



# ARCUS

**OUTLINE WRITTEN SCHEME OF INVESTIGATION  
FOR TRENCHING EVALUATION AT**

**SOAY SOLAR FARM AND GREENER GRID PARK**

**STATKRAFT UK LTD**

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## 1 INTRODUCTION

This outline Written Scheme of Investigation (oWSI) has been produced by Arcus Consultancy Services Limited (Arcus) on behalf of Statkraft UK LTD (the Applicant) for the Soay Solar Farm and Greener Grid Park (the Development) located to the west of the existing Thornton 400kV electrical substation, between Thornton and Allerthorpe in the East Riding of Yorkshire (the Site) (Figure 1).

This oWSI provides an outline programme of evaluation works, archaeological trial trenching, designed to inform the framework for the implementation of archaeological mitigation documented in the Outline Mitigation Strategy Brief also submitted with the planning application. The location and distribution of trenches is indicative with further consultation required.

The procedures and methodology for the programme of archaeological work have been developed with reference to best practice standards and guidance outlined in Management of Research Projects in the Historic Environment (MoRPHE)<sup>1</sup>, the Chartered Institute for Archaeologists (CIfA)<sup>2</sup> and national and regional archaeological research frameworks<sup>3</sup>.

## 2 ARCHAEOLOGICAL BACKGROUND

An Archaeological Heritage Impact Assessment (HIA) was submitted as part of the planning application for the Development. The HIA included a review of baseline conditions as well as an archaeological geophysical survey undertaken in order to support the planning application.

This review identified a high potential for the survival of archaeological remains within the Site, most likely relating to potential Iron-Age/Romano-British settlement. The HIA also identified that the post-Roman landscape has been continuously occupied from the medieval to modern periods, with the Site likely evolving from common land to enclosed fields these periods, including a rabbit warren recorded in the north of the Site.

## 3 CONSULTATION

Consultation was undertaken with East Riding of Yorkshire Council (ERYC) representative (January 2021), Dr Richard Newman, the Principal Archaeologist at Humber Archaeology Partnership (HAP) (hereafter 'the Curator'), throughout the preparation of the HIA.

An initial copy of the HIA was sent to the Curator who recommended that a trenching evaluation should be undertaken to inform subsequent requirements for design and mitigation.

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<sup>1</sup> Management of Research Projects in the Historic Environment: The MoRPHE Project Managers' Guide (2015) [Online] Available at: <https://historicengland.org.uk/images-books/publications/morphe-project-managers-guide/hea024-morphe-managers-guide/> (Accessed 14/07/21)

<sup>2</sup> Roskams and Whyman (May 2017) Yorkshire Archaeological Research Framework [Online] Available at: <https://historicengland.org.uk/images-books/publications/yorks-arch-res-framework-agenda/yorkshire-research-agenda> (Accessed 13/07/21)

<sup>3</sup> CIfA (October 2020) Standard and Guidance for Archaeological Field Evaluation [Online] Available at [https://www.archaeologists.net/sites/default/files/CifAS%26GFieldevaluation\\_3.pdf](https://www.archaeologists.net/sites/default/files/CifAS%26GFieldevaluation_3.pdf) (Accessed 13/07/21)

## 4 OUTLINE PROGRAMME OF ARCHAEOLOGICAL WORK

### 4.1 Proposal

Following consultation, it is proposed that a programme of targeted archaeological trial trenching be undertaken across the Development where intrusive development<sup>4</sup> is proposed, at a sample percentage e.g., 2% (Figure 2), to be agreed with the Curator and Developer. All fieldwork will be undertaken in accordance with the methodology detailed below and in compliance with the standards outlined in the CIfA's Standard and guidance for archaeological field evaluation<sup>5</sup>.

### 4.2 Aims and Objectives

The purpose of archaeological trial trenching is to identify the presence or absence of archaeological remains and record any archaeological features and deposits within the sampled area.

The aims of the archaeological trial trenching within the specified works area will be to:

- Establish the presence or absence of any buried archaeological remains, through the targeted trial trench excavation of known cropmarks / subsurface archaeological features as identified by the HIA and geophysical survey, as well as those void, or 'blank', areas;
- Excavate a sufficient sample of identified archaeological features and deposits, in order to characterise the nature, depth, extent, date and relationships of archaeological features which may be present;
- Assess the artefactual/ecofactual potential of identified archaeological deposits and features and to sample as appropriate;
- Analyse, conserve, and store any artefactual/ecofactual material recovered to establish the spatial relationship, function and date of archaeological features;
- Integrate the results of the works into the wider chronological and regional context; and
- Record and report upon archaeological deposits in order to inform the implementation of further work and mitigation as well as disseminating the information.

The findings of the investigation will then inform the need for further archaeological works and the implementation of mitigation documented in the Mitigation Strategy.

### 4.3 Trial Trench Evaluation

The approach to evaluation (and subsequent excavation if required) will be established via further consultation with HAP and in accordance with best practice and guidance<sup>6, 7, 8</sup>. The trenching plan within Figure 2 is outline only and the number and location of trial trenches may be subject to change following further consultation to finalise this plan.

The trench locations are placed to try and target areas with potential archaeological evidence as well as possible blank areas. An archaeological contractor will be commissioned to undertake this work and will submit a method statement in the form of a final WSI to

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<sup>4</sup> In this case, "Intrusive Development" is defined as any breaking of ground associated with the Development.

<sup>5</sup> Chartered Institute for Archaeologists (2014) Standards and Guidance for Archaeological Field Evaluation [Online] Available at: [https://www.archaeologists.net/sites/default/files/CIfAS&GFieldevaluation\\_1.pdf](https://www.archaeologists.net/sites/default/files/CIfAS&GFieldevaluation_1.pdf) (Accessed 02/07/21)

<sup>6</sup> Chartered Institute for Archaeologists (2014) Standards and Guidance for Archaeological Excavation [Online] Available at: [https://www.archaeologists.net/sites/default/files/CIfAS&GExcavation\\_1.pdf](https://www.archaeologists.net/sites/default/files/CIfAS&GExcavation_1.pdf) (Accessed 02/07/21)

<sup>7</sup> Chartered Institute for Archaeologists (2014) Standards and Guidance for Archaeological Field Evaluation [Online] Available at: [https://www.archaeologists.net/sites/default/files/CIfAS&GFieldevaluation\\_1.pdf](https://www.archaeologists.net/sites/default/files/CIfAS&GFieldevaluation_1.pdf) (Accessed 02/07/21)

<sup>8</sup> CIfA (December 2014) Standard and guidance for collection, documentation, conservation and research of archaeological material [Online] Available at [https://www.archaeologists.net/sites/default/files/CIfAS&G Finds\\_1.pdf](https://www.archaeologists.net/sites/default/files/CIfAS&G Finds_1.pdf) (Accessed 13/07/21)



the HAP for approval before any works begin. Following the backfilling of the trenches, all finds must be subject to post-excavation analysis and recorded as appropriate.

#### **4.4 General Trial Trench Evaluation Methodologies**

The following methodologies will be applicable to the trial trench evaluation, and will be agreed upon and reflected in any detailed trial trench WSI submitted.

##### *4.4.1.1 Programme*

Prior to commencement of works, a programme for the archaeological trial trenching will be approved by the Developer, Curator and archaeological contractor. This programme will detail, proposed start and end dates for onsite works, as well as the proposed evaluation duration. The programme will also account for any post-excavation assessment and reporting, as required to discharge any archaeological planning conditions and inform the need for mitigation.

##### *4.4.1.2 Health and Safety*

All work will be carried out in accordance with the Health and Safety at Work etc. Act 1974 and the Management of Health and Safety Regulations 1992, and all other relevant Health and Safety legislation, regulations and codes of practice in force at the time for the fieldwork.

Prior to commencement of archaeological works, a Risk Assessment and Method Statement (RAMS) for the work will be prepared and submitted to the Developer for review and acceptance. A copy can be issued to the Curator if required.

The RAMS shall include all site activities, details of compliance with Covid-19 restrictions (if present), and detail any required personal protective equipment. No site work shall be undertaken until the RAMS has been accepted.

PPE requirements will be subject to review by the Developer; however, these will be in line with Health & Safety requirements and will be confirmed following the appointment of an Archaeological Contractor.

It will be the responsibility of the archaeological contractor to ensure that all services have been cleared, or protected and are not damaged as a result of the site operations.

Trench locations will be CAT scanned prior to excavation, and where overhead lines are present, goal posts will be required to mark locations for plant crossings. Any plant crossing under overhead lines will require supervision banksman with the hydraulic arm depressed to the maximum extent.

##### *4.4.1.3 Access and Setting Out*

The appointed archaeological contractor will be permitted access to the Development Site, following identification of relevant hazards, restrictions, permits and relevant qualifications. Access will be arranged by the Developer in advance of all site works and confirmed by the Lead Heritage Consultant.

Prior to set up on site and commencement of the evaluation, a land condition record will be produced, including photographic evidence. The condition of the excavation area will be recorded by the same method following completion of the trial trenching, backfilling and removal of the mechanical excavators from the sites. Care will be taken throughout the course of the evaluation to minimise the disruption and ground disturbance caused by the mechanical excavators.

The location of all trenches shall be accurately set out, surveyed and excavated based on the Ordnance Survey National Grid and Ordnance datum. These shall be set out and tied in by the archaeological contractor and all control points used to locate trial trenches

relative to base mapping must be to survey-grade accuracy ( $\pm 0.01\text{m}$ ). Locations of trial trenches must be independently re-locatable on the ground by a third party.

#### 4.4.1.4 *Machine and Hand Excavation*

The archaeological contractor will supply all suitable plant for the excavation and backfilling of the archaeological trial trenches. As such machine excavation shall be undertaken by suitably qualified operators under the instruction of a sufficiently experienced and qualified archaeologist, and under constant archaeological supervision.

Topsoil, subsoil and any other overburden shall be removed using either a 360° mechanical excavator, or back-actor fitted with a 1.8m wide toothless ditching bucket. Mechanical excavation will cease when the first archaeologically significant horizon is encountered, or when the absence of any such horizon has been adequately demonstrated.

The archaeological features and deposits encountered will be excavated by hand, and hand cleaning will also replace mechanical excavation in all instances where very sensitive features or finds are encountered to prevent unnecessary damage.

Exposed archaeology must be investigated sufficiently to establish its nature, extent and date, unless deemed to be of sufficient importance to require preservation in-situ, in which case the Developer and EYRC should be contacted to discuss any additional measures.

The depth and complexity of archaeological features and deposits within each area exposed will be ascertained, unless HS&E constraints deem otherwise. Where features cannot be hand excavated the Developer and Curator will be consulted.

Sampling of archaeological features will be dependent on feature type, but will be sufficient to enable a basic understanding of the feature. Suggestive minimum samples comprise:

- 100% excavation of the termini of any linear features;
- 10% excavated sample along the length of a linear feature;
- 50% excavation of pits or discrete features; and
- Preservation in situ of complex features, such as hearths, or significant bonded structural remains, as well as the preservation of postholes.

Feature intersections will be excavated in such a way to determine a stratigraphic relationship.

No backfilling of trenches shall be undertaken without the instruction of the Developer and Curator.

#### 4.4.1.5 *Recording and Sampling*

All excavated archaeological contexts will be recorded in full through provision of a detailed written context records, which will include details of extent, location, relationships, samples, finds, and cross-references to any relevant contexts.

All features will be planned at an appropriate scale of 1:10 or 1:20, with sections drawn at 1:10, and photographed accordingly. These plans and the photographic record will be presented in any final reporting.

Registers of all contexts, drawings, photographs, finds, and samples will be maintained in a standardised format.

Bulk samples of dry context will be taken in 40L samples, with wet samples taken in 20L samples, and will be appropriately and clearly labelled with site codes, context details and sample information. Where the context is of a lower volume, 100% of the context will be sampled.

All finds and samples will be collected and treated in accordance with the relevant guidance, including:

- CIfA's Guidance for the collection, documentation, conservation and research of archaeological materials<sup>9</sup>;
- Museums and Galleries Commissions Standards in the Museum Care of Archaeological Collections<sup>10</sup>; and
- Environmental Archaeology: a guide to theory and practice of methods, from sampling and recovery to post-excavation<sup>11</sup>.

In addition, all finds and environmental samples will be retained and recorded in order to provide dates and assist in the interpretation of form and function of any archaeological features or deposits identified.

#### 4.4.1.6 *Human Remains*

Any discovered human remains should be left in-situ, covered and protected and the Lead Heritage Consultant informed immediately. The Developer will inform the EYRC and local Coroner. As Removal may require a Home Office licence, in compliance with Section 25 of the Burial Act 1857 and local environmental health regulations and the Disused Burial Grounds (Amendment) Act 1981, buried human remains will not be excavated unless removal is deemed necessary.

#### 4.4.1.7 *Treasure*

In the event of discovery of artefacts covered or potentially covered by Treasure Act 1996, these will be removed and reported to the Developer who will inform the local Coroner according to the procedures relating to the Treasure Act of 1996, EYRC and the Finds Liaison Officer.

#### 4.4.1.8 *Post-Excavation Analysis and Reporting*

On completion of the fieldwork, and commensurate to the complexity and character of the archaeological resource, a detailed methodology for processing, sampling and the analysis of all artefacts and ecofacts recovered during the evaluation will be agreed with both the Developer and Curator. This will enable an informed decision to be made on the need for any further archaeological mitigation. The evaluation report will be prepared in accordance with CIfA guidance and Standard and guidance for the collection, documentation, conservation and research of archaeological materials<sup>12</sup>. The results of the evaluation will be placed into the local/ regional context of the archaeology, and include a statement on the archaeological significance of the results.

Within an agreed timescale of completion of fieldwork, the draft report will be submitted in the first instance for review/comment to the Developer and the Curator and any other Specialists (e.g. Historic England) for review. When finalising the report, the archaeological contractor will take into account any comments made and remedy any faults identified prior to the finalised submission. This report shall be submitted to the Curator and EYRC Planning Officers for condition discharge.

The evaluation report will contain as a minimum:

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<sup>9</sup> Standard and guidance for the collection, documentation, conservation and research of archaeological materials (2014). [Online] Available at [https://www.archaeologists.net/sites/default/files/CIfAS%26GFinds\\_2.pdf](https://www.archaeologists.net/sites/default/files/CIfAS%26GFinds_2.pdf) (Accessed 02/07/21)

<sup>10</sup> Standards and Guidance in the Care of Archaeological Collections (2020) [Online] Available at [https://collectionstrust.org.uk/wp-content/uploads/2020/04/Standards\\_and\\_Guidance\\_in\\_the\\_Care\\_of\\_Archaeological\\_Collections.pdf](https://collectionstrust.org.uk/wp-content/uploads/2020/04/Standards_and_Guidance_in_the_Care_of_Archaeological_Collections.pdf) (Accessed 02/07/21)

<sup>11</sup> Environmental Archaeology: a guide to theory and practice of methods, from sampling and recovery to post-excavation (2011) [Online] Available at [https://historicengland.org.uk/images-books/publications/environmental-archaeology-2nd/environmental\\_archaeology/](https://historicengland.org.uk/images-books/publications/environmental-archaeology-2nd/environmental_archaeology/) (Accessed 02/07/21)

<sup>12</sup> Standard and guidance for the collection, documentation, conservation and research of archaeological materials (2014, updated 2020) [Online] Available at [https://www.archaeologists.net/sites/default/files/CIfAS%26GFinds\\_2.pdf](https://www.archaeologists.net/sites/default/files/CIfAS%26GFinds_2.pdf) (Accessed 02/07/21)

- A non-technical summary;
- Introductory statements;
- The aims and methods used in the evaluation;
- Methodology;
- Results and conclusions;
- A table summarising the deposits, features, classes and numbers of artefacts encountered and spot dates of significant finds;
- Proposed further stages of archaeological mitigation, if appropriate;
- Plans and index to and location of the archive, along with proposals for deposition of the complete archive, including digital material.

#### 4.4.1.9 *Archive Preparation and Deposition*

Adequate resources will be provided during fieldwork to ensure that records adhere to the CIfA's Standard and guidance for the creation, compilation, transfer and deposition of archaeological archives<sup>13</sup>.

Immediately upon completion of the finalised report, the report and any data or other documentation produced during the post-excavation assessment process will be integrated into the site archive.

The results will be uploaded onto the online OASIS form at <http://oasis.ac.uk/> and once the reporting is in the public domain via by submission to the Curator and Historic England National Record of the Historic Environment (NRHE), the Curator will validate the appropriate OASIS form.

## 4.5 **Contingency Arrangements**

A contingency will be included for 2% of additional trenching, in the event that the archaeological resource required further characterisation, and the scheme design permits additional interventions.

In the event of the discovery of archaeological remains which are of a greater number or extent than anticipated, work will cease and HAP and a representative of the Applicant will be notified. An assessment will be made of the importance of the remains and any provision for their recording or preservation in situ as appropriate.

## 5 **MONITORING**

HAP must be informed of the start date and timetable for the construction of the Development in advance of work commencing, once the method statement submitted by the appointed archaeological unit has been agreed and a date set for the works.

Access will be permitted to HAP, or nominated representative, to monitor/observe any fieldwork or progress of any agreed post excavation analysis and reporting programmes (at the archaeological field unit's premises or that of their specialist sub-contractors as appropriate).

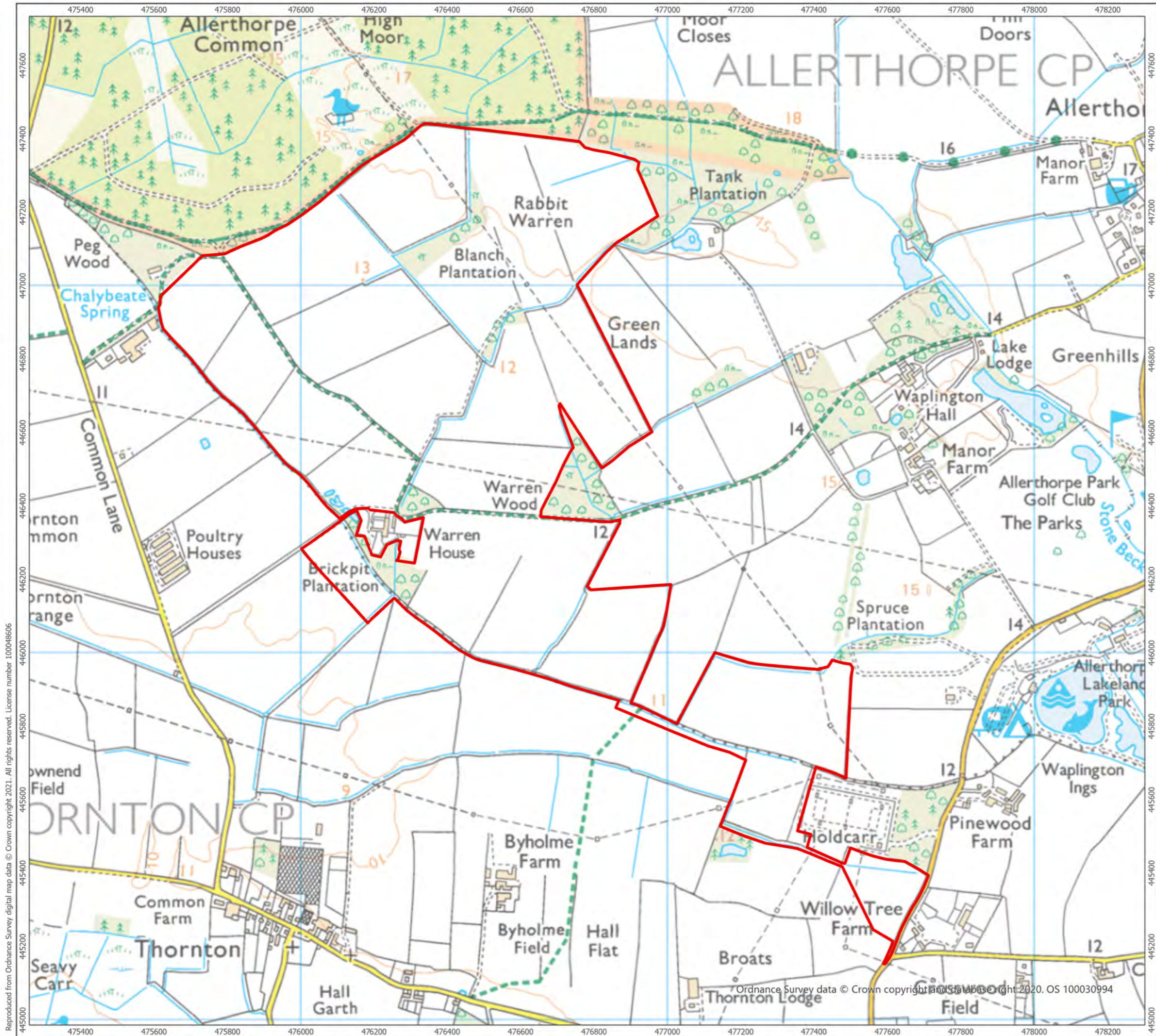
Regular communication between the archaeological contractor, HAP, and other interested parties must be maintained to ensure the aims and objectives of the archaeological programme of works are achieved.

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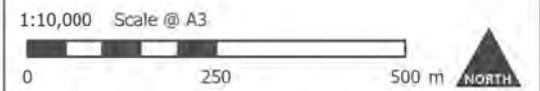
<sup>13</sup> Standard and guidance for the creation, compilation, transfer and deposition of archaeological archives (2014, updated 2020) [Online] Available at [https://www.archaeologists.net/sites/default/files/CIFAS%26GArchives\\_4.pdf](https://www.archaeologists.net/sites/default/files/CIFAS%26GArchives_4.pdf) (Accessed 02/07/21)

## **6 ENVIRONMENTAL PROTECTION**

The archaeological contractor will comply with any requirements of the Principal Contractor to protect the environment. This will include provision for removal of refuse, the provision of bunds or other containment around fuel tank (if any), drip trays under plant and the availability of pollution clean-up kits in the event of a spillage, if required. The archaeological contractor will demonstrate how they will achieve de-watering (if required) in such a way as to prevent silting of water courses etc.



Core Study Area (CSA)



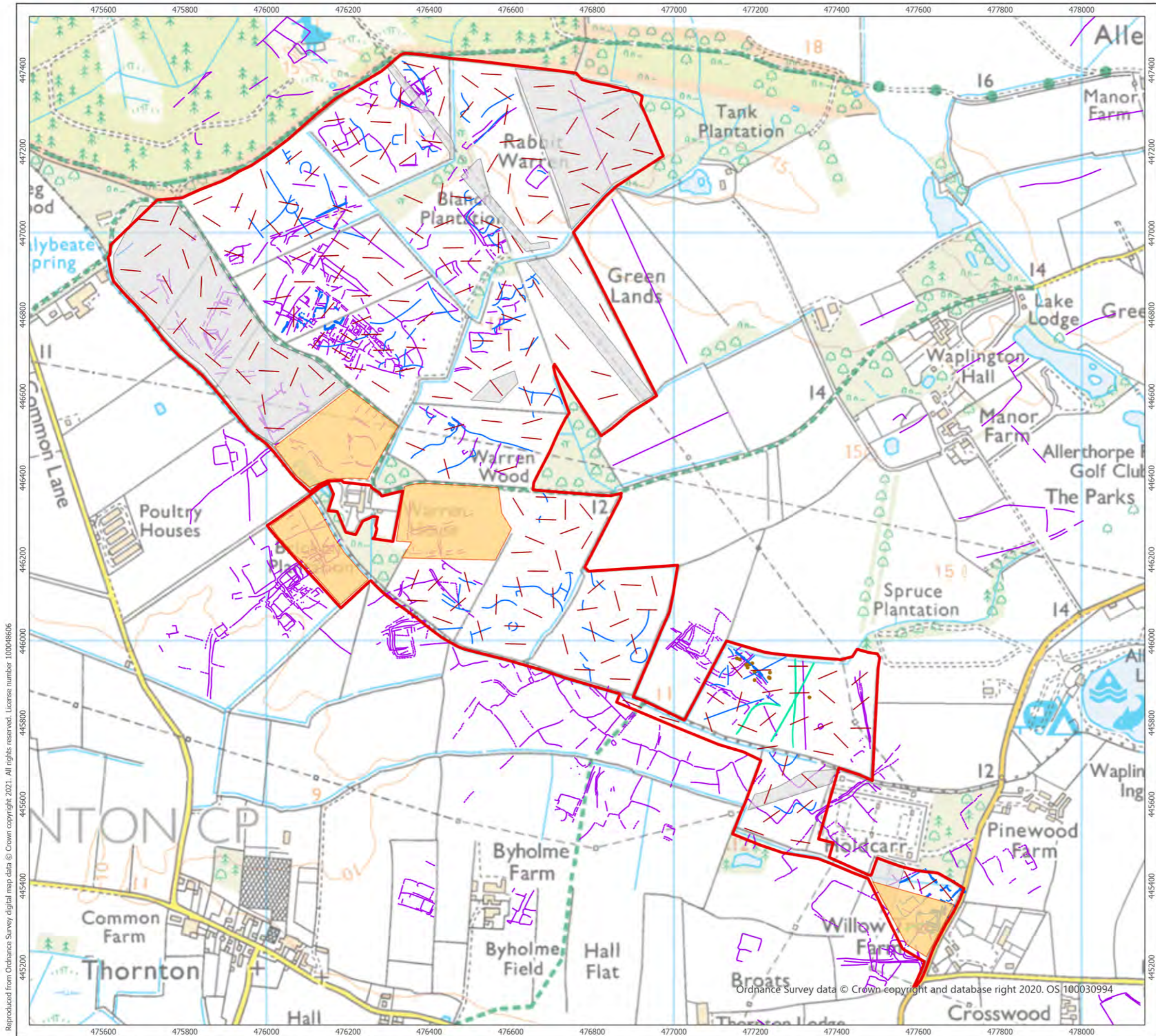
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Checked By: HK	Date: 24/11/2021

**Site Location**  
Figure 1

**Soay Solar Farm**  
Outline Written Scheme  
of Investigation

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- Core Study Area (CSA)
- Trenches
- Areas Removed From Trenching Scope Due To Design
- Potential Archaeology
- Areas Not Surveyed
- Discrete Pits
- Old Field Boundary
- Potential Archaeology
- Cropmarks (Linear)

1:9,000 Scale @ A3  
0 200 400 m

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**Trenches**  
Figure 2

**Soay Solar Farm  
Outline Written Scheme  
of Investigation**

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