	165431.091	55.675
140	386821.667	165431.137	55.546
141	386831.666	165431.182	55.459
142	386842.675	165431.234	55.360

MH No.	MANHOLE DIMENSION (mm)	MANHOLE TYPE	COVER TYPE	COVER LEVEL (m)	INVERT LEVEL (m)	DEPTH TO SOFFIT (m)	EASTING (m)	NORTHING (m)
HW1	---	HEADWALL	---	54.000	53.350	0.350	386940.699	165343.726
S1	450mm	Type D	D400	57.960	57.360	0.500	386707.232	165418.570
S2	450mm	Type D	D400	57.670	56.731	0.714	386722.232	165418.570
S3	450mm	Type D	D400	57.120	56.220	0.600	386750.542	165418.570
S4	450mm	Type D	D400	56.380	55.375	0.630	386775.671	165418.570
S5	450mm	Type D	D400	56.270	55.220	0.600	386781.884	165418.570
S6	450mm	Type D	D400	55.750	54.800	0.500	386815.259	165418.570
S7	1500mm	Type C	D400	55.700	54.650	0.750	386820.259	165418.570
S8	450mm	Type D	D400	55.360	54.350	0.710	386841.278	165418.570
S9	600mm	Type D	D400	55.210	54.220	0.690	386857.014	165429.333
S10	400mm	Type D	D400	55.240	54.240	0.000	386867.768	165430.976
S11	600mm	Type D	D400	55.010	53.930	0.780	386895.814	165430.700
S12	600mm	Type D	D400	54.920	53.890	0.730	386903.598	165430.080
S13	600mm	Type D	D400	54.680	53.840	0.540	386906.902	165418.894
S14	600mm	Type D	D400	54.660	53.710	0.650	386937.704	165415.325
S15	600mm	Type D	D400	54.730	53.670	0.760	386945.310	165414.444
S16	600mm	Type D	D400	55.231	53.540	1.391	386946.810	165384.769
S17	600mm	Type D	D400	54.931	53.380	1.251	386941.099	165348.389
S18	450mm	Type D	D400	57.789	56.964	0.600	386722.298	165383.570
S19	450mm	Type D	D400	57.330	56.730	0.500	386750.608	165383.570
S20	450mm	Type D	D400	56.300	55.575	0.500	386775.664	165428.570
S21	450mm	Type D	D400	56.830	56.230	0.500	386781.950	165383.570
S22	450mm	Type D	D400	56.330	55.605	0.500	386815.259	165383.570
S23	600mm	Type D	D400	55.629	54.630	0.699	386885.088	165460.637
S24	600mm	Type D	D400	55.200	54.000	0.600	386886.275	165430.408
S25	450mm	Type D	D400	55.010	53.960	0.750	386908.042	165438.910
S26	600mm	Type D	D400	54.840	53.780	0.760	386936.834	165431.275
S27	450mm	Type D	D400	57.344	56.594	0.600	386739.946	165414.405
S28	450mm	Type D	D400	57.419	56.445	0.824	386739.995	165392.021
S29	450mm	Type D	D400	57.395	56.320	1.116	386730.715	165374.466
S30	450mm	Type D	D400	57.208	55.707	1.351	386762.140	165374.746
S31	450mm	Type D	D400	56.966	55.585	1.231	386780.494	165374.799
S32	450mm	Type D	D400	56.552	55.411	0.991	386805.273	165374.949
S33	450mm	Type D	D400	56.630	55.300	1.180	386805.224	165369.975
S34	450mm	Type D	D400	56.723	55.972	0.600	386761.880	165414.402
S35	450mm	Type D	D400	57.045	55.822	1.073	386762.054	165391.978
S36	450mm	Type D	D400	56.734	55.984	0.600	386780.616	165391.925
S37	450mm	Type D	D400	56.275	55.525	0.600	386805.252	165392.090
S38	1500mm	Type C	D400	56.488	55.200	1.138	386815.999	165366.061

FOR CONSTRUCTION

This drawing is produced, together with any related data, to inform the setting out and construction of the works. To be read in conjunction with all working drawings.

0m 25m

Scale 1:500

NOTES

- This drawing is based on the Topographical Survey undertaken by Lucion Survey Ltd, dated December 2023, reference 141854.
- On site proposals based on the site layout supplied by the client, reference 08-MELKSD020, R01, received 7 October 2023.
- The Contractor shall seek clarification from the Engineer regarding any construction issue arising from this drawing, or any discrepancy between this drawing and any issued drawing or the Specification, prior to construction.
- The works shown on this drawing could affect Statutory Undertaker's apparatus and any other publicly and privately owned services or supplies affected by the works. The Contractor is required to verify the location and depth of all such apparatus prior to commencement of the works and to take any precautions necessary when working in the vicinity of any such apparatus.
- The contractor shall confirm the CBR of the subgrade in order to determine the required subbase thicknesses.
- Prior to laying any material the subgrade must be proof rolled and inspected and any soft spots removed and filled with Type 1 material to BS EN 12185. The sub-formation and formation shall be prepared in accordance with SWS clause 616. Where fill is required beneath sub-formation or formation, this shall be carried out in accordance with SWS clause 616.
- All materials within 450mm of finished levels should be non-frost susceptible.
- The Contractor shall verify the invert levels of any existing inspection chamber/manhole or gpo, where drainage connections are to be made, prior to commencement of drainage works. Any discrepancies with levels and gradients shown on the construction issue drawings must be reported to PFA Consulting and the Contractor shall seek clarification regarding any construction issue prior to continuing the drainage works.
- All manhole covers shall comply with BS EN124 and BS7963. Class D400 covers shall be used throughout.
- To be read in conjunction with Technical Note reference 8826-TN01 dated October 2023.

KEY

- Filler trench/drain
- Surface water drain (non-perforated)
- Perforated land drain
- Concrete subbase baffle
- BESS compound construction. Minimum 525mm thickness MOT Type 3 with impermeable liner
- Permeable/semi permeable access track construction
- Swale with check dam locations
- Basin
- Yard gully, OSMA 4D-R10 or similar installed in accordance with manufacturers details
- Kerb upstand around BESS units. To be Bn1 standard in accordance with with minimum 150mm upstand
- BESS hard standing surround.

Rev	Date	Description	Drawn	Check
#	08/02/26	First Issue	JPM	RAL
A	12/03/26	Revised Drainage Strategy to incorporate Revised 18/03/26	EC	RAL
B	19/03/26	Revised following addition of BESS hard standing surround hatch	JP	RAL
C	07/04/26	Removal of drainage and welfare area	EC	RAL

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Client

Belectric

Project

Melksham Solar Farm

Drawing Title

Proposed Drainage Arrangements

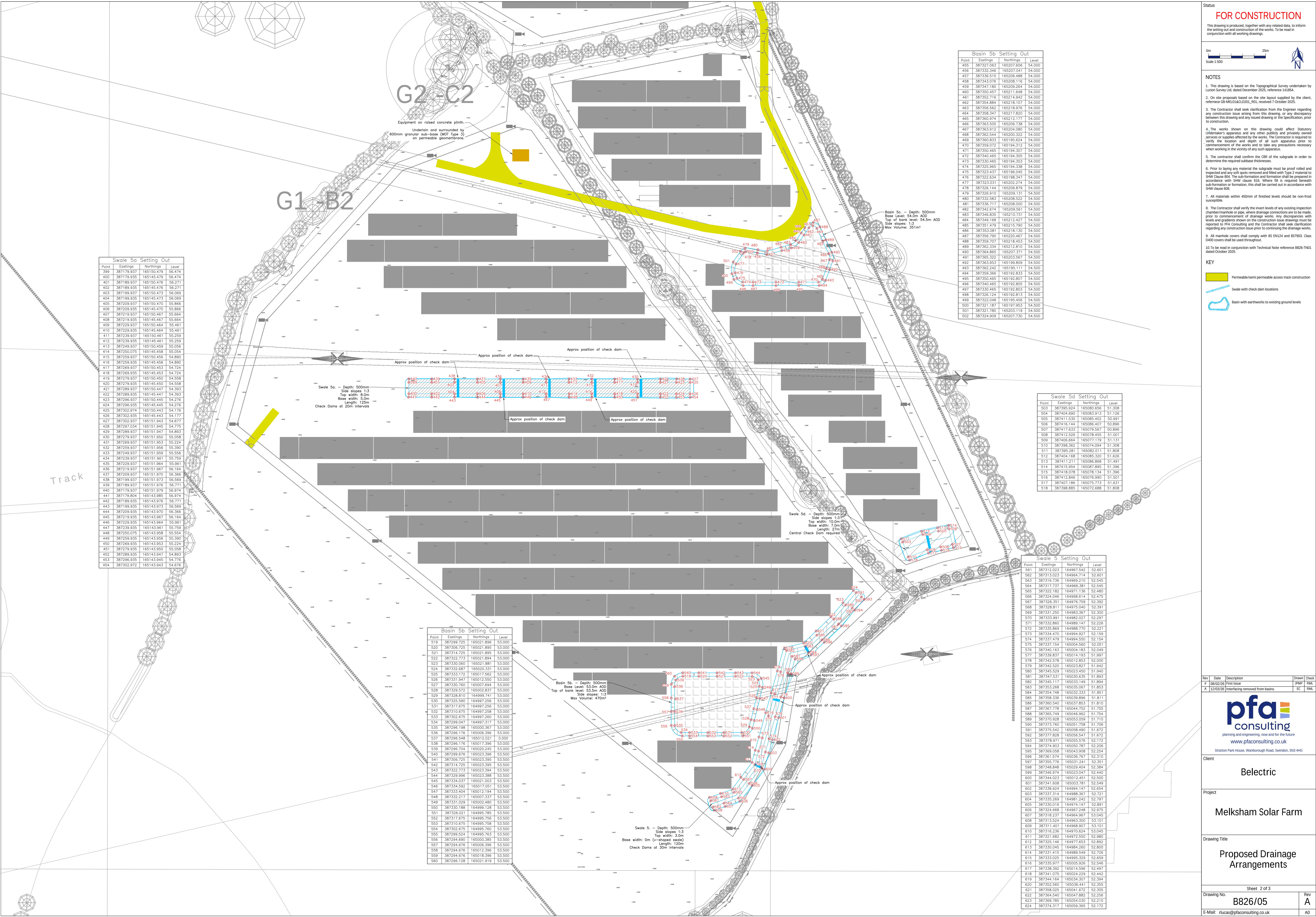
Sheet 1 of 3

Drawing No. **B826/04**

E-mail: rucas@pfaconsulting.co.uk

Rev **C**

AQ



FOR CONSTRUCTION

This drawing is produced, together with any related data, to inform the setting out and construction of the works. To be read in conjunction with all working drawings.

0m 25m
Scale 1:500

NOTES

- This drawing is based on the Topographical Survey undertaken by Lucion Survey Ltd, dated December 2025, reference 141854.
- On site proposals based on the site layout supplied by the client, reference GR-MEL01602201_001, received 7 October 2025.
- The Contractor shall seek clarification from the Engineer regarding any construction issue arising from this drawing, or any discrepancy between this drawing and any issued drawing or the Specification, prior to construction.
- The works shown on this drawing could affect Statutory Undertaker's apparatus and any other publicly and privately owned services or supplies affected by the works. The Contractor is required to verify the location and depth of all such apparatus prior to commencement of the works and to take any precautions necessary when working in the vicinity of any such apparatus.
- The contractor shall confirm the CBR of the subgrade in order to determine the required subbase thicknesses.
- Prior to laying any material the subgrade must be proof rolled and inspected and any soft spots removed and filled with Type 1 material to SHW Clause 804. The sub-formation and formation shall be prepared in accordance with SHW clause 816. Where fill is required beneath sub-formation or formation, this shall be carried out in accordance with SHW clause 606.
- All materials within 450mm of finished levels should be non-frost susceptible.
- The Contractor shall verify the invert levels of any existing inspection chamber/manhole or pipe, where drainage connections are to be made, prior to commencement of drainage works. Any discrepancies with levels and gradients shown on the construction issue drawings must be reported to PFA Consulting and the Contractor shall seek clarification regarding any construction issue prior to continuing the drainage works.
- All manhole covers shall comply with BS EN124 and BS7903. Class B400 covers shall be used throughout.
- To be read in conjunction with Technical Note reference B826-TN01 dated October 2025.

KEY

- Permeable/semi permeable access track construction
- Swale with check dam locations
- Basin with earthworks to existing ground levels

Rev	Date	Description	Drawn	Check
#	26/02/26	First Issue	FWP	RLM
A	12/03/26	Interfacing removed from basins.	EC	RLM

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Client
Belectric

Project
Melksham Solar Farm

Drawing Title
Proposed Drainage Arrangements

Sheet 2 of 3
Drawing No. **B826/05**
E-Mail: rluacas@pfaconsulting.co.uk
Rev **A**
AO



Basin 3a Setting Out			
Point	Eastings	Northings	Level
167	386501.397	165028.874	52.700
168	386508.962	165034.331	52.700
169	386516.548	165031.789	52.700
170	386524.978	165028.963	52.700
171	386528.427	165025.548	52.700
172	386529.510	165022.399	52.700
173	386529.960	165019.893	52.700
174	386530.063	165012.986	52.700
175	386529.605	165008.153	52.700
176	386527.538	165002.861	52.700
177	386526.154	165001.823	52.700
178	386524.366	165000.250	52.700
179	386518.782	165000.929	52.700
180	386513.502	165011.524	52.700
181	386508.323	165016.233	52.700
182	386503.273	165021.013	52.700
183	386497.702	165026.319	0.000
184	386496.248	165029.836	52.700
185	386496.191	165032.894	52.700
186	386497.009	165035.237	52.700
187	386498.427	165036.613	52.700
188	386501.854	165038.296	53.200
189	386509.439	165035.754	53.200
190	386517.024	165033.211	53.200
191	386525.455	165030.386	53.200
192	386529.845	165026.039	53.200
193	386531.008	165022.623	53.200
194	386531.475	165019.533	53.200
195	386531.563	165015.006	53.200
196	386530.961	165007.792	53.200
197	386529.028	165002.506	53.200
198	386526.077	165000.409	53.200
199	386523.744	165000.850	53.200
200	386517.810	165005.787	53.200
201	386512.505	165010.403	53.200
202	386507.302	165015.135	53.200
203	386502.238	165019.927	53.200
204	386496.871	165025.467	53.200
205	386494.783	165029.517	53.200
206	386494.714	165033.157	53.200
207	386495.538	165035.666	53.200
208	386498.043	165038.097	53.200

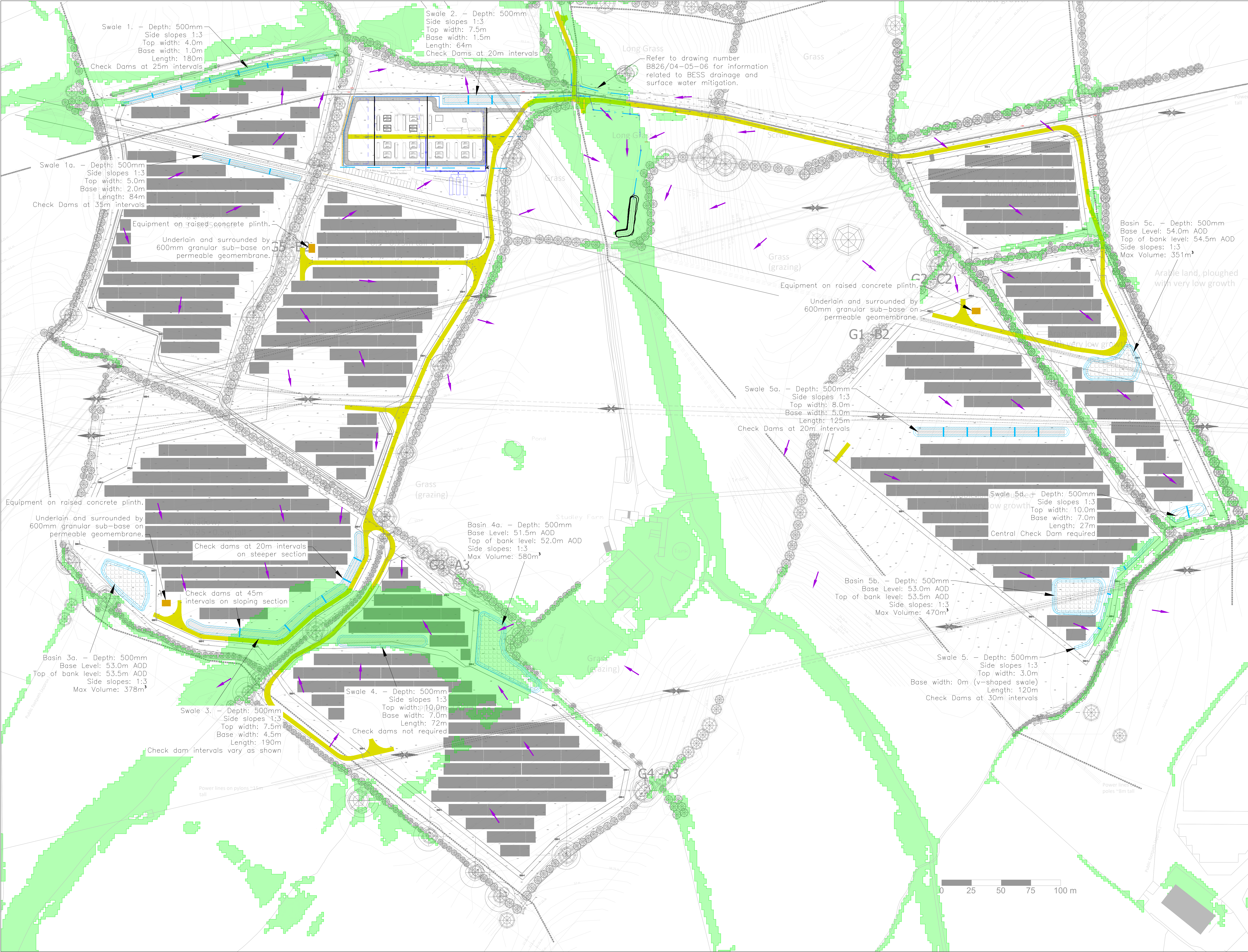
Basin 3a - Depth: 500mm
Base Level: 52.2m AOD
Top of bank level: 53.2m AOD
Side slopes: 1:3
Max Volume: 328m³

Swale 3 Setting Out			
Point	Eastings	Northings	Level
209	386548.981	164988.761	51.794
210	386557.053	164984.695	51.794
211	386577.635	164984.657	51.707
212	386576.242	164980.349	51.702
213	386580.433	164983.960	51.673
214	386579.501	164979.465	51.677
215	386586.992	164978.799	51.609
216	386587.408	164983.287	51.609
217	386596.954	164977.928	51.518
218	386597.368	164982.409	51.518
219	386605.916	164977.057	51.427
220	386607.330	164981.538	51.427
221	386616.878	164976.186	51.335
222	386617.292	164980.667	51.335
223	386626.840	164975.315	51.244
224	386627.254	164979.796	51.244
225	386636.802	164974.444	51.186
226	386637.216	164978.925	51.186
227	386639.548	164978.721	51.185
228	386639.862	164974.177	51.185
229	386645.826	164976.733	51.183
230	386642.997	164980.234	51.183
231	386654.664	164984.511	51.179
232	386651.709	164987.905	51.179
233	386662.158	164991.132	51.176
234	386659.203	164994.526	51.176
235	386660.611	164997.697	51.172
236	386668.800	165001.211	51.172
237	386678.002	165003.318	51.187
238	386676.539	165007.084	51.187
239	386686.371	165008.791	51.337
240	386683.908	165012.557	51.337
241	386694.740	165014.263	51.487
242	386692.278	165016.030	51.487
243	386695.440	165020.465	51.555
244	386698.919	165017.604	51.557
245	386701.892	165022.745	51.640
246	386698.562	165025.689	51.654
247	386706.509	165031.721	51.815
248	386702.509	165033.782	51.816
249	386711.060	165040.638	51.994
250	386707.047	165042.085	51.994
251	386707.876	165045.547	52.061
252	386712.369	165045.271	52.065
253	386712.204	165050.877	52.160
254	386707.707	165050.707	52.161
255	386711.749	165060.497	52.332
256	386707.254	165060.284	52.332
257	386713.247	165060.568	52.832
258	386713.702	165050.947	52.660
259	386713.857	165045.082	52.565
260	386712.590	165040.359	52.500
261	386707.840	165037.040	52.315
262	386703.216	165022.040	52.140
263	386700.035	165016.601	52.057
264	386695.561	165013.010	51.987
265	386687.192	165007.536	51.837
266	386678.823	165002.063	51.687
267	386670.573	164996.546	51.672
268	386663.151	164990.008	51.676
269	386650.657	164983.387	51.679
270	386646.716	164975.526	51.683

271	386640.123	164972.700	51.685
272	386636.611	164972.950	51.686
273	386626.709	164973.821	51.744
274	386616.748	164974.692	51.835
275	386606.786	164975.563	51.927
276	386596.824	164976.434	52.018
277	386586.862	164977.305	52.109
278	386579.282	164977.981	52.177
279	386575.626	164978.981	52.202
280	386566.411	164983.339	52.294
281	386569.624	164990.116	52.294
282	386578.583	164985.873	52.203
283	386581.560	164985.297	52.164
284	386587.537	164984.775	52.109
285	386597.499	164983.904	52.018
286	386607.461	164983.033	51.927
287	386617.423	164982.162	51.835
288	386627.385	164981.291	51.744
289	386637.347	164980.420	51.686
290	386639.829	164980.320	51.684
291	386642.506	164981.775	51.683
292	386650.716	164989.029	51.679
293	386658.210	164995.650	51.676
294	386665.838	165002.362	51.672
295	386674.718	165006.339	51.687
296	386683.087	165013.812	51.837
297	386691.457	165019.286	51.987
298	386694.309	165021.467	52.005
299	386697.038	165026.394	52.154
300	386701.173	165034.464	52.316
301	386705.800	165043.540	52.498
302	386708.401	165046.141	52.575
303	386706.209	165050.636	52.661
304	386705.755	165060.213	52.832

Swale 4 Setting Out			
Point	Eastings	Northings	Level
305	386696.238	164975.497	51.482
306	386696.239	164968.497	51.482
307	386706.238	164975.499	51.473
308	386706.239	164968.499	51.473
309	386716.238	164975.501	51.464
310	386716.239	164968.501	51.464
311	386726.238	164975.503	51.456
312	386726.239	164968.503	51.456
313	386736.238	164975.505	51.447
314	386736.239	164968.505	51.447
315	386746.238	164975.507	51.438
316	386746.239	164968.507	51.438
317	386756.238	164975.510	51.430
318	386756.239	164968.510	51.430
319	386762.162	164975.511	51.424
320	386762.164	164968.511	51.424
321	386762.293	164977.005	51.924
322	386756.237	164977.010	51.930
323	386746.237	164977.007	51.938
324	386736.237	164977.005	51.947
325	386726.237	164977.003	51.956
326	386716.237	164977.001	51.964
327	386706.237	164976.999	51.973
328	386696.237	164976.997	51.982
329	386696.240	164966.997	51.992
330	386706.240	164966.999	51.973
331	386716.240	164967.001	51.964
332	386726.240	164967.003	51.956
333	386736.240	164967.005	51.947
334	386746.240	164967.007	51.938
335	386756.240	164967.010	51.930
336	386762.164	164967.011	51.924

Basin 4a Setting Out			
Point	Eastings	Northings	Level
337	386815.260	164993.811	51.500
338	386822.714	164988.626	51.500
339	386830.013	164985.516	51.500
340	386830.739	164983.873	51.500
341	386828.157	164972.207	51.500
342	386829.395	164978.026	51.500
343	386828.396	164967.928	51.500
344	386829.655	164963.621	51.500
345	386831.396	164959.919	51.500
346	386833.619	164956.725	51.500
347	386837.289	164953.629	51.500
348	386841.714	164950.662	51.500
349	386846.090	164947.500	51.500
350	386849.285	164943.916	51.500
351	386852.053	164941.011	51.500
352	386855.507	164938.826	51.500
353	386858.566	164937.034	51.500
354	386859.552	164934.910	51.500
355	386858.164	164932.439	51.500
356	386854.291	164930.832	51.500
357	386846.749	164928.536	51.500
358	386837.802	164941.002	51.500
359	386828.855	164945.469	51.500
360	386819.908	164949.936	51.500
361	386815.435	164952.169	51.500
362	386810.575	164954.864	51.500
363	386810.750	164960.728	51.500
364	386811.340	164966.703	51.500
365	386812.047	164977.679	51.500
366	386812.657	164985.655	51.500
367	386813.184	164992.543	51.500
368	386816.152	164995.042	52.000
369	386823.450	164990.933	52.000
370	386830.749	164986.823	52.000
371	386832.201	164983.537	52.000
372	386830.857	164977.690	52.000
373	386829.668	164972.448	52.000
374	386829.855	164968.277	52.000
375	386831.062	164964.142	52.000
376	386832.844	164960.417	52.000
377	386835.026	164957.394	52.000
378	386838.124	164954.875	52.000
379	386842.277	164952.091	52.000
380	386847.616	164947.907	52.000
381	386851.066	164944.198	52.000
382	386853.270	164941.951	52.000
383	386855.957	164940.299	52.000
384	386859.836	164937.894	52.000
385	386861.025	164934.586	52.000
386	386859.446	164931.523	52.000
387	386854.005	164931.509	52.000



FOR INFORMATION

This drawing is produced for initial discussion and illustrative purposes only, and should not be relied upon for tender or pricing purposes.

0m50m

Scale 1:1,000

Key

Diffuser Swale Earthworks

Filter Trench

Surface Water pipe

Indicative Overland Flow Route

Access Track

Swale with check dam locations

Basin with earthworks to existing ground levels

Flood Constraints

Low Risk of Surface Water Flooding (Between 1 in 1000 (1%) and 1 in 1000 (0.1%))

NOTES

1. Drawing based on the Site Layout, Drawing No. G8-MEL03-BCLD001_RD1_OVERALL SITE LAYOUT Rev R01, received 07/10/25.

2. This drawing is based on the Topographical Survey provided by Belectric, received 01/08/25. A more detailed topographical and drainage survey is required to inform a detailed design.

3. Drainage information based on Pitman Associates' Surface Water Drainage Layout, drawing number 0536-06-001 Rev B and Pitman Associates' drawing number 0536-06-003 Rev A.

4. Contains public sector information licensed under the Open Government Licence V3.0.

5. To be read in conjunction with drawing number B826/02 Rev D and Technical Note reference B826-TN01, dated October 2025.

Rev #

Date

Description

Drawn By

Check By

1

31/03/26

First issue

EC

RAW

2

07/04/26

Removal of storage and welfare area

EC

RAW

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Client

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Project

Melksham Solar Farm

Drawing Title

Indicative Overland Flow Routes

Drawing No.

B826/09

Rev

A

E-Mail:

econgdon@pfaconsulting.co.uk

AO

Sheet 1 of 1



Landscape and Ecological Management Plan

Studley Solar Farm, Atworth, Melksham

Antea[®]Group

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Improving tomorrow.

PREPARED FOR
Melksham Calne Green Limited

ISSUED:
17th June 2025

PROJECT NUMBER
2024-07-546400

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Key Details

Client Name	Melksham Calne Green Limited
Site Address	Studley Farm, Atworth, Melksham, Wiltshire
Antea Group UK Contact	Jennifer Britt
Project Reference	2024-07-546400

Document Control

Issue No.	Status	Issue Date	Comments
1	Final	17 th June 2025	

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Landscape and Ecological Management Plan

Studley Solar Farm, Atworth, Melksham

1.0 INTRODUCTION

1.1 CONTEXT AND PURPOSE

This Landscape and Ecological Management Plan (LEMP) sets out a framework for the planting, management and monitoring of landscaping, including that created for ecological mitigation and enhancement associated with the proposed installation of a solar farm and battery storage facility with associated infrastructure ('the Development') at land at Studley Farm, Atworth, Melksham, Wiltshire (the 'Site'), on behalf of Melksham Calne Green Ltd (the 'Client'). This LEMP covers works which will be necessary during both the construction and operational phases and has been developed in accordance with BS 42020:2013 Section 11.1.1.

This LEMP accompanies the Construction Ecology Management Plan (Antea UK, June 2025) which describes measures to avoid, reduce and mitigate likely adverse effects on ecological receptors resulting from the construction phase of the Development, and the Landscape and Ecology Monitoring Scheme (Antea UK, June 2025) which details the post-construction monitoring program and criteria.

1.2 OVERVIEW OF THE SCHEME

The Development received conditional planning consent from Wiltshire Council in June 2022 (reference PL/2021/08690) for a photovoltaic solar park and associated infrastructure.

2.0 ECOLOGICAL CONTEXT

The baseline for this report has been prepared from information provided within the following ecological surveys/reports:

- Ecological Assessment Report, Studley Solar Farm and Battery Storage (August 2021) Avian Ecology.
- Bat Activity Report 2021, Studley Solar Farm (December 2021) Avian Ecology.
- Water Vole and Otter Survey Report, Studley Solar Farm (September 2021) Avian Ecology.
- Ecological Constraints Report, Studley Solar Farm (July 2024) Antea Group UK.
- Badger Walkover Survey Report, Studley Solar Farm (July 2024) Antea Group UK.
- Water Vole Survey Report, Studley Solar Farm (July 2024) Antea Group UK.

2.1 DESIGNATED SITES

No impacts were anticipated on any statutory or non-statutory designated sites within the zone of influence.

2.2 HABITATS AND PROTECTED SPECIES

The Site comprises a mixture of improved grassland and arable fields, with boundary hedgerows, ditches and trees. Ponds are also present both within, and close to, the Site. Habitats outside the development footprint, including hedgerows ditches, field boundary trees and ponds, are to be retained.

The results of ecological baseline for faunal species are summarised in Table 1 below.

TABLE 1: FAUNAL SPECIES ON, OR WITH POTENTIAL TO OCCUR AT THE SITE

Fauna	Opportunities on-Site / Evidence
Birds	Vegetated habitats across the Site provide opportunities for arboreal and ground nesting birds, as well as foraging opportunities. Both arboreal and ground nesting bird species were recorded on-Site, with the breeding bird assemblage recorded to be typical of farmland habitats.
Reptiles	The Site overall offers limited suitable habitat and connectivity for reptile species, being dominated by arable and modified grassland. However, the boundary hedgerows and ditch network offer limited resources, if present in the local area. No previous evidence of reptiles recorded on-Site.
Amphibians	Previous surveys concluded great crested newts to be likely absent from the Site and given the suitability of the ponds on-Site and immediately adjacent to the Site boundary in 2024, this is likely to remain so. Given the limited water, heavy overshadowing, and lack of aquatic and marginal vegetation, the ponds and field boundary ditches are not considered optimal to support other species of amphibian, however, the hedgerow bases and bankside vegetation provide suitable terrestrial habitat, and their presence cannot be ruled out.
Bats	Several mature trees occur within the field boundary hedgerows, containing features suitable to support roosting bats such as deadwood, limb breakouts and ivy cover. None of the trees identified as containing features suitable to support roosting bats are anticipated to be directly impacted by the development proposals. The ditch network, hedgerows and trees across the Site provide suitable foraging and commuting corridors for bats.

	Previous bat activity surveys recorded low levels of activity of at least 11 species of bat, including barbastelle and horseshoe bats which are considered to be nationally uncommon or rare.
Water Vole	No conclusive evidence of water vole presence was recorded in 2024 such that the population has either suffered an extinction event since positive field signs were recorded in June 2021, or the population occurs in very low numbers such that detectability is reduced, or the Site forms part of a wider resource for the population and is used only during periods of population expansion.
Otter	No evidence of otter has been recorded. The Site offers sub-optimal aquatic habitat but has connectivity and suitable terrestrial habitat in the form of woodland copses, dense scrub and hedgerows. The presence of otter is considered unlikely but cannot be ruled out.
Hazel Dormice	Whilst the Site offers a network of hedgerows, overall habitat suitability is considered to be limited. No evidence of dormice previously recorded.
Brown Hare and Hedgehog	Whilst no evidence was recorded, the Site provides suitable habitat for brown hare and hedgehog.

2.3 DESCRIPTION OF FEATURES TO BE MANAGED AND GENERAL PLANTING SPECIFICATION

The landscaping and the proposed management regime have been developed in order to maximise biodiversity and to provide resources for locally occurring wildlife, whilst being appropriate to the nature and setting of the Site. Implementation of the landscaping scheme should be undertaken in accordance with the details provided by Briarwood Landscape Architects and should be completed by a competent person. It is understood that all soft landscape planting will be undertaken during the first available planting season, immediately after completion of construction. All works associated with the implementation of this LEMP must be undertaken by experienced contractors.

Any imported topsoil will accord with BS 3882 Specification for Topsoil. All supplying nurseries will be registered under the HTA Nursery Certification Scheme and plant material should be of certified British provenance. All plants will be packed and transported in accordance with the Code and Practice for Plant Handling as produced by CPSE.

All plant material will conform with BS:3936 Specification for nursery stock bulbs, corms and tubers and BS:4428 Code of practice for general landscape operations (excluding hard surfaces), or the most up to date and current British Standards and in accordance with seed supplier's technical advice.

The following habitats will be created at the Site:

2.3.1 GRASSLAND

Once the solar array has been installed, the land beneath the panels, within the security fence will be sown with a species-rich seed mix (Emorsgate EG27 Special Old Fashioned Grazing Mixture). Outside the security fence, between the security fence and the existing/proposed hedgerows, a meadow seed mix (Emorsgate EM1 Basic

General-Purpose Meadow Mixture) will be sown. Around newly created ponds, a wildflower mix (EM2F Standard General Purpose Wildflowers) is proposed.

A longer-term approach to the establishment of the grassland meadow habitat is being adopted, through suitable management practices and the avoidance of fertilizers and herbicides to establish an increasingly species and structurally varied grassland across the Site.

Seeding

Prior to seeding (after construction of the solar panels, access tracks and other associated infrastructure), unwanted vegetation growth within the fields will be removed by scraping the surface to a depth of 150 mm. The ground shall then be thoroughly broken up and cultivated and fine graded to even running falls, before raking and cross raking. The grass seed mixes shall be sown in accordance with good practice and in line with the supplier's guidance.

Seeding will usually take place in September, to allow establishment prior to winter. If the soils and seed bed have been prepared before September, any weed growth that has established in the meantime will be sprayed (avoiding areas in proximity to watercourses), and the seedbed will be re-prepared.

Seeds shall be broadcast by approved lightweight machinery and following seeding the area will be subject to rolling to incorporate the seed with the growing substrate.

2.3.2 HEDGEROWS, SHRUBS, AND TREES

The existing hedgerows and trees on the Site will be retained as part of the solar development and new native species hedgerow and trees will be introduced. New hedgerow plants will be planted as 1 + 1 transplants at a minimum 40-60 cm height.

Planting will not be carried out when the ground is wet/waterlogged or frost bound, or during periods of excessive cold drying winds.

All bare-root planting stock will be kept covered until actually planted in order to minimise water-loss and prevent the stock from drying out. Bare root stock shall be planted while dormant (during winter months). Container sided and rootballed stock will be used where necessary, as advised by the supplier.

Ground Preparation

Where necessary existing weeds will be manually / hand removed or treated with a suitable herbicide.

Any extraneous matter such as plastic, large pieces of wood and metal will be removed from Site to a registered waste disposal facility.

2.3.3 POND CREATION

Three new ponds will be constructed to provide additional aquatic habitat for a range of species including amphibian species and invertebrates. The ponds will be designed in line with the Great Crested Newt Mitigation Guidelines (English Nature 2001), achieving a surface area of between 100m² and 300m².

The ponds will be constructed to provide a range of depths and will have an irregular shape. A shallow wetland shelf of less than 30cm will encourage a diversity of pond plants which in turn provides for invertebrates and egg laying substrate for newts. A bentonite liner will be used to provide a permanent waterbody, if required.

2.4 ECOLOGICAL ENHANCEMENTS

In addition to habitats listed above, the following ecological enhancements will be carried out, in accordance with the recommendations of the Ecological Assessment.

2.4.1 BIRDS

The inclusion of 10 bird boxes and an owl box erected on semi-mature/mature trees at the Site will provide additional nesting opportunities for local species. Precise locations will be subject to confirmation during the installation depending on tree condition at that time.

Bird boxes should ideally be installed in autumn (September to November) following the cessation of construction works, by the appointed contractor under advice of the suitably competent ecologist. Boxes should be erected at an appropriate height of between 1 to 5 metres. Boxes should be angled so that they face away from the prevailing wind or in a semi sheltered environment. Positioning within or close to hedgerows will increase chances of occupation. Bird boxes will be suitable for a variety of farmland bird species.

Box specifications are provided below:

- 5 x Schwegler 1B 32 mm Bird Box
- 2 x Schwegler 2H Open Front Bird Box
- 3 x Schwegler 3S Starling Nest Box
- 1 x Barn Owl Nest Box

2.4.2 BATS

The inclusion of 10 bat boxes on suitable trees at the Site will provide additional roosting opportunities for local species. Boxes will be erected at an appropriate height (ideally above 3 m) and with clear flight paths to utilise the site boundary features. Precise locations will be agreed with the project ecologist and will be subject to confirmation during the installation depending on tree condition at that time. The bat boxes are to be orientated in an easterly/ westerly/ south-easterly/ south-westerly direction.

Box specifications are provided below:

- Schwegler 2F Bat Box

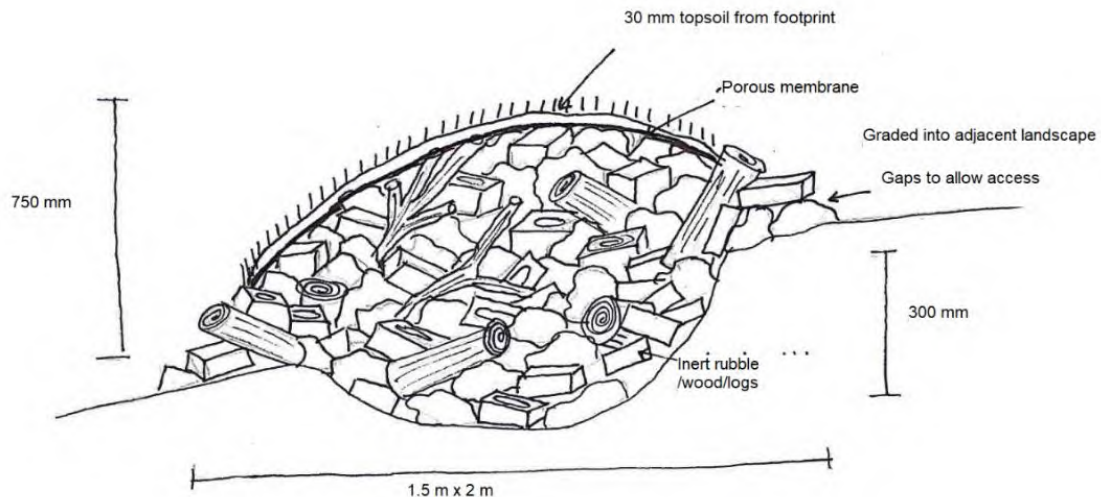
2.4.3 LOG PILES AND HIBERNACULA

Log piles and hibernacula will be constructed along the Site boundaries and around ponds. In combination with the creation of new hedgerows and varied grassland management, these will provide additional terrestrial refuge and foraging opportunities for amphibians, reptiles, invertebrates and small mammals.

Precise location of the hibernacula will be subject to confirmation during the installation but will be focussed within sheltered and undisturbed locations along boundary features such as hedgerows and scrub and in close proximity to ponds.

Hibernacula will be built largely above the ground but dug to a depth of up to 300 mm and back filled with a mix of inert rubble, timber logs and dead wood to a height of up to 750 mm above ground. The hibernacula will be covered with a Terram membrane and capped with approximately 30 mm layer of the topsoil removed from the footprint of the hibernacula prior to its creation. Where possible, removal of the topsoil will be undertaken to provide blocks of turf in which to reinstate on top of the hibernacula, minimising soil disturbance as much as possible to retain current vegetation cover and reduce the risk of colonisation of bare earth by undesirable ruderal species. Alternatively, the bund will be seeded and managed to promote desired vegetation growth. Rubble and logs will be exposed at ground level to maintain gaps for reptile access. The hibernacula will be at

least 1.5 m wide by 2 m long and will run along in a predominately east-west direction to maximise basking habitat. The design principles are shown in the diagram below.



2.4.4 HEDGEHOGS

The provision of five hedgehog boxes at the Site will provide shelter and hibernation opportunities for this species.

Precise locations will be subject to confirmation during the installation but will be focussed within sheltered and undisturbed locations along boundary features such as hedgerows and scrub. The entrance should be placed so it is sheltered from adverse weather, ideally facing east to south

Boxes can be installed any time of year but should ideally be installed in the spring or summer following the cessation of construction works, by the appointed contractor under advice of the suitably competent ecologist.

2.4.5 INVERTEBRATES

The provision of 10 insect hotels/boxes at the Site will provide opportunities for a range of species. Precise locations will be subject to confirmation during the installation depending on the box/hotel and condition of trees (if required).

Insect hotels can be installed any time of year and should follow the cessation of construction works, by the appointed contractor under advice of the suitably competent ecologist.

Boxes should be erected at sheltered undisturbed locations and be angled so that they face away from the prevailing wind. A selection of boxes/hotels will be suitable for a variety of insect species.

Box specifications are provided below:

- Schwegler Clay & Reed Insect Nesting Aid

2.4.6 MAMMAL GATES

Gaps will be created at intervals within the security fencing in order to provide continued access for mammals
[REDACTED] These gaps will be created by cutting strategic holes within the wire fence and edging with a wooden from. [REDACTED]
[REDACTED]

3.0 MANAGEMENT AND MONITORING

A schedule of management and monitoring is appended as follows:

- A - Establishment Maintenance (Year One Post Implementation)
- B - Establishment Maintenance Years 2-5
- C - Long-Term Management

This document should also be read in conjunction with the Landscape and Ecology Monitoring Scheme (Antea UK, June 2025).

3.1 ECOLOGICAL TRENDS AND CONSTRAINTS THAT MAY INFLUENCE MANAGEMENT

3.1.1 WATER

Key considerations for landscape management are the sustainable and responsible use of water, such that a balance must be struck between watering plants to help them establish and conserving water in times of drought. Therefore, close liaison between the Client/ management team and contractor will ensure a satisfactory outcome is achieved.

3.1.2 PLANT PESTS AND DISEASES

Due to a number of reasons, including in part the globalisation of trade and impact of climate change, there has been an increase in pests and diseases in recent years. Therefore, biosecurity measures will be put in place that include planting a range of different plant genera and species, specifying the use of only British provenance stock and requesting full documentation of plant origin, consignment details, impact of pest / disease and/or plant passports.

3.1.3 TIMING OF OPERATIONS

Hedgerow and tree works will take place outside of the bird nesting season and active dormouse season, i.e. from October to February. In order to maximise the opportunity for birds and small mammals to forage on berries, hedgerow trimming will ideally take place in January / February.

3.2 MANAGEMENT AIMS AND OBJECTIVES

The overall landscape management objectives are as follows:

- **Objective O1: To manage grassland to ensure the development of a diverse sward beneath the array of solar panels and on the margins of the Site.**

Grassland within the site will be managed to create a diverse grassland habitat which will benefit a wide range of wildlife. Within the security fence, the site will be managed using a cutting or grazing regime.

The field margins outside the security fence and around ponds will be maintained as a wildflower meadow to benefit a range of species such as amphibians, invertebrates and small mammals. These areas are best managed with a cutting regime but can be seasonally grazed.

- **Objective O2: To manage hedgerows and hedgerow trees to enhance their aesthetic and wildlife value.**

Management of the existing retained hedgerows and hedgerow trees will involve regular (annual) monitoring to check for any detrimental deterioration through damage and/or disease. The monitoring process will put forward suggested remedial work measures so as to ensure the long-term survival of the existing retained hedgerows and hedgerow trees.

Management of new hedgerow and hedgerow tree planting will ensure successful establishment and healthy development.

- **Objective O3: To ensure wildlife is adequately protected during operation**

Management will ensure that protected and notable wildlife is able to continue to use the Site and is protected from adverse impacts during the operational phase.

- **Objective O4: To monitor the Site and assess the success of management**

In order to deliver the proposed ecological objectives, monitoring of the effects of management prescriptions will be required in order to ensure that these are effective, and to inform any necessary refinement of the site management.

Objectives for the habitat types in relation to the Biodiversity Net Gain assessment are provided alongside the associated monitoring criteria within the Landscape and Ecology Monitoring Scheme (Antea UK, June 2025).

3.3 ROLES AND RESPONSIBILITIES

The construction team will be solely responsible for ensuring that best practice measures have been followed to ensure no faunal species are harmed. The Site manager will call an ecologist for support or advice when required. The construction team will ensure the landscaping scheme is implemented as specified on the landscaping plans and following the directions within this document. This document will be provided to the landscape management team at the handover to ensure they are aware of the ecological ambitions of the Site.

Following handover, a defects liability will be in place with the planting contractor such that they would be responsible for any replacement planting required. After this period an operational management contract will be in place to maintain the landscaping at the Site. A central point of contact, such as a Team or Manager, would be available for the team to contact if problems arise. Record keeping should be undertaken by the landscape management contractors of any works required to meet the LEMP, such as replacement planting due to failures, so that if repeated problems arise a new solution could be agreed upon and passed to their point of contact at regular agreed intervals.

Management costs associated with the implementation of this LEMP will be the responsibility of the current or any subsequent owner of the solar farm. Monitoring and reporting will be undertaken by a suitably experienced ecologist and the costs associated with monitoring reporting and any rectification works will be borne by the owner or any subsequent owner.

3.4 PRESCRIPTION FOR MANAGEMENT ACTIONS

The Section below provides management prescriptions for each habitat type in order to achieve the objectives outlined in Section 3.2. General site monitoring and remedial actions/adaptive management are provided in Appendix A. This LEMP is to be reviewed every five years and management prescriptions adapted (following agreement in writing by the LPA) to ensure the target habitat conditions (as detailed in the Landscape and Ecology Monitoring Scheme) are on track/being met. A review of the conditions on-Site and status of potential ecological receptors must be undertaken prior to decommissioning to allow appropriate mitigation and management to be applied.

3.4.1 PROTECTION OF WILDLIFE DURING OPERATION

Contributes to Objective 3

Ground cover vegetation around the solar panels, field margins and ponds should allow for varying heights during the nesting bird season to be used by ground nesting birds as well as amphibians, invertebrates, reptiles and small mammals.

Management of habitats will take account of the potential presence of wildlife by applying sensitive working practices and being undertaken at an appropriate time of year.

3.4.2 GRASSLAND

Contributes to Objective 1

Initial management of grassland habitat will be undertaken in accordance with the seed supplier instructions during the establishment phase.

Establishment – Within Array

During the first year, grassland within the array will require first management after 6-10 weeks, once the sward has reached approximately 10 cm in height. Light sheep grazing can be applied for short periods to avoid over grazing. Grazing should be avoided if the soil is saturated with water. Alternatively top initial growth and remove arisings.

Establishment – Field and Pond Margins

The first cut of wildflower areas will be in March / April after an autumn sowing or in June / July after a spring sowing. During the first year's maintenance, grassland will be cut approximately every 6 to 8 weeks until autumn to reduce the dominance of faster-growing grasses and pernicious weeds. Grass will be cut to a height of approx. 40-60 mm and arisings will be collected and removed from the Site (or placed in designated piles) in order that they don't decompose and increase soil fertility.

Problem perennial weeds will be controlled by hand pulling or targeted application of non-residual herbicide by spot spraying or weed wiping.

Post-Establishment – Within Array

Grassland within the array will be managed for the lifespan of the scheme to encourage the development of a diverse sward.

Grassland can be managed through low intensity grazing using sheep and/or mowing.

Optional light grazing can be applied January – February when ground conditions allow. Livestock are to be removed early March to allow summer flowering plants to set seed. The main grazing period will be applied September to the end of December to create a mosaic of sward heights. Stocking rates should aim to create a varied sward structure. This should be consistently monitored to avoid overgrazing and stock density/duration altered accordingly. Stock density should be reduced in wet periods to avoid poaching leading to colonisation of problem weed species.

For mowing regime, an optional cut mid-February can be taken to reduce any significant winter growth to a minimum 150 mm sward height, when conditions allow. Cutting should be avoided March-August, unless problems occur with shading. This should be preceded by a check for ground nesting birds. After flowering, a main cut should be taken August/September to 150-200 mm sward height. Mowing will only take place during periods of dry weather to avoid damage from machinery. Cutting should adopt a systematic method of working directionally/outwards towards boundary features to allow fauna to temporarily vacate the area. Arising should remain in-situ for three-five days to allow seed dispersal before being removed from Site or placed in designated heaps for the benefit of wildlife.

Post-Establishment – Field and Pond Margins

From years 2 to 5, wildflower grassland will be cut twice a year, in late July / August and late September / October, to a height of 50-75 mm. Arisings will be collected and removed from site. Cutting twice a year should help to reduce the number of more vigorous species and lower the soil fertility. There is flexibility to alter the timing of the cuts, e.g. an early spring and late summer cut, if monitoring suggests that this would be more beneficial.

After year 5, wildflower grassland will be cut annually in August to a height of 50-75mm. Exact timing of this cut may vary according to weather / growing conditions. Arisings will be collected and removed from site. Litter and debris will be removed from the Site prior to cutting. Provision will be made for an additional cut in September / October if needed.

During the first 5 years, any broadleaved weeds in grassland areas will be treated with herbicide suitable for suppressing perennial weeds.

3.4.3 HEDGEROW, SHRUB AND TREE MANAGEMENT

Contributes to Objective 2

Weed control will be carried out around trees and within areas of shrub/hedgerow planting for the first 5 years after planting. Weeding will be carried out by strimming and/or use of suitable herbicide with the agreement of the contract administrator.

New trees, hedgerow/shrubs will be inspected as per the schedule and re-firmed if necessary. Stakes, ties and guards will be checked and adjusted / replaced if necessary. Stakes, ties and guards will be removed once plants are established/self-supporting or at the end of the 5-year establishment maintenance period. During the first 5 years any dead, damaged or diseased plants will be removed and replaced during the next suitable planting season.

Hedgerows will be lightly trimmed for the first five years. This will be carried out in January / February to avoid the bird nesting season and to allow birds to eat any berries. Thereafter hedgerow will be trimmed every 3 years on rotation, with no more than 50% of the total length of a hedgerow trimmed in any one year. Hedgerows are to be trimmed to a tapered profile, targeting a width of more than 1.5 m wide with the cutting height raised by approx. 10 cm each cut to a maximum height of 3 m. Where present, hedgerow trees will be managed as trees as described below.

Formative pruning will be undertaken every five years of new trees according to best practice to promote the development of well-shaped and healthy trees.

All hedgerows, shrubs and trees will be inspected annually in January/February, with any identified works required undertaken between September and February to avoid the nesting bird season, unless identified as a health and safety risk in which case a suitable experienced ecologist must be consulted prior to works commencing.

All tree works will be carried out with consideration of the potential presence of legally protected and priority species. Prior to commencement of any arboricultural works, any trees with the potential to support roosting bats will be inspected by a licenced ecologist. Works will be scheduled to avoid the bird nesting season (March to August). Deadwood will be retained to create log/brush piles and potential hibernation sites for fauna.

3.4.4 PONDS

Newly created ponds at the Site are to be monitored annually and any remedial measures applied in late Autumn. Excess decaying leaves/organic material should be removed, and any aquatic plants are to be pruned

to maintain a balance of at least 50% cover of pond areas which are less than 3 m deep. Duckweed is to be removed to maintain less than 10% cover.

3.4.5 WATERING

During the first 5 years all plants may be watered in periods of dry weather between April – September to ensure their successful establishment. A decision will be taken by the contract administrator after weighing up the needs of the plants against the responsible and sustainable use of water.

3.4.6 MANAGEMENT OF ECOLOGICAL ENHANCEMENTS

Bat boxes will be checked by a licenced bat worker and bird boxes will be checked at the same time during monitoring visits and any remedial action, such as cleaning out the boxes, will be carried out should this be deemed necessary. This will be done during winter. General maintenance checks will be carried out in the first year and then every 2-3 years for a minimum of 10 years.

The owl box should not in general require maintenance, however, general observations will be made during general maintenance visits and any damage reported to the ecologist. Remedial action will thereby be undertaken accordingly.

The insect boxes should not in general require maintenance, and intervention should be limited to avoid disturbing occupants, but should be checked annually for any damage. The bamboo tubes do not need replacing unless they are damaged or have become dislodged.

The hedgehog house requires minimal maintenance and must not be disturbed during the summer or winter months in case it is used as a nursery, or for hibernation. If the house is unoccupied after winter use (late March-early April) it should be inspected for damage and cleaned, with old bedding material removed.

Hibernacula will be inspected during general site maintenance visits and any damage/deterioration reported to the ecologist to advise on any necessary remedial actions.

The mammal gates should not in general require maintenance, however, they should be checked at least four times a year during routine maintenance visits to ensure they remain functional.

3.5 MONITORING

Contributes to Objective 4

Monitoring will be undertaken in Years 1, 3, 5, 10, 25 and 40 immediately following habitat creation, with reports provided to the LPA within 6 months of each monitoring visit.

Monitoring will be undertaken by a suitably experienced ecologist, who will assess the habitats against the target conditions. Species-specific enhancements will also be inspected during each monitoring visit to identify any evidence of use. Criteria for the monitoring are set out in the Landscape and Ecology Monitoring Scheme (Antea UK, June 2025).

4.0 DISCLAIMER

The recommendations contained in this report represent Antea's professional opinions based upon the currently available information and are arrived at in accordance with currently accepted professional standards. This report is based upon a specific scope of work requested by the Client. The contract between Antea, and its Client outlines the scope of work, and only those tasks specifically authorised by that contract or outlined in this report were performed. This report is intended only for the use of Antea's Client and anyone else specifically identified in writing by Antea as a user of this report. Antea will not and cannot be liable for unauthorised reliance by any other third party. Other than as contained in this paragraph, Antea makes no express or implied warranty as to the contents of this report.

5.0 REPORT AUTHORISATION

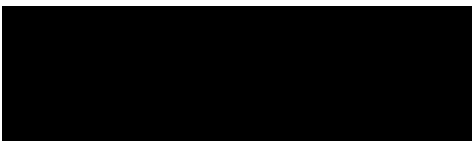
Prepared by:



17th June 2025

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17th June 2025

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Appendix A - Recommended Management, Maintenance and General Monitoring

Appendix A - Establishment Maintenance (first year post implementation)

Description	Frequency
GRASSLAND <i>Within arrays</i> After 6-10 weeks/once sward reached approximately 10 cm in height, light sheep grazing or topping of initial growth and remove arisings. <i>Field and Pond Margins</i> First cut of wildflower areas in March/ April after an autumn sowing or in June/ July after a spring sowing. Cut to a height of 40-60 mm. Subsequent cuts approx. every 6 to 8 weeks until autumn. Remove arisings from site. Spot treat broadleaved weeds in all seeded areas with suitable herbicide as specified.	3 visits
PROVISIONAL ITEM Further spot treatment of broadleaved weeds in seeded areas, as above, if needed	1 visit
TREE, SHRUB AND HEDGEROW PLANTING Keep tree and shrub planting blocks clear of weeds by strimming unwanted vegetation. Suitable herbicide may be used if appropriate. Keep hedgerows weed free by removing any weeds by hand or spot treating with a suitable herbicide.	4 visits
Inspect all trees, shrubs and hedgerow plants and re-firm if necessary. Adjust or replace any stakes, ties, guards or rabbit spirals if necessary. Remove any dead, damaged or diseased plants and replace during next suitable planting season.	4 visits
Trim hedgerows in January / February to encourage bushy growth down to ground level. Remove arisings from site.	1 visit
HABITAT BOXES Check bird, bat and insect boxes between November and February, inclusive, and hedgehog boxes late March-early April and undertake any repairs or modifications. Licensed bat surveyor to check bat boxes.	1 visit
PROVISIONAL ITEM Water areas of seeding and/or planting, if necessary, to ensure the successful establishment and continued thriving of all species.	As required

Appendix B– Establishment Maintenance Years 2-5

Description	Frequency (per annum)
GRASSLAND <i>Within arrays</i> Low intensity grazing using sheep and/or mowing. Optional light grazing Jan/Feb, livestock removed March-August, main grazing Sept-Dec. Stocking rates to avoid overgrazing. For mowing an optional cut mid-February can be taken. Cutting should be avoided March-August. Main cut taken Aug/Sept. Arisings removed.	2-3 visits
<i>Field and pond Margins</i> Wildflower Grassland - Cut to a height of 50- 75mm in late July / August and late September / October. Remove arisings from site.	2 visits
Spot treat broadleaved weeds in all seeded areas with suitable herbicide as specified.	3 visits
TREES, SHRUBS and HEDGEROWS Keep tree planting clear of weeds by strimming unwanted vegetation. Suitable herbicide may be used if appropriate.	4 visits
Keep hedgerows weed free by removing any weeds by hand or spot treating with a suitable herbicide.	4 visits
Inspect all trees, shrubs and hedgerow plants and re-firm if necessary. Adjust or replace any stakes, ties, guards or rabbit spirals if necessary. Remove any dead, damaged or diseased plants and replace during next suitable planting season.	1 visit
Lightly trim hedgerows in January / February. 50% of the total length to be trimmed in years 2 and 4 and the remainder in years 3 and 5.	Annually, but only 50% of hedgerow on each occasion
Remove all tree stakes, ties, rabbit spirals, tree and shrub guards etc. at the end of the 5-year maintenance period.	Once, Year 5
HABITAT BOXES Check bird, bat and insect boxes between November and February, inclusive, and hedgehog boxes late March-early April and undertake any repairs or modifications. Licensed bat surveyor to check bat boxes.	1 visit

Appendix C – Long-Term Management

Description	Frequency (per annum)
GRASSLAND <i>Within arrays</i> Low intensity grazing using sheep and/or mowing. Optional light grazing Jan/Feb, livestock removed March-August, main grazing Sept-Dec. Stocking rates to avoid overgrazing. For mowing an optional cut mid-February can be taken. Cutting should be avoided March-August. Main cut taken Aug/Sept. Arisings removed.	2-3 visits
<i>Field and pond Margins</i> Wildflower Grassland - Cut to a height of 50- 75mm in late July / August and late September / October. Remove arisings from site.	1 visit
HEDGEROWS/SHRUBS Trim hedgerows in January / February on three year rotation. Native mix boundary hedgerows cut to a tapered profile, targeting at least 1.5 m wide and 3 m height. Raise the cutting height by approx. 10 cm each cut. To be trimmed on rotation, with no more than 50% of the total length of any one hedgerow trimmed in one year	Annually on a three year rotation
TREES Inspect annually and undertake remedial measures as required.	1 visit
HABITAT BOXES Check bird, bat and insect boxes between November and February, inclusive, and hedgehog boxes late March-early April and undertake any repairs or modifications. Licensed bat surveyor to check bat boxes. Year 6 – consider relocation of boxes to different area if they are showing no evidence of use.	1 visit

STUDLEY SOLAR FARM, ATWORTH, MELKSHAM

SURFACE WATER DRAINAGE OPERATION AND MAINTENANCE CHECK SHEET

1. Surface Water Drainage Arrangements

- 1.1. Interception swales and basins are proposed at the low points of the solar farm site to intercept overland flows. The locations of the interception swales are shown on the PFA Consulting, Drawing Nos. B826/04-06.
- 1.2. Upon commissioning of the solar farm the Site Manager should complete **Table A**.

Table A: Commissioning Checklist

Drainage Feature	Constructed as designed (Y/N)	Planted with covering vegetation (Y/N)	Notes
Swale 1			
Swale 1a			
Swale 2			
Swale 2a			
Swale 3			
Basin 3a			
Swale 4			
Basin 4a			
Swale 5			
Swale 5a			
Basin 5b			
Basin 5c			
Swale 5d			

- 1.3. During any regular maintenance visits (at intervals no greater than 3 months) the Maintenance Engineer should complete the first column of the Drainage Checklist in the Inspection Report below. The Inspection Report will then be passed onto the Site Manager who will then arrange for the appropriate actions to be initiated.

2. Maintenance Regime

- 2.1. The interception swales will be maintained throughout the design life of the development in accordance with the recommendations in CIRIA C753 *'The SuDS Manual'*. The proposed maintenance procedures for the swales and access roads are set out in **Tables B and C** below.

Table B: Interception Swale Maintenance Procedures

Maintenance Schedule	Required Action	Frequency
Regular Maintenance	Litter and debris removal.	As required.
	Grass cutting or animal grazing – to retain grass height to site owner’s specification.	As required.
	Manage other vegetation and remove nuisance plants.	Monthly (as stated, then as required)
Occasional Maintenance	Check for poor vegetation growth due to lack of sunlight or dropping of leaf litter, and cut back adjacent vegetation where possible.	Annually
	Re-seed areas of poor vegetation growth. Alter plant types to better suit conditions, if required.	Annually, or if bare soil is exposed over 10% or more of the swale treatment area.
Remedial Actions	Repair erosion or other damage by re-turfing or reseeded.	As required.
	Re-level uneven surfaces and reinstate design levels.	As required.
	Scarify and spike topsoil layer to improve infiltration performance, break up silt deposits and prevent compaction of the soil surface.	As required.
	Remove build-up of sediment on upstream gravel trench, flow spreader or at top of filter strip.	As required.
Monitoring	Inspect infiltration surfaces for ponding, compaction, and silt accumulation. Record areas where water is ponding for > 48 hours.	Monthly, or when required.
	Inspect surface for silt accumulation. Establish appropriate silt removal frequencies.	Half yearly.

Table C: Unbound Crushed Stone Access Roads

Maintenance Schedule	Required Action	Frequency
Regular Maintenance	Brushing (standard cosmetic sweep over whole surface)	Once a year, after autumn leaf fall, or reduced frequency as required, based on site-specific observations of clogging – pay particular attention to areas where water runs onto pervious surface from adjacent impermeable areas as this area is most likely to collect the most sediment
Occasional Maintenance	Stabilise and mow contributing and adjacent areas	As required
	Removal of weeds or management using glyphosate applied directly into the weeds by an applicator rather than spraying	As required – once per year on less frequently used pavements
Remedial Actions	Remediate any landscaping which, through vegetation maintenance or soil slip, has been raised to within 50 mm of the level of the paving	As required.
	Remedial work to any depressions, rutting considered detrimental to the structural performance or a hazard to users.	As required.
	Rehabilitation of surface and upper substructure by remedial sweeping	Every 10 to 15 years or as required (if infiltration performance is reduced due to significant clogging)
	Reconstruct porous sub-base and/or replace or clean void fill, if performance deteriorates or failure occurs	As required
	Replacement of clogged geotextile (will require reconstruction of porous sub-base)	As required
Monitoring	Initial inspection	Monthly, for three months after installation
	Inspect for evidence of poor operation and/or weed growth - if required, take remedial action	Three-monthly, 48 h after large storms in first six months
	Inspect silt accumulation rates and establish appropriate brushing frequencies	Annually
	Monitor inspection chambers for siltation and infiltration is occurring (no permanent standing water)	Annually

Inspection Report

To be completed at approximately 3 month intervals

Date of Inspection:

Inspector:

DRAINAGE CHECKLIST

	Y/N	Actions
1. Do any parts of the interception swales contain standing water?		
2. Is any water overflowing from the interception swales?		
3. Are some of the interception swales overgrown or silted up?		
4. Has there been recent excessive rainfall or local flooding issues near the site?		
5. Are any rivulets (small channels) forming or is there soil erosion due to rainwater?		

Notes:

- a) If YES to Question 3 additional maintenance may be required.
- b) If YES to Questions 4 and 5 then further investigation may be required and consultation with a drainage engineer would be prudent.