Rosefield Solar Farm

Environmental Statement

Volume 4
Appendix 11.1: Preliminary Risk Assessment
(Tracked)

EN010158/APP/6.4.2
Revision 2
Deadline 1
~~September 2025~~ March 2026
Rosefield Energyfarm Limited

APFP Regulation 5(2)(a)
Planning Act 2008
Infrastructure Planning
(Applications: Prescribed Forms
and Procedure) Regulations 2009

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Executive Summary

Report topic	Summary
Purpose of assessment	This assessment was completed to undertake a review of potential land contamination sources and to present an initial consideration of geotechnical constraints to the Proposed Development
Order Limits and Proposed Development	The land within the Order Limits is currently used predominantly for agricultural purposes. The Proposed Development comprises a Solar Farm with associated infrastructure.
History of Order Limits	The land within the boundary of the Order Limits, and in the surrounding area, has historically been in agricultural use since the first historical map editions from 1885. Potential contamination sources include a historical railway line and a number of associated buildings, along with agricultural pollutants such as pesticides, herbicides, areas of made ground or infill, possible infilled ponds and possible areas of waste materials
Geology and environmental setting	Artificial material (made ground) may be present in some locations, but none which are shown on the geological mapping. Alluvium (comprising clay, silt, sand and gravel) is present close to watercourses, with some deposits in all parcels. Glacial deposits (comprising clay, silt and sand) are present in discrete locations in Parcel 1 and Parcel 2. Glaciofluvial deposits (comprising sand and gravel) are found in limited locations in Parcel 1 and Parcel 2. Till (comprising clay, sand, gravel and boulders) is present in several locations within Parcel 2. Bedrock units include West Walton Formation, Weymouth Mudstone Formation, Stewartby Formation and Peterborough Member, all of which are mudstone units. There are mineral safeguarding areas associated with the alluvium, which are present to some degree in all parcels. Environmental receptors identified include the secondary A and secondary undifferentiated aquifers within the superficial geological strata. Bedrock strata is classified as unproductive with respect to groundwater, due to the low permeability of mudstone. There are no recorded groundwater source

	protection zones within the Order Limits and there are no licensed groundwater abstractions.
Site reconnaissance findings	Key findings included: • Presence of manhole covers, suggesting the existence of a drainage network; • Areas of potential shallow soil instability in the southern part of Parcel 2; • Remains of some old buildings were evident (although in some areas where historical buildings were noted on maps, there was no remaining physical evidence).
Geotechnical constraints	The key findings of the initial geotechnical assessment are as follows: • Geotechnical Category 2 has been assigned to the Site for the purposes of designing the geotechnical investigation (to be reviewed and revised as the project progresses); • Shrinkable clay soils; highly compressible and low bearing capacity soils (including peat and soft clay); and silt-rich soils (susceptible to rapid loss of strength in wet conditions) could be present within superficial units; • The ground is potentially at risk from shallow soil instability (based on information provided in the Envirocheck report and visual evidence in the southern part of Parcel 2); • Artificial ground is expected to be present in isolated locations, including at embankments, infilled ponds and infilled pits; • The site topography may pose challenges, if varying site levels affect areas of the infrastructure; and • A high groundwater table may be present in some areas.
Initial conceptual site model (CSM) and preliminary risk assessment (PRA)	Potentially complete contaminant linkages identified with a risk estimate of moderate to low or above include risks to future site users from migration of hazardous ground gases (due to the presence of off-site current and historical landfill sites at Calvert); and risks to current or future buildings and services from migration of hazardous ground gases (due to the landfill sites at Calvert). Uncertainties and data gaps have been identified in the CSM at desk study stage and should be considered in the design of future intrusive investigation.
Recommendations	The following recommendation is made for further assessment of the site to address the risks and uncertainties:

including issues for further assessment	• A Phase 2 intrusive ground investigation should be completed to include, but not necessarily be limited to, an investigation of ground gas by installing monitoring wells in proximity to current and historical landfill sites. Geotechnical in situ and laboratory testing should be undertaken as part of intrusive ground investigation works, in order to ensure that infrastructure and foundation designs are suitable. This work should include an assessment of soil and bedrock types and depths, with additional focus on areas where the ground will be more heavily loaded.

The information given in this summary is necessarily incomplete and is provided for initial briefing purposes only. The summary must not be used as a substitute for the full text of the report.

1. The Scheme

1.1. Commissioning

1.1.1. This document has been updated at Deadline 1 in response to the Relevant Representations received from the Environment Agency. The document references have not been updated from the original submission. Please refer to the **Guide to the Application [EN010158/APP/1.2.6]** for the list of current versions of documents.

~~1.1.1.~~1.1.2. This document has been prepared on behalf of Rosefield Energyfarm Limited (the Applicant) to carry out a Preliminary Risk Assessment (also known as a Phase 1 Desk Study) in relation to the Development Consent Order (DCO) application for the construction, operation and decommissioning of Rosefield Solar Farm (hereafter referred to as the Proposed Development).

1.2. Objectives

1.2.1. The objectives of the work are:

- To identify any land contamination constraints to the Proposed Development; and
- To identify the need for any additional investigation or remediation works to demonstrate that the Site is suitable for its proposed use.

1.3. Scope of Works

1.3.1. The scope of this assessment has been developed in accordance with relevant British Standards and authoritative technical guidance as referenced throughout the report. The assessment of the contamination status of the Site is in line with the technical approach presented in Land Contamination Risk Management (LCRM) (Environment Agency, 2021) and in general accordance with BS 10175: 2011 + A2 2017 (BSI, 2017). It is also compliant with relevant planning policy and guidance.

1.3.2. The scope of works for the desk-based assessment has included the following:

- Review of the history of development on the Site and surroundings;
- Assessment of local geology, hydrogeology and hydrology;
- Review of relevant information held by appropriate statutory authorities;
- Review of any previous site investigation reports made available;
- Completion of a Site reconnaissance survey to assess the visual condition of the Site;

- Development of an initial conceptual site model (CSM);
- Preliminary consideration of geotechnical constraints and hazards; and
- Identification of the need for further action, e.g. intrusive investigations, if any.

1.4. Existing Reports

1.4.1. The following report detailing previous work at the site has been used in preparation of this PRA:

- **ES Volume 4. Appendix 12.1: Agricultural Land Classification Report [EN010158/App/6.4].**

1.4.2. Pertinent information from this report has been provided in sections relating to Agricultural Land Classification (ALC) and soils.

1.5. Limitations

1.5.1. This report is subject to limitations that may be described through this document.

2. Site Details

2.1. Site Location

2.1.1. Site location details are presented in **Table 2.1** and a Site location plan is provided on **ES Volume 3, Figure 11.1: Order Limits and Study Area for Land and Groundwater [EN010158/APP/6.3]**.

Table 2.1: Site location details

Site name	Rosefield Solar Farm
Site location details	The Site comprises four main land areas, plus the Nation Grid East Claydon Substation, the Grid Connection Corridor, AIL Access Corridor and Interconnecting Cable Corridors. The main land areas for siting of solar panels are labelled Parcel 1, Parcel 1a, Parcel 2 and Parcel 3: • Parcel 1 is the western most parcel of the Site and is borded by several woodland blocks including Shrubs Wood, Decoypond Wood and Sheephouse Wood. Calvert Road sits on the northern boundary of Parcel 1; • Parcel 1a is located south east of Parcel 1, between Sheephouse Wood and Romer Wood/Greatsea Wood; • Parcel 2 is located approximately 1km east of Parcel 1a. Parcel 2 is bordered by Runt's Wood to the west, Finemere Wood to the South and the residential settlement of Botolph Claydon directy to the north; and • Parcel 3 is the northern most parcel of land within the Site. Adjacent to Parcel 3 lies the existing National Grid East Claydon Substation. Interconnecting Cable Corridor land is located passing on the northern side of Home Wood between Parcels 1 and 2; between Parcel 1 and Parcel 1a (between Sheephouse Wood and Romer Wood); and to the east of Botolph Claydon, on land between Parcel 2 and Parcel 3. The Grid Connection Corridor is located to the west of East Claydon Substation. The AIL Access Corridor is located to the north east of East Claydon Substation.
Easting	473199
Northing	223507

2.2. Site Description

2.2.1. The Site boundaries for the four land parcels, and current layouts of individual fields, are shown on **ES Volume 3, Figure 11.2: Sensitive Receptors Relating to Land [EN010158/APP/6.3]**. All parcels of the Site are currently used predominantly for agricultural purposes.

2.2.2. Parcel 1 is comprised of a number of irregularly shaped fields with mature field boundaries. There are no significant structures or buildings within the area.

2.2.3. Parcel 1a is located between Sheephouse Wood and Romer Wood, and comprises fields separated by hedgerows, with a watercourse passing along the northern boundary.

2.2.4. Parcel 2 stretches between Botolph Claydon in the north and Finemere Wood in the south west. This land parcel is also occupied by fields with numerous field boundaries, with some small areas of mature woodland and occasional buildings.

2.2.5. Parcel 3 is located to the south of the large East Claydon electricity substation. The eastern boundary of the land parcel is along a tributary of Claydon Brook watercourse, with the land occupying a number of fields segregated by hedgerows. High voltage overhead electricity cables are present crossing this land parcel.

2.2.6. There are three areas of Interconnecting Cable Corridor land; one located between Parcels 1 and 2, to the north and north east of Home Wood; one between Parcel 1 and Parcel 1a, to the east of Sheephouse Wood; and .the last between Parcels 2 and 3, located both north and south of Orchard Way. All these areas comprise agricultural fields.

2.2.7. Grid Connection Cabling will be located within land located to the west of Parcel 3, which comprises agricultural land, and the existing East Claydon Substation within Field SA54. Land to be used for the AIL access corridor is located to the east of Parcel 3.

2.2.8. There is an area of land within the Order Limits that is remote from the main land parcels and cabling corridors. This is located at Snake Lane/Fiddlers Field, and is intended for widening of the highway at the junction of Claydon Road and along Fiddlers Field/Snake Lane. These works would increase the width of the Claydon Road junction at Shipton Lee to accommodate two lanes. The works required for this are set out within the **Streets, Rights of Way and Access Plans [EN010158/APP/2.4]** and are detailed in **ES Volume 2, Chapter 15: Transport and Access [EN010158/APP/6.2]**. Consideration of these locations is given within this assessment with respect to historical land use.

2.3. Surrounding Land Uses

2.3.1. The Site is located in a rural area of Buckinghamshire, to the south east of Buckingham and north west of Aylesbury, within an agricultural setting. Immediate surrounding land uses are described in **Table 2.2**.

Table 2.2: Surrounding land uses

Parcel 1	
North	Agricultural with some residential properties (Blackmorehill Farm, Calvert Cottages, The Old Brick Yard)
East	Agricultural, Knowlhill Farm, Home Wood, Muxwell Farm
South	Sheephouse Wood (SSSI)
West	Agricultural land, Decoypond Wood, railway (part of the HS2 development), large infilled mineral extraction site to west of railway (Calvert Landfill)
Parcel 1a	
North	Part of Romer Wood, agricultural land
East	Romer Wood and Greatsea Wood with Balmore Wood beyond
South	Agricultural land
West	Agricultural land and Sheephouse Wood (SSSI)
Parcel 2	
North	Village of Botolph Claydon, residential properties, agricultural land, fruit farm
East	Agricultural land, Hogshaw Farm, Borshaw Farm, Dry Leys Farm
South	Finemere Wood, with the River Ray on the southern boundary of the wood
West	Agricultural land, Runt's Wood and Finemere Wood
Parcel 3	
North	East Claydon electricity substation and agricultural land
East	Tributary of Claydon Brook, with agricultural land beyond
South	Agricultural land
West	Agricultural land, Sion Hill Farm
Interconnecting Cable Corridor between Parcels 1 and 2	
North	Agricultural land along Orchard Way
East	Parcel 2 (agricultural land, fields D3, D12 and D13, with small woodland area to north east)

South	Romer Wood, Balmore Wood, Runt's Wood, agricultural land, buildings at Knowlhill Farm
West	Parcel 1 (agricultural land, fields B20 and B23)
Interconnecting Cable Corridor between Parcels 1 and 1a	
North	Knowlhill Farm
East	Romer Wood
South	Parcel 1a
West	Sheephouse Wood
Interconnecting Cable Corridor between Parcels 2 and 3	
North	Parcel 3 (agricultural land, field E23)
East	Claydon Brook, with agricultural land beyond and extensive buildings at Middle Farm/Pond House
South	Agricultural land and Borshaw Farm
West	Parcel 2 (agricultural land, fields D6, D7, D8 and D45)
East Claydon Substation, Grid Connection Corridor and AIL Access Corridor	
North	Road and agricultural land
East	Parcel 3 and agricultural land
South	Parcel 3 and agricultural land
West	Agricultural land and East Claydon
Snake Lane/Fiddlers Field	
North	Hill Farm and Grange Farm and agricultural land
East	Agricultural land and Lee Road
South	Lee Bridge Cottage and agricultural land
West	Lee House and agricultural land

2.4. Development Plans

2.4.1. The zonal masterplan for the Proposed Development is shown on **ES Volume 3, Figure 11.3: Sensitive Receptors Relating to Groundwater [EN010158/APP/6.3]**.

3. Desk-based Assessment

3.1. Aims and objectives

3.1.1. The desktop study was designed generally to meet the objectives of a preliminary (phase 1) investigation, as defined by BS 10175:2011 + A2 2017 (BSI, 2017) and this assessment relates to LCRM Stage 1, Tier 1 preliminary risk assessment. The "vicinity" of the Site for the purposes of this report is defined as locations situated within an approximate 250m radius of the site, although certain sources and/or sensitive targets further than 250m may also have been considered. Justification for this is provided as appropriate.

3.1.2. The study aims principally to identify and assess the potential risks and liabilities associated with contamination of the ground, on and in the vicinity of the Site. While this includes consideration of current operations and housekeeping on the Site, the report does not constitute a comprehensive environmental audit of the Site, as covered under ISO 14001.

3.2. Site History

Historical Development Record

3.2.1. The development history of the Site and surrounding area based upon assessment of historical plans and records is detailed in **Table 3.1, Table 3.2**, **Table 3.3**, **Table 3.4**, **Table 3.5** and **Table 3.6**. The historical maps reviewed are shown within the environmental database report in **Annex A**.

Table 3.1: Parcel 1: Summary of historical development

Date	Historical Land Use (on-site)	Area of site
1885	First map edition shows parcel separated into numerous small fields (similar to current day layout), with some small buildings, wells, springs and small ponds.	Full area of Parcel 1
2023	No significant changes within the parcel boundary from first edition to latest edition of mapping.	Full area of Parcel 1
Date	**Historical Land Use (off-site)**	**Distance/ orientation**
1885	Surrounding area generally similar to current day in terms of locations of woodland, field boundaries and road positions. Great Pond Farm buildings are present in the land surrounded by the land parcel. Shrubs Wood, Decoypond Wood, Sheephouse Wood and Home Wood are all present off-site.	West, south and east

1900	Railway to west of land parcel present by 1900.	West/200m
1952	Map edition from 1952 shows presence of large Calvert Brickworks to west of parcel.	West/200m
1999	Area of Calvert Brickworks has been infilled and reinstated as agricultural land between 1984 and 1999 map editions.	West/200m
2023	By 2023 the area of the Calvert Brickworks has been redeveloped with residential properties.	West/200m

Table 3.2: Parcel 1a: Summary of historical development

Date	Historical Land Use (on-site)	Area of site
1885	First map edition shows parcel separated into one large field with smaller fields at the west end and in the south east corner. The field boundaries are in similar locations to current day layout. There is a stream present on the western and northern boundaries.	Full area of Parcel 1a
1990	A track is shown crossing the parcel from north to south across the centre.	Centre
2023	No significant changes within the parcel boundary from the 1900 edition to latest edition of mapping.	Full area of Parcel 1a
Date	Historical Land Use (off-site)	Distance/ orientation
1885	Surrounding area generally similar to current day in terms of locations of woodland, field boundaries and road positions. Romer Wood, Greatsea Wood and Sheephouse Wood are all present off-site.	West, south and east
1900	Railway to west of land parcel present by 1900.	South west/400m

Table 3.3: Parcel 2: Summary of historical development

Date	Historical Land Use (on-site)	Area of site
1885	The land parcel was predominantly as it is found today, separated into numerous fields; although a minority of field boundary positions are slightly different. Buildings are present on-site associated with Kitehill Farm, Coppice Lowhill Farm, Bernwood House (later labelled as Bernwood Farm) and Claydon Lawn. A stream crosses the centre of the southern part of the parcel. Tracks are also present crossing the parcel. There is a feature near the centre of the eastern boundary which appears to incorporate a small area of woodland and two small	Full area of Parcel 2

	ponds, and there is evidence of a row of trees entering the parcel from a north westerly direction, which were possibly indicative of a track or entrance road. Ponds and issues are shown in some locations.	
1984	Some of the boundaries to fields south of Runt's Wood are no longer present. There is only one building remaining at Coppice Lowhill Farm. The row of trees in the north west section of the parcel gradually disappears over time.	As noted

Date	Historical Land Use (off-site)	Distance/ orientation
1885	The area around the site is mainly occupied by small fields, with areas of woodland already established. The village of Botolph Claydon is located just to the north of the Site, with a well (Botyl Well) shown just south west of Botolph Claydon (which is shown as covered by 1999). Hogshaw Farm is located just off-site to the east. An area of earthworks is shown south of the parcel labelled as "Pond Bay".	As noted

Table 3.4: Parcel 3: Summary of historical development

Date	Historical Land Use (on-site)	Area of site
1885	The land is occupied by small fields, with boundaries in similar locations to the current layout. A railway crossed the parcel from north to south, with a small building indicated in the centre at Sion Hill Farm Crossing. Ponds and tracks are present on-site and there is a stream running along the majority of the eastern boundary.	Full area of Parcel 3
1900	A drain is present crossing the south eastern corner of the parcel.	South east
1966	The railway line is marked as discussed.	Centre
1984	The line of the railway is no longer present, but an overhead electricity line approximately follows the route of the historical railway. The building at the Sion Hill Farm Crossing is no longer present.	Centre
1985	A large electricity substation is present within the parcel. Additional overhead cables are present, associated with the electricity substation.	North

Date	Historical Land Use (off-site)	Distance/ orientation
1885	The surrounding area is generally similar to current day in terms of locations of field boundaries and watercourse positions. Winslow Road Station is located just off-site to the north.	Surrounding area

Note: Reference to published historical maps provides invaluable information regarding the land use history of the site, but historical evidence may be incomplete for the period pre-dating the first edition and between successive maps.

Table 3.5: Interconnecting Cable Corridor land between Parcels 1 and 2: Summary of historical development

Date	Historical Land Use (on-site)	Area of site
1885	First map edition shows land area separated into small fields (similar to current day layout), with some tracks and small ponds.	Full area of connecting land
1952	A windpump is shown in the central area (still present in 1966, but absent on 1984 map edition).	To east of Home Wood
2023	No significant changes within the boundary from first edition to latest edition of mapping.	Full area of connecting land
Date	**Historical Land Use (off-site)**	**Distance/ orientation**
1885	Surrounding area generally similar to current day in terms of locations of woodland, field boundaries and road positions	Full area
2023	No significant changes.	Full area

Table 3.6: Interconnecting Cable Corridor land between Parcels 1 and 1a: Summary of historical development

Date	Historical Land Use (on-site)	Area of site
1885	First map edition shows land area separated into small fields (similar to current day layout).	Full area of connecting land
2023	No significant changes within the boundary from first edition to latest edition of mapping.	Full area of connecting land

Date	Historical Land Use (off-site)	Distance/ orientation
1885	The surrounding area is generally similar to current day in terms of locations of field boundaries and watercourse positions. Winslow Road Station is located just off-site to the north.	Full area
2023	No significant changes.	Full area

Table 3.7: Interconnecting Cable Corridor land between Parcels 2 and 3: Summary of historical development

Date	Historical Land Use (on-site)	Area of site
1885	First map edition shows land area separated into small fields, with some buildings, tracks and ponds as well as a feature that could be a pit.	Full area of connecting land
1900	Granborough Road railway station present adjacent to railway line, north of track that extends eastwards off corner of Orchard Way and Claydon Road	North of road
1966	Railway no longer present, and station building also appears to be absent.	Centre
2023	No significant changes.	Full area of connecting land

Table 3.8: East Claydon Substation, Grid Connection Corridor and AIL Access Corridor: Summary of historical development

Date	Historical Land Use (on-site)	Area of site
1885	First map edition shows railway tracks passing through area from north to south, with buildings labelled Winslow Road Station just outside the Order Limits. The land is separated into small fields, with some tracks and a watercourse.	Full area of connecting land
1900	Some features noted near western extent, thought to be walls, but possible presence of small agricultural building.	West
1966	Railway no longer present, station building labelled as Old Railway House. Substation present (in current position of East Claydon Substation) along with associated overhead electricity lines.	Centre
2023	No significant changes.	Full area of connecting land

Table 3.9: Snake Lane/Fiddlers Field: Summary of historical development

Date	Historical Land Use (on-site)	Area of site
1885	First map edition shows railway tracks passing along western end of western section at Lee Bridge (later shown as disused), with farm buildings and fields present elsewhere.	Full area of Snake Lane/ Fiddlers Field works
1900	Railway no longer present, no other significant changes.	As above
2023	No significant changes.	As above

3.2.2. In terms of historical Site usage, all land parcels and areas for the East Claydon Substation, Grid Connection Corridor, Interconnecting Cable Corridor and Access Corridor, and land at Snake Lane/Fiddlers Field have been in use for agricultural purposes since the earliest historical mapping from 1885. Contamination associated with agricultural land use could include pesticides, herbicides, areas of made ground or infill around farm buildings or along tracks, possible infilled ponds, and possible areas of waste materials.

3.2.3. A railway was present within Parcel 3, crossing the Site from north to south. This is no longer present, but may have been associated with the placement of made ground or fill material, along with contaminants associated with historical railway operations. Railway station buildings were present just off-site in the north of the East Claydon substation area, and within the Order Limits and Interconnecting Cable Corridor land between Parcels 2 and 3.

3.3. Unexploded Ordnance

3.3.1. A review of publicly available unexploded ordnance (UXO) risk maps indicates that all areas of the Site are located in areas with low potential for wartime bombs to be present (Zetica, 2023). Copies of the risk maps for each of the land parcels are provided in **Annex B**.

3.4. Information from Environmental Database Report

3.4.1. Relevant environmental permits and incidents detailed within the environmental database report (see **Annex A**) are summarised in the following tables. Discharge consents are included if these are active. Details of revoked discharge consents are available in the Environmental Database Report, but are not considered to be of relevance, and are not included in the tables below.

Table 3.10: Parcel 1: Summary of environmental permits, landfills and incidents

Data type	Entries on-site	Entries <250m from site	Entries >250m from site of relevance	Details
Agency and hydrological				
Integrated Pollution Prevention and Control permits	0	0	1	Permit to Calvert Landfill site for recovery/disposal of non-hazardous waste, located 409m to north west.
Enforcement and prohibition notices	0	0	0	-
Pollution incidents to controlled waters	0	0	3	All incidents minor, relating to release of oil.
Prosecutions relating to controlled waters	0	0	1	Relating to Calvert Landfill site, 2009- failure to comply with permit.
Substantiated pollution incident register	0	1	4	Incident 201m to SW relating to landfill odour (2007). Incident 506m to NW relating to heavy metals (2020). All other incidents relating to landfill odour in 2007.
Water Industry Act referrals	0	0	0	-
Active discharge consents	0	3	-	Within 250m, domestic properties, discharge of final effluent. Greater than 250m, not considered relevant.
Registered radioactive substances	0	0	0	-
Landfill and waste				
Active landfills	0	1	0	Calvert Landfill, Pits no. 4, 5 and 6.
Historical/closed landfills	0	1	2	Calvert Landfill, Pit no. 1, 239m to NE, issued 2014.

Data type	Entries on-site	Entries <250m from site	Entries >250m from site of relevance	Details
				Buckingham Rural District Council Refuse Tip, 487m to NW, 1947-1991. Brill Road Tip, 995m to W, filling started in 1963, commercial waste.
Other waste management licences	0	2	2	Other licence types all relate to Calvert Landfill, as listed above.
Potentially in-filled land (pit, quarry, pond, marsh, river, stream, dock etc)	0	1	0	Calvert Brickworks off-site to west.
Hazardous substances/industrial land uses				
Control of Major Accident Hazards (COMAH) sites	0	0	0	-
Explosives sites	0	0	0	-
Notification of Installations Handling Hazardous Substances (NIHHS)	0	0	0	-
Planning hazardous substance consents/ enforcements	0	0	0	-
Contaminated land Part 2A register entries and notices	0	0	0	-
Contemporary trade directory entries	0	1	4	Most entries are inactive. Only active entry is over 500m from Site, for damp and dry rot control.
Fuel station entries	0	0	0	-

Data type	Entries on-site	Entries <250m from site	Entries >250m from site of relevance	Details
Note: For all land parcels, entries have only been included where they are located within a 250m radius of the site or, where they fall outside of this radius but are considered to comprise a significant entry.				

Table 3.11: Parcel 1a: Summary of environmental permits, landfills and incidents

Data type	Entries on-site	Entries <250m from site	Entries >250m from site of relevance	Details
Agency and hydrological				
Integrated Pollution Prevention and Control permits	0	0	1	644m to SW for incineration of non-hazardous waste (Greatmoor Waste Facility).
Local Authority Integrated Pollution Prevention and Control permits	0	0	0	-
Enforcement and prohibition notices	0	0	0	-
Pollution incidents to controlled waters	0	0	0	-
Prosecutions relating to controlled waters	0	0	0	-
Substantiated pollution incident register	0	0	0	-
Water Industry Act referrals	0	0	0	-
Active discharge consents	0	0	0	No active consents.
Registered radioactive substances	0	0	0	-
Landfill and waste				

Data type	Entries on-site	Entries <250m from site	Entries >250m from site of relevance	Details
Active landfills	0	0	2	Calvert Landfill Pits 4 and 5; and Pit 6.
Historical/closed landfills	0	0	1	Calvert Landfill (original site).
Other waste management licences	0	0	0	-
Potentially in-filled land (pit, quarry, pond, marsh, river, stream, dock etc)	0	0	1	Calvert Brickworks off-site to west.
Hazardous substances/industrial land uses				
Control of Major Accident Hazards (COMAH) sites	0	0	0	-
Explosives sites	0	0	0	-
Notification of Installations Handling Hazardous Substances (NIHHS)	0	0	0	-
Planning hazardous substance consents/ enforcements	0	0	0	-
Contaminated land Part 2A register entries and notices	0	0	0	-
Contemporary trade directory entries	0	0	0	-
Fuel station entries	0	0	0	-

Table 3.12: Parcel 2: Summary of environmental permits, landfills and incidents

Data type	Entries on-site	Entries <250m from site	Entries >250m from site of relevance	Details
Agency and hydrological				
Integrated Pollution Prevention and Control permits	0	0	0	-

Data type	Entries on-site	Entries <250m from site	Entries >250m from site of relevance	Details
Local Authority Integrated Pollution Prevention and Control permits	0	0	0	-
Enforcement and prohibition notices	0	0	0	-
Pollution incidents to controlled waters	0	1	1	Both incidents relate to release of livestock slurry to a Tributary of Hogshaw Brook.
Prosecutions relating to controlled waters	0	0	0	-
Substantiated pollution incident register	0	0	0	-
Water Industry Act referrals	0	3	0	TSC Biosciences, 234m to NW, discharge of special effluents.
Active discharge consents	0	3	-	Within 250m: final effluent from rare breeds farm, domestic property and trade discharge from farm. Greater than 250m, not considered relevant.
Registered radioactive substances	0	0	0	-
Landfill and waste				
Active landfills	0	0	0	-

Data type	Entries on-site	Entries <250m from site	Entries >250m from site of relevance	Details
Historical/closed landfills	0	0	1	Old railway cutting, 665m to SE, filled from 1973 to 1989 (inert, commercial and household waste).
Other waste management licences	0	0	0	-
Potentially in-filled land (pit, quarry, pond, marsh, river, stream, dock etc)	0	0	0	No recorded locations.
Hazardous substances/industrial land uses				
Control of Major Accident Hazards (COMAH) sites	0	0	0	-
Explosives sites	0	0	0	-
Notification of Installations Handling Hazardous Substances (NIHHS)	0	0	0	-
Planning hazardous substance consents/ enforcements	0	0	0	-
Contaminated land Part 2A register entries and notices	0	0	0	-
Contemporary trade directory entries	0	1	2	TSC Biosciences 232m to NW. Heptagen pharmaceuticals manufacturers 342m to NW. Garage services 834m to SE.
Fuel station entries	0	0	0	-

Table 3.13: Parcel 3: Summary of environmental permits, landfills and incidents

Data type	Entries on-site	Entries <250m from site	Entries >250m from site of relevance	Details
Agency and hydrological				
Integrated Pollution Prevention and Control permits	0	0	0	-
Local Authority Integrated Pollution Prevention and Control permits	0	0	0	-
Enforcement and prohibition notices	0	0	0	-
Pollution incidents to controlled waters	0	0	2	Both minor incidents, one an algal bloom, one release of septic tank effluent.
Prosecutions relating to controlled waters	0	0	0	-
Substantiated pollution incident register	0	0	0	-
Water Industry Act referrals	0	0	3	All relate to TSC Biosciences, 956m to W.
Active discharge consents	0	1	-	Within 250m, see Table 3.14. Greater than 250m, not considered relevant.
Registered radioactive substances	0	0	0	-
Landfill and waste				
Active landfills	0	0	0	-
Historical/closed landfills	0	0	0	-
Other waste management licences	0	0	0	-

Data type	Entries on-site	Entries <250m from site	Entries >250m from site of relevance	Details
Potentially in-filled land (pit, quarry, pond, marsh, river, stream, dock etc)	1	0	0	Land occupied by substation shown as likely to be artificial ground on BGS mapping.
Hazardous substances/industrial land uses				
Control of Major Accident Hazards (COMAH) sites	0	0	0	-
Explosives sites	0	0	0	-
Notification of Installations Handling Hazardous Substances (NIHHS)	0	0	0	-
Planning hazardous substance consents/ enforcements	0	0	0	-
Contaminated land Part 2A register entries and notices	0	0	0	-
Contemporary trade directory entries	0	0	5	All over 900m from Site (pharmaceutical , biosciences and cleaning company).
Fuel station entries	0	0	0	-

Table 3.14: Interconnecting Cable Corridor land between Parcels 1 and 2: Summary of environmental permits, landfills and incidents

Data type	Entries on-site	Entries <250m from site	Entries >250m from site of relevance	Details
Agency and hydrological				
Integrated Pollution Prevention and Control permits	0	0	0	-

Data type	Entries on-site	Entries <250m from site	Entries >250m from site of relevance	Details
Local Authority Integrated Pollution Prevention and Control permits	0	0	0	-
Enforcement and prohibition notices	0	0	0	-
Pollution incidents to controlled waters	0	0	0	-
Prosecutions relating to controlled waters	0	0	0	-
Substantiated pollution incident register	0	0	0	-
Water Industry Act referrals	0	0	0	-
Active discharge consents	0	1	-	On-site: Muxwell Farm. Greater than 250m, not considered relevant.
Registered radioactive substances	0	0	0	-
Landfill and waste				
Active landfills	0	0	0	-
Historical/closed landfills	0	0	0	-
Other waste management licences	0	0	0	-
Potentially in-filled land (pit, quarry, pond, marsh, river, stream, dock etc)	0	0	0	-
Hazardous substances/industrial land uses				
Control of Major Accident Hazards (COMAH) sites	0	0	0	-
Explosives sites	0	0	0	-
Notification of Installations Handling Hazardous Substances (NIHHS)	0	0	0	-

Data type	Entries on-site	Entries <250m from site	Entries >250m from site of relevance	Details
Planning hazardous substance consents/ enforcements	0	0	0	-
Contaminated land Part 2A register entries and notices	0	0	0	-
Contemporary trade directory entries	0	1	0	Knowlhill Farm (farming).
Fuel station entries	0	0	0	-

Table 3.15: Interconnecting Cable Corridor land between Parcels 1 and 1a: Summary of environmental permits, landfills and incidents

Data type	Entries on-site	Entries <250m from site	Entries >250m from site of relevance	Details
Agency and hydrological				
Integrated Pollution Prevention and Control permits	0	0	0	-
Local Authority Integrated Pollution Prevention and Control permits	0	0	0	-
Enforcement and prohibition notices	0	0	0	-
Pollution incidents to controlled waters	0	0	0	-
Prosecutions relating to controlled waters	0	0	0	-
Substantiated pollution incident register	0	0	0	-
Water Industry Act referrals	0	0	0	-

Data type	Entries on-site	Entries <250m from site	Entries >250m from site of relevance	Details
Active discharge consents	0	2	-	Within 250m, domestic properties, discharge of final effluent. Greater than 250m, not considered relevant.
Registered radioactive substances	0	0	0	-
Landfill and waste				
Active landfills	0	0	0	-
Historical/closed landfills	0	0	0	-
Other waste management licences	0	0	0	-
Potentially in-filled land (pit, quarry, pond, marsh, river, stream, dock etc)	0	0	0	-
Hazardous substances/industrial land uses				
Control of Major Accident Hazards (COMAH) sites	0	0	0	-
Explosives sites	0	0	0	-
Notification of Installations Handling Hazardous Substances (NIHHS)	0	0	0	-
Planning hazardous substance consents/ enforcements	0	0	0	-
Contaminated land Part 2A register entries and notices	0	0	0	-
Contemporary trade directory entries	0	1	0	Knowlhill Farm (farming).
Fuel station entries	0	0	0	-

Table 3.16: Interconnecting Cable Corridor land between Parcels 2 and 3: Summary of environmental permits, landfills and incidents

Data type	Entries on-site	Entries <250m from site	Entries >250m from site of relevance	Details
Agency and hydrological				
Integrated Pollution Prevention and Control permits	0	0	0	-
Local Authority Integrated Pollution Prevention and Control permits	0	0	0	-
Enforcement and prohibition notices	0	0	0	-
Pollution incidents to controlled waters	0	0	0	-
Prosecutions relating to controlled waters	0	0	0	-
Substantiated pollution incident register	0	0	0	-
Water Industry Act referrals	0	0	0	-
Active discharge consents	0	2	0	Within 250m two at Borshaw Farm just west of site.
Registered radioactive substances	0	0	0	-
Landfill and waste				
Active landfills	0	0	0	-
Historical/closed landfills	0	0	0	-
Other waste management licences	0	0	0	-
Potentially in-filled land (pit, quarry, pond, marsh, river, stream, dock etc)	0	0	0	-
Hazardous substances/industrial land uses				
Control of Major Accident Hazards (COMAH) sites	0	0	0	-

Data type	Entries on-site	Entries <250m from site	Entries >250m from site of relevance	Details
Explosives sites	0	0	0	-
Notification of Installations Handling Hazardous Substances (NIHHS)	0	0	0	-
Planning hazardous substance consents/ enforcements	0	0	0	-
Contaminated land Part 2A register entries and notices	0	0	0	-
Contemporary trade directory entries	0	1	0	Slurry bed at Borshaw Farm.
Fuel station entries	0	0	0	-

Table 3.17: East Claydon Substation, Grid Connection Corridor and AIL Access Corridor: Summary of environmental permits, landfills and incidents

Data type	Entries on-site	Entries <250m from site	Entries >250m from site of relevance	Details
Agency and hydrological				
Integrated Pollution Prevention and Control permits	0	0	0	-
Local Authority Integrated Pollution Prevention and Control permits	0	0	0	-
Enforcement and prohibition notices	0	0	0	-
Pollution incidents to controlled waters	0	0	0	-
Prosecutions relating to controlled waters	0	0	0	-
Substantiated pollution incident register	0	0	0	-
Water Industry Act referrals	0	0	0	-

Data type	Entries on-site	Entries <250m from site	Entries >250m from site of relevance	Details
Active discharge consents	1	1	0	One on-site associated with the substation and one within 250m at Sion Hill Farm.
Registered radioactive substances	0	0	0	-
Landfill and waste				
Active landfills	0	0	0	-
Historical/closed landfills	0	0	0	-
Other waste management licences	0	0	0	-
Potentially in-filled land (pit, quarry, pond, marsh, river, stream, dock etc)	0	0	0	-
Hazardous substances/industrial land uses				
Control of Major Accident Hazards (COMAH) sites	0	0	0	-
Explosives sites	0	0	0	-
Notification of Installations Handling Hazardous Substances (NIHHS)	0	0	0	-
Planning hazardous substance consents/ enforcements	0	0	0	-
Contaminated land Part 2A register entries and notices	0	0	0	-
Contemporary trade directory entries	0	0	0	-
Fuel station entries	0	0	0	-

3.5. Site Services

3.5.1. Buried utility services and their backfill can provide preferential pathways for gas, vapour or groundwater to migrate along to another part of the Site or to a receptor. They can also represent significant constraints to development.

3.5.2. Obtaining a full set of service plans was outside the scope of this report. Any services identified on-site during the walkover are detailed in **Section 4**.

3.6. Site Geology

Anticipated Geological Sequence

3.6.1. Published records for the area and available historical borehole logs indicate the geology of the Site to be characterised by the succession recorded in **Table 3.18** (data accessed online, British Geological Survey, September 2023). There are 9 publicly available BGS historical boreholes located on or within 250m of the Site, a selection of which are presented in **Annex B**.

Table 3.18: Site geology

Strata	Description	Location	Estimated thickness	Permeability
Made ground	Artificial material present as a result of human development.	An area of recorded artificial ground is located at the northern end of Parcel 3 (associated with the substation), which marginally encroaches on the subject Site. Off-site, there is mapped artificial ground on the western side of the railway line that is to the west of Parcels 1 and 1a.	Unknown, but likely to be variable.	Unknown, but likely to be variable.
Alluvium	Clay, silt, sand and gravel.	Parcel 1: very small deposit on north eastern corner. Parcel 1a: around western end, extending along	Thicker closest to watercours es, thinning at greater distance.	Alluvial deposits are typically fairly permeable.

Strata	Description	Location	Estimated thickness	Permeability
		northern and southern boundaries. Parcel 2: small area north of Borshaw Farm and very small area to north west. Parcel 3: present along tributary to Claydon Brook along eastern boundary. Small areas within both Interconnecting Cable Corridor land option areas.		
Glacial deposits	Clay, silt and sand deposited by glacial activity.	Present in area between Sheephouse Wood and Shrubs Wood in Parcel 1. In Parcel 2, present on edge of south western section.	Unknown, but generally fairly shallow.	Generally permeable.
Glaciofluvial deposits	Sand and gravel deposited by glacial activity or along watercourses .	Two small areas within Parcel 1. In Parcel 2, area around the south of Botolph Claydon and small section to the east of Runt's Wood. Small area within western area of Interconnecting Cable Corridor land.	Unknown, but generally fairly shallow.	Glaciofluvial deposits are typically fairly permeable.
Till	Clay, sand, gravel, and boulders varying widely in size and shape, laid down	Present within Parcel 2, north of Finemere Wood across the south and centre of the Parcel and a small area	Unknown, but generally fairly shallow.	Generally permeable.

Strata	Description	Location	Estimated thickness	Permeability
	beneath a glacier.	around Botolph Claydon.		
West Walton Formation	Mudstone	Runs from north north east to south south west from Botolph Claydon to Finemere Wood, via Runt's Wood. Present within Parcel 2 and part of Interconnecting Cable Corridor land between Parcels 1 and 2. Also present beneath Snake Lane/ Fiddlers Field.	Typically 15m (up to 20m).	Non-permeable.
Weymouth Mudstone Member	Mudstone	Present either side of the West Walton Formation. Found in north eastern section of Parcel 2 and across entirety of Parcel 3. A small area of this unit is present within the southern area of Parcel 1. The Interconnecting Cable Corridor land between Parcels 2 and 3 is underlain by this unit, which is also partially present under the Interconnecting Cable Corridor land between Parcels 1 and 2.	Up to 70m.	Non-permeable.
Stewartby Member	Mudstone	Parcel 1a is entirely within this geological unit. Most of Parcel 1 and part of the Interconnecting	Up to 50m.	Non-permeable.

Strata	Description	Location	Estimated thickness	Permeability
		Cable Corridor land between Parcels 1 and 2, are underlain by the Stewartby Member.		
Peterborough Member	Mudstone (often rich in fossils)	There is a small area of this unit in the north western corner of Parcel 1.	Up to 65m.	Non-permeable.

Relevant information sources: BGS GeoIndex, BGS borehole logs

3.6.2. Many of the BGS records located within the Order Limits or within 250m of the boundary contain no stratigraphical information and instead discuss locations where water has been extracted from natural springs or wells within the area. BGS borehole named “East West Rail Phase 2 WS2E28E”, located to the immediate east of Three Points Lane, describes the geology to a depth of 4.6m below ground level. The log describes topsoil (to 0.2m) underlain by clays of the Oxford Clay Weymouth Member.

3.6.3. BGS boreholes along the railway line approximately 400m to 500m to the south of the Site describe the geology as topsoil underlain by either the glacial deposits and the Peterborough Member to the north, and made ground underlain by the Stewartby Member in boreholes to the south.

3.6.4. Although these records are generally shallow, they do support the reported geological sequence indicated by the mapping.

3.7. Radon

3.7.1. The environmental database report indicates that the site is not located within an ‘Affected Area’. An ‘Affected Area’ is one with 1% or more homes above the radon Action Level of 200 Bq m^{-3}, and therefore the risk of significant ingress of radon into structures on-site is considered low and protection measures are not necessary in the construction of non-domestic buildings.

3.7.2. Although the radon data used in production of the ‘UKradon indicative atlas’ comes from measurements in homes, the maps indicate the likely extent of the local radon hazard in all buildings.

3.8. Mining and Quarrying

3.8.1. Evidence has been sought to identify any mining, quarrying, landfilling and land reclamation operations, past and present, which have taken place

within 500m of the Site. A larger search area is used for this feature, to ensure that any sites that have the potential to adversely affect groundwater have been identified and potential pathways for contamination have been considered. An initial site appraisal has been carried out based on the information provided in the environmental database report. The Site is not within an area where coal mining deposits are located, so no further consideration of coal mining issues is required.

Areas of Rock and Mineral Mining

3.8.2. The historical maps do not indicate a history of mining or quarrying in the Site area. Off-site to the west, extensive surface extraction of clay occurred associated with Calvert Brickworks, but there is no evidence of any on-site extraction. One feature that was possibly a pit was located on the Interconnecting Cable Corridor land between Parcels 2 and 3, shown only on the mapping from 1883.

3.8.3. Due to the long agricultural history of the Site, it is possible that unrecorded mineral extraction has occurred, but given the absence of any indication of this on historical plans, the extent of this would be expected to be minimal.

Mineral Safeguarding Areas

3.8.4. There are a number of mineral safeguarding areas across the land parcels. These all relate to alluvial deposits, which are present along the routes of watercourses. The mineral safeguarding areas are more extensive than the actual area of the alluvial deposit as mapped on the BGS records, providing a buffer of approximately 250m around the deposits. These areas are shown on **ES Volume 3, Figure 11.4: Land and Groundwater Constraints Plan [EN010158/APP/6.4]**, and occur in the land parcels as follows:

- Parcel 1: Small section of mineral safeguarding area in the north eastern corner of the land parcel, associated with the watercourse present on the north eastern boundary;
- Parcel 1a: mineral safeguarding area associated with the watercourse that passes along the western and northern boundaries of this land parcel. Due to the small area of this parcel, the mineral safeguarding area covers nearly the full extent;
- Parcel 2: alluvial deposits are present in the north western corner of this land parcel, associated with a watercourse that stops just off-site. The mineral safeguarding area covers four or five fields in this area. In the eastern section of the parcel, near Borshaw Farm, a further mineral safeguarding area is present covering six or seven fields;
- Parcel 3: due to the location of this land parcel adjacent to a watercourse, a mineral safeguarding area for alluvial deposits is present

across nearly the entire area, with the exception of a small part of the south westernmost field;

- Interconnecting Cable Corridor land between Parcels 1 and 2: mineral safeguarding areas in north west and north eastern areas (as noted in sections above for Parcels 1 and 2);
- Interconnecting Cable Corridor land between Parcels 1 and 1a: mineral safeguarding areas in west and south western areas;
- Interconnecting Cable Corridor land between Parcels 2 and 3: mineral safeguarding area associated with alluvium along Claydon Brook covers most of this land area;
- East Claydon Substation, Grid Connection Corridor and AIL Access Corridor: mineral safeguarding area around the East Claydon Substation, and extending to the north, west and east from there; and
- Snake Lane/Fiddlers Field: there are no mineral safeguarding areas in the location of the Order Limits for the highway works in these locations. The closest mineral safeguarding area is located approximately 500m to the north west of Lee Bridge.

3.9. Soils

3.9.1. Parcels 1a, 2 and 3 are all underlain by a single soil unit; soil association 18, which is defined as comprising slowly permeable seasonally wet slightly acidic but base-rich loamy and clayey soils. Parcel 1 is also predominantly underlain by soil association 18. However, there is also an area of soil association 9, which is defined as comprising lime-rich loamy and clayey soils with impeded drainage.

3.9.2. The Site-specific assessment of ALC was completed by RSK ADAS in June 2023, with the report provided in **ES Volume 4. Appendix 12.1: Agricultural Land Classification Report [EN010158/App/6.4].** Interconnecting Cable Corridors between Parcel 1 and Parcel 2 and between Parcel 1 and Parcel 1a were not surveyed at that time, nor was East Claydon Substation, the Grid Connection Corridor or the AIL Access Corridor. The following sections provide summaries of the data presented in the ALC report, relating to Parcels 1, 1a, 2 and 3, and the Interconnecting Cable Corridor Area between Parcels 2 and 3. This information is shown on **ES Volume 3, Figure 11.5: Agriclutral Land Classification Plan[EN010158/APP/6.4]**,.

Parcel 1 Soils

3.9.3. The majority of the Site is a dark greyish brown inorganic clay topsoil over a gleyed light brown poorly structured slowly permeable clay subsoil. (Gleying occurs when soils are waterlogged, and is visible as a mottled discoloration).

Parcel 1a Soils

3.9.4. The majority of the Site is a dark greyish brown inorganic clay topsoil over a gleyed light brown poorly structured slowly permeable clay subsoil.

Parcel 2 Soils

3.9.5. The soils in Parcel 2 are as described for Parcels 1 and 1a, with the exception of a variation in the soils recorded to the immediate south of Botolph Claydon, in area D2. These soils are described as a dark grey clay, clay loam or sandy clay loam topsoil over a dark greyish brown or grey porous sandy clay loam upper subsoils and slowly permeable sandy clay loam lower subsoils.

Parcel 3 Soils

3.9.6. The soils in Parcel 3 are the same as described in Parcels 1 and 1a, with no local variations observed.

Soils in Interconnecting Cable Corridor land between Parcels 2 and 3

3.9.7. The soils in this Interconnecting Corridor Area are mainly dark greyish brown inorganic clay topsoil over a gleyed light brown poorly structured slowly permeable clay subsoil, as found in Parcels 1, 1a, 2 and 3.

Comment on Soil in Surveyed Areas

3.9.8. Across much of the land the topsoil is very similar to the upper subsoil and in several locations there is very little change between the surface and the full survey depth. Based on discussions with some of the farmers on site it is considered likely that these areas have suffered significant erosion over the years and there is none of the original topsoil left.

Soils in Interconnecting Cable Corridor Areas between Parcel 1 and Parcel 2, between Parcel 1 and Parcel 1a, at East Claydon Substation, the Grid Connection Corridor and AIL Access Corridor and Snake Lane/Fiddlers Field

3.9.9. As noted above, soil sampling in these areas was not undertaken as part of the soil survey (**ES Volume 4. Appendix 12.1: Agricultural Land Classification Report [EN010158/App/6.4]**). Soils mapping available via the Magic Map Application (Defra, 2024) indicates the predominant soil type in these locations to be a slowly permeable seasonally wet acid loamy and clayey soil, with a smaller area of lime-rich loamy and clayey soils with impeded drainage.

Agricultural Land Classifications

3.9.10. For the area assessed by the ALC report (**ES Volume 4. Appendix 12.1: Agricultural Land Classification Report [EN010158/App/6.4]**) (i.e. including some fields that are no longer within the Order Limits), the following percentages of soil types were recorded to be present:

- Grade 3a (good quality) 3%; and
- Grade 3b (moderate quality) 97%.

3.9.11. Land that is classified as Grade 1, Grade 2 or Grade 3a is considered to be Best and Most Versatile agricultural land (BMV) but no Grade 1 or Grade 2 land has been recorded on site.

3.9.12. Soils of subgrade 3a and 3b quality are the only soils recorded on site, with the principal limitations of these being soil wetness (as relates to a combination of the climatic regime, texture of the top 25cm of the soil on the majority of the site and the soil water regime).

3.10. Hydrogeology

3.10.1. A summary of the hydrogeological setting of the Site, with respect to the anticipated geological sequence set out in **Section 3.6** is presented below in **Table 3.19**.

Table 3.19: Summary of hydrogeological setting

Condition	Description
Aquifer characteristics	The Site is underlain by secondary A and secondary undifferentiated aquifers in relation to the superficial geological units and unproductive strata relating to all of the bedrock units.
Depth to groundwater and flow	Details of the current groundwater regime are unknown. However, shallow groundwater should be expected in proximity to surface watercourses, and there may be perched groundwater bodies above the low permeability bedrock geological formations.
Groundwater recharge/ attenuation	The vast majority of the Site is currently unsurfaced and will therefore drain to ground.
Historical implications for hydrogeology	There are no historical features evident to suggest a complex hydrogeological regime is likely to be present at the Site.
Licensed groundwater abstractions	The environmental database report indicates that there are no current licensed groundwater abstractions on-site or within a 1km radius of the Site.

Condition	Description
Wells	There are three wells within the Order Limits that are labelled on the Ordnance Survey mapping, located close to Knowl Hill (approximate grid references 470128, 224432; 470536, 225292 and 470544, 224296). These wells are not associated with recorded licensed groundwater abstraction locations. If they remain operational, it is presumed that they are used for agricultural purposes.
Source protection zones	Information available in the Envirocheck report indicates that the Site does not lie within a currently designated groundwater Source Protection Zone (SPZ).
Groundwater dependent terrestrial ecosystems	Finemere Wood is a SSSI which is also designated as a groundwater dependent terrestrial ecosystem. Finemere Wood is located adjacent to the southern section of Parcel 2. A groundwater dependent terrestrial ecosystem is defined as a wetland that is critically dependent on groundwater flows and /or chemistries. There are no other groundwater dependent terrestrial ecosystems within the Order Limits, or in the study area.

3.11. Hydrology

3.11.1. A summary of the hydrology within the Site area is provided in **Table 3.20**.

Table 3.20: Summary of hydrology in site area

Condition	Description
Surface watercourses/ features	There are numerous drainage ditches and watercourses in the area, but these are predominantly located around the perimeter of the land parcels, rather than within the Order Limits. There are a number of small ponds present within the Order Limits. Springs and wells are known to have been used historically by the farms in the area, and are shown on historical mapping, with some borehole data from these locations available within the BGS dataset.
Surface water abstractions	There are no licensed surface water abstractions identified by the environmental database search within a 1 km radius of the site.
Site drainage	Surface drainage from the Site is expected to be via land, and in drainage ditches along field boundaries. Claydon Brook is present along the eastern boundary of Parcel 3, and a tributary of this is present within the Interconnecting Cable Corridor land between Parcels 2 and 3.

Condition	Description
Preliminary flood risk assessment	The indicative floodplain map for the area, shows that small areas of Parcel 1a and Parcel 3 are within flood zone 3 areas associated with the watercourses. These zones also have the potential to impact on land within both Interconnecting Cable Corridor areas.

3.12. Sensitive Land Uses

3.12.1. **Table 3.21** provides a summary of any environmentally sensitive areas identified within 250m of the Site based on the environmental database report.

~~3.12.2.~~

~~3.12.3.~~

Table 3.21: Environmentally sensitive areas

Feature	Present within 250m of site	Details	Likely pathways from site?
International designations – Ramsar wetland, Special Area of Conservation (SAC), Special Protection Area (SPA)	No	-	-
National designations – Site of Special Scientific Interest (SSSI), National Nature Reserve (NNR), ancient woodland	Yes	SSSI, Sheephouse Wood, located just outside Parcel 1 to the south and just west of Parcel 1a. SSSI, Finemere Wood, located just south of Parcel 2. Ancient woodland: Home Wood, Romer Wood, Balmore Wood and Runt's Wood, all located close to the Interconnecting Cable Corridor land between Parcels 1 and 2.	Possible pathways due to proximity to Order Limits.

Feature	Present within 250m of site	Details	Likely pathways from site?
Local designations – Local Nature Reserve, Site of Importance for Nature Conservation (SINC)	No	-	-

4. Site Reconnaissance Findings

4.1. Details of Site Reconnaissance

4.1.1. A Site reconnaissance survey was completed from 21 to 23 May 2024 and on 26 March 2025 by RSK. The characteristics of the Site observed during the walkover and from current Ordnance Survey maps are summarised in **Table 4.1**.

4.1.2. A Site plan is provided in **ES Volume 3, Figure 11.2: Sensitive Receptors Relating to Land [EN010158/APP/6.3]** that includes the field references, and photographic records are provided in **Annex C** showing the main features identified below. **Annex C** also provides maps showing the locations and directions of photographs.

4.1.3. While the walkover summary includes consideration of current operations and housekeeping on the site as potential sources of contamination, it does not constitute a comprehensive environmental audit of the site, as covered under ISO 14001.

Table 4.1: Site reconnaissance findings

Feature observed	Presence Y/N	Description
Physical characteristics		
1. Are there any access constraints?	Y	The site is large and there are various constraints including gates, hedges/fences, overhead power lines and trees. Access constraints should be assessed on a case by case basis.
2. Is the site approximately level?	N	The site is large and undulating. Knowl Hill is the local high spot in Parcel 1. Parcel 2 comprises a ridge generally between Botolph Claydon and Finemerehill House. Parcel 1a is all on a steep southerly facing slope, though D31 is more gently sloping. Parcel 3 is generally level but rising gently up to the W towards East Claydon.
3. Any evidence of subsidence, landslip or slope erosion?	Y	Evidence of historical shallow soil movement in Field D36.
4. Any changes in level between the site and adjacent sites?	N	

Feature observed	Presence Y/N	Description
5. Surface cover	-	a) Approx. 0.05% hard surfacing. Where hardstanding is present its condition is variable.
Environmental characteristics		
6. Vegetation on site	Y	Area is agricultural with crops, pasture, hedges and areas of deciduous woodland.
7. Evidence for vegetation stress	Y	Only vegetation stress noted is where some field boundaries/headlands have been sprayed.
8. Invasive species	N	Based upon the walkover survey obvious evidence of Japanese Knotweed or other invasive species has not been identified on-site. However, it should be noted that a detailed survey of the possible presence or absence of invasive species is outside of the scope of investigation and consideration should be given to commissioning a specialist survey, as necessary.
9. Surface water features	Y	a) Details of any surface waters on site Spring noted in field B8 Possible spring in east side of B11 (possible well also in central B11) Well on east side of B17 Multiple ponds (see photographs) Drains and ditches are also common
	Y*	b) Details of water bodies within 250m of site Parcel 1: Grebe Lake about 250m W of N part of site. Ornamental ponds in grounds of Claydon House about 200m NE of site Parcel 2: River Ray (flows W) about 200m S of area and small lake about 500m W of S tip of area. Parcel 3: Claydon Brook flows N along E boundary
	-	c) Visual evidence of condition of surface waters - No Evidence of Contamination : Some suspended sediment in surface water run-off and in ditches due to heavy rain

Feature observed	Presence Y/N	Description
10. Site drainage	-	a) Where does site drain to? Parcels 1 and 2 drain in various directions. Parcel 3 generally drains E towards Claydon Brook.
	Y	b) Details of drain covers/soakaways/ interceptors/lagoons? Underground water tank in SW corner of field B19 Manhole covers identified in N end of field E11 and field SA13
	Y	c) Details of any outfalls to surface watercourses None observed
	Y	d) Details of any areas of waterlogging or flooding Waterlogging noted in numerous fields including B1, B9, D10, D11, D18, D19, D26, SA46
Structures and services		
11. Existing buildings on-site	Y	a) Details of existing buildings on site (presence/absence, type(s), location) Old farm buildings present in north part of field B10 Relic structure present in NE corner of field D33 Farm building adjacent to field D26
	N	b) Any evidence for gas protection measures in buildings. None
12. Buried and overhead services present	Y	a) Observation of buried services present (type, locations, manholes etc.) Manhole cover present in field SA13 (dated 1875) Manhole cover in field E11 (northern end).

Feature observed	Presence Y/N	Description
	Y	b) Observation of overhead services present (type, locations etc.) Overhead wires observed in several locations, including in fields B1, B23, D30, D33, D34, D35, E20, E21. Also present in fields SA13, SA17, SA 18, SA20 and SA9.
13. Underground structures	Y	Observation of underground services present (type, locations etc.) Underground water tank in SW corner of B19. Possible underground structure related to ruins in D33. Well identified in W side of B17. Well indicated as being present in centre of B11, but crops precluded access.
Geotechnical characteristics		
14. Evidence of damage to existing building structures on site?	N	Not to buildings in use.
15. Remains of building structures present on or adjacent to site?	Y	Derelict farm buildings in N part of B10. Relic structure identified in NE side of D33. Possibly part underground, but heavily overgrown.
16. Retaining walls and adjacent buildings on or close to site boundary?	N	
17. Any abrupt changes in ground level present on or adjacent to site?	Y	Parcel 1: steep slope into pond between B10 and B8. Parcel 2: Steep south-facing slopes in south area. Slope breaks at boundary between D28 with D34 and D37, and between D29 and D30 Parcel 3: none.
18. Any potentially unstable slopes/ exposed ground	Y	Evidence of historical shallow soil movement in field D36.

Feature observed	Presence Y/N	Description
present on or adjacent to site?		
19. Any mature trees on site?	Y	Several areas of mature woodland and hedges containing mature trees. Several fields contain isolated mature trees.
20. Any visual evidence of infilled basements on site?	N	None observed.
Potential evidence for contamination		
21. Underground/ above ground storage tanks and pipework	N	Water storage only.
22. Potentially hazardous materials storage and use	Y	Herbicides and possibly pesticides. No drums or containers observed.
23. Waste storage	N	
24. Fly-tipping	N	
25. Electricity sub-stations/ transformers	Y	Large substation immediately to N of fields E10 and E11. Pole mounted transformer in field SA18 in Parcel 2.
26. Asbestos-containing materials	N	None observed.
27. Fire suppression	N	N/A
28. Fire history	N	N/A
29. Is there any visual evidence of potential contamination on site?	N	None observed. Some suspended sediment in surface water run-off and in ditches due to heavy rain.
30. Is there any visual evidence of potential contamination on adjacent sites?	N	

4.1.4. Potentially significant land contamination or geotechnical issues arising from the survey are summarised below:

- Manhole covers were noted in some fields (in one case marked with the date 1875), and others may have been present that were not visible due to vegetation;
- Areas of potential shallow soil instability were observed within the southern part of Parcel 2 during the walkover; and
- Locations of historical site buildings were noted on historical mapping (no longer evident on-site), and remains of some old building were noted during the walkover.

5. Preliminary Geotechnical Constraints

5.1. Design Class

5.1.1. BS EN 1997-1 defines three different Geotechnical Categories that structures may fall into, which are summarised as follows:

- Category 1: Small and relatively simple structures for which it is possible to ensure that the fundamental requirements will be satisfied on the basis of experience and qualitative geotechnical investigations; with negligible risk;
- Category 2: Conventional types of structure and foundation with no exceptional risk or difficult ground or loading conditions; and
- Category 3: Structures or part of structures, which fall outside limits of Geotechnical Categories 1 and 2. Examples include very large or unusual structures; structures involving abnormal risks, or unusual or exceptionally difficult ground or loading conditions; structures in highly seismic areas; structures in areas of probable site instability or persistent ground movements that require separate investigation or special measures.

5.1.2. Based on the information provided above on the Proposed Development and in view of the anticipated ground conditions, a Geotechnical Category 2 has been assumed for the purposes of designing the geotechnical investigation. This should be reviewed at all stages of the investigation and revised where necessary.

5.2. Preliminary Geotechnical Hazards Assessment

5.2.1. A summary of commonly occurring geotechnical hazards associated with the anticipated geology outlined in **Section 3.3** above is given in **Table 5.1** together with an assessment of whether the Site may be affected by each of the stated hazards.

Table 5.1: Summary of preliminary geotechnical risks that may affect Site

Hazard category	Hazard status based on desk study findings and Proposed Development		Engineering considerations if hazard affects site
	Could be present and/or affect site	Unlikely to be present and/or affect site	
Sudden lateral changes in ground conditions	☒	☐	Could be present within superficial units and have the potential to affect ground engineering and

Hazard category	Hazard status based on desk study findings and Proposed Development		Engineering considerations if hazard affects site
	Could be present and/or affect site	Unlikely to be present and/or affect site	
			foundation design and construction.
Shrinkable clay soils	☐	☒	Risk assessed as moderate from clays present in superficial deposits. Design to NHBC Standards Chapter 4 or similar.
Highly compressible and low bearing capacity soils, (including peat and soft clay)	☒	☐	Local BGS boreholes indicate firm to stiff clays. Envirocheck assesses risk as moderate which is likely to affect ground engineering and foundation design and construction.
Silt-rich soils susceptible to rapid loss of strength in wet conditions	☒	☐	Presence in alluvium is possible. Likely to affect ground engineering and foundation design and construction.
Running sand at and below water table	☐	☒	Envirocheck assesses risk as no hazard to very low potential. Unlikely to affect ground engineering and foundation design and construction.
Karstic dissolution features (including 'swallow holes' in Chalk terrain)	☐	☒	No chalk bedrock present beneath the site.
Evaporite dissolution features and/or subsidence	☐	☒	Not expected to be present.

Hazard category	Hazard status based on desk study findings and Proposed Development		Engineering considerations if hazard affects site
	Could be present and/or affect site	Unlikely to be present and/or affect site	
Ground subject to or at risk from landslides	☒	☐	Risk assessed as moderate by Envirocheck. Ground level varies across the area. May require special protection/stabilisation measures.
Ground subject to peri-glacial valley cambering with gulls possibly present	☐	☒	Not expected to be present.
Ground subject to or at risk from coastal or river erosion	☐	☒	Not expected to be present.
High groundwater table (including waterlogged ground)	☒	☐	Expected to be present.
Rising groundwater table due to diminishing abstraction in urban area	☐	☒	Not expected to be present.
Geological faults, fissures and breaklines	☐	☒	Not expected to be present.
Underground mining, including shafts and adits (e.g. coal, mineral)	☐	☒	Not expected to be present.
Effects of extreme temperature (e.g. cold stores or brick kilns/furnaces)	☐	☒	Not expected to be present.

Hazard category	Hazard status based on desk study findings and Proposed Development		Engineering considerations if hazard affects site
	Could be present and/or affect site	Unlikely to be present and/or affect site	
Existing sub-structures (e.g. tunnels, foundations, basements, and adjacent sub-structures)	☐	☒	Not expected to be present.
Filled and made ground (including embankments, infilled ponds and quarries)	☒	☐	Likely to be present based on historical maps.
Adverse ground chemistry (including expansive slags and weathering of sulphides to sulphates)	☐	☒	Not expected to be present.
Site topography	☒	☐	Site levels vary and could cause problems to future design.

Note: Seismicity is not included in the above table as this is not normally a design consideration in the UK.

6. Initial Conceptual Site Model

6.1. Source-Pathway-Receptor Approach

6.1.1. In the UK, land contamination is assessed using a risk-based approach taking account of the magnitude (severity of the hazard) and likelihood (probability) of occurrence. A 'receptor' is something that could be adversely affected by contamination (e.g. people, an ecological system, property or a water body). A 'pathway' is a route or means by which a receptor is or could be exposed to or affected by a contaminant. A 'contaminant source' is a hazard but it can only pose a risk to a receptor where a pathway is present. The relationship between sources, pathways and receptors are referred to as a conceptual site model. A risk can only be realised where a contaminant source, pathway and receptor are all in place, referred to as a 'pollutant linkage'.

6.1.2. In line with LCRM (Environment Agency, 2021) and BS 10175: 2011 + A2 2017 (BSI, 2017), RSK has used information in the preceding sections to identify hazards (sources of contaminants), receptors that may be impacted and plausible linking pathways. Where all three are present this is termed a potentially complete contaminant linkage and a qualitative risk estimation is made.

6.2. Potential Contamination Linkages

Potential Sources of Contamination

6.2.1. Potential sources of contamination identified from current activities and the historical use of the Site and surrounding area are presented in **Table 6.1**.

Table 6.1: Potential sources of soil and groundwater contamination

Potential sources	Contaminants of concern
On-site	
Made ground (i.e. fill material)	There are no recorded areas of made ground, but there is the potential for it to be encountered in areas close to farm buildings or along farm tracks. Fill material could potentially include brick, ash and clinker, and incorporate toxic and phytotoxic metals, inorganics, polycyclic aromatic hydrocarbons (PAHs) or asbestos-containing-materials. There is the potential for made ground of some types to generate hazardous ground gases. Pits or ponds that were infilled prior to 1930s are considered to pose a very low risk of generating significant concentrations of hazardous ground

Potential sources	Contaminants of concern
	gases (based on the Indicative ground gas generation potential provided in CIEH, 2008). These potential linkages are taken forward within this risk assessment.
Made ground associated with the construction of the Central Railway, c.1900, and Aylesbury and Birmingham Railway and subsequent deconstruction	Possible made ground (see above).
Contamination caused by agricultural land use	Potential for build-up of pesticides or herbicides or storage of fuels, oils or chemicals. This potential linkage is considered further within this risk assessment.
Bases of electricity pylons in fields	Possible made ground (see above).
Former agricultural buildings	Possible made ground (see above).
Former buildings	Possible made ground (see above).
Possible infilled wells and ponds	If wells have been infilled, made ground could be present (as above).
East Claydon substation	PCBs, fuels, hydrocarbons.
Off-site	
Agricultural land use	Pesticides and herbicides may be present, but the consideration of these from off-site sources is not likely to impact on-site features
Calvert Brick Works (Pits 1, 5 and 6)	Unknown fill material but potentially including brick, ash and clinker and containing toxic and phytotoxic metals, inorganics, polycyclic aromatic hydrocarbons (PAHs), asbestos.
Historical landfills sites (Calvert Landfill Pits 1, 4, 5, 6)	Inert/commercial/industrial/municipal/household waste. Landfill leachate including ammoniacal nitrogen, chloride, inorganic and organic contaminants, per- and polyfluoroalkyl substances (PFAS) and other persistent organic pollutants (POP).
Historical pits (clay pits, "earthworks")	If historical clay pits or ponds have been backfilled over time, made ground could be present (as above).

Sensitive Receptors and Linking Exposure/Migration Pathways

6.2.2. Sensitive receptors identified at or in the vicinity of the Site that could be affected by the potential sources identified above are listed below. Potential linking pathways are shown in brackets for each item:

- Current/future site users – agricultural/industrial workers [oral, dermal and inhalation exposure with impacted soil, soil vapour and dust, inhalation of vapours from groundwater, migration and build-up of hazardous ground gases, potentially followed by asphyxiation or explosion];
- Current adjacent site users – residential, commercial, industrial, public open space users [migration of contamination via dust/fibre deposition, inhalation of vapours from groundwater];
- Current/future buildings and services [direct contact with contaminated soils or groundwater and chemical attack, migration and build-up of hazardous ground gases, potentially followed by explosion];
- Existing/future vegetation [direct contact with contaminated soils or groundwater and root uptake leading to phytotoxicity];
- Groundwater in secondary A and secondary undifferentiated aquifers within superficial deposits, including groundwater abstraction points for non-potable supplies (alluvium, glacial till and glaciofluvial deposits) [leaching from soils, percolation to aquifer, lateral migration of dissolved phase contamination];
- Groundwater dependent terrestrial ecosystem (in Finemere Wood, just off-site) [leaching from soils, percolation to aquifer, lateral migration of dissolved phase contamination]; and
- Surface water courses (numerous drains and ditches on and close to all land parcels) and associated surface water abstraction points [lateral migration of dissolved phase contamination, site run-off, drainage].

6.2.3. Please note that risks that could affect construction workers and future maintenance workers are considered to be managed through health and safety procedures according to the CDM Regulations.

6.3. Preliminary Risk Assessment

6.3.1. The preliminary risk assessment findings and potentially complete contaminant linkages are shown in **Table 6.2** overleaf. The risk classification based on the combination of hazard consequence and probability using a risk matrix from CIRIA C552 (Rudland et al., 2001), a summary of which is included in **Annex D**. This relates to Tier 1 preliminary risk assessment in LCRM (Environment Agency, 2021).

6.3.2. The initial conceptual site model is shown schematically in **ES Volume 3, Figure 11.6: Initial Schematic Conceptual Site Model [EN010158/APP/6.3]**.

Table 6.2: Risk estimation for potentially complete contaminant linkages

Potential source	Potential receptor	Possible pathway	Likelihood	Severity	Potential risk	Justification
Contamination caused by agricultural land use	Current/future site users – agricultural/industrial workers	Oral, dermal and inhalation exposure with impacted soil, soil vapour and dust	Unlikely	Medium	Low	Potential for direct contact with soil is considered to be low for the development type. Contamination from agricultural sources is considered unlikely to be significant at the surface
	Current adjacent site users – residential, commercial, industrial, public open space users	Oral, dermal and inhalation exposure with impacted soil, soil vapour and dust	Unlikely	Medium	Low	Users on adjacent sites will not come into direct contact with soil below the subject site
	Current/future buildings and services	Direct contact with contaminated soils or groundwater and chemical attack	Unlikely	Mild	Very low	Any linkage from this risk is considered to be very low due to the unlikelihood of significant contamination being present, and the low sensitivity of the receptor
	Existing/future vegetation	Direct contact with contaminated soils or groundwater and root uptake leading to phytotoxicity	Low likelihood	Mild	Low	This receptor is ranked to be of low sensitivity, and there is a low likelihood of significant contamination being present

Potential source	Potential receptor	Possible pathway	Likelihood	Severity	Potential risk	Justification
	Groundwater in secondary aquifers within superficial deposits	Leaching from soils Percolation through permeable strata to aquifer Lateral migration of dissolved phase contamination Site run-off/drainage	Unlikely	Medium	Low	Although contamination from agricultural sources could be present in groundwater, it is considered unlikely that this would be present in significant quantities
	Groundwater dependent terrestrial ecosystem	Leaching from soils Percolation through permeable strata to aquifer Lateral migration of dissolved phase contamination	Unlikely	Medium	Low	Although contamination from agricultural sources could be present in groundwater, it is considered unlikely that this would be present in significant quantities in the location of Finemere Wood
	Surface watercourses (numerous drains and ditches on and close to all land parcels) and associated	Leaching from soils Percolation through permeable strata to aquifer Lateral migration of dissolved phase contamination	Unlikely	Medium	Low	Due to the presence of drains across/around the fields within the Order Limits, movement of contamination across significant distances will not occur. Any impact to surface watercourses will therefore be laterally limited and

Potential source	Potential receptor	Possible pathway	Likelihood	Severity	Potential risk	Justification
	surface water abstraction points	Site run-off/drainage				significant effects are not anticipated
Made ground (i.e. fill material), including associated with historical railway line (Parcel 3 and Interconnecting Cable Corridor land between Parcels 2 and 3), associated with former buildings or agricultural buildings, bases of electricity pylons, historical	Current/future site users – agricultural/industrial workers	Oral, dermal and inhalation exposure with impacted soil, soil vapour and dust	Unlikely	Medium	Low	Potential for direct contact with soil is considered to be low for the development type. Contamination from made ground is considered unlikely
		Migration of hazardous ground gases, potentially followed by asphyxiation or explosion	Unlikely	Severe	Low	Although a severe impact could occur if gases build up, this is considered to be highly unlikely given the nature of the development, and the low probability that any made ground present contains significant quantities of gas-generating material. Therefore, although the risk matrix puts the potential risk as moderate/low, professional judgement (based on industry guidance relating to gas generation potential of fill material) has resulted in a potential risk of low being assigned

Potential source	Potential receptor	Possible pathway	Likelihood	Severity	Potential risk	Justification
infilled pits or ponds	Current adjacent site users – residential, commercial, industrial, public open space users	Oral, dermal and inhalation exposure with impacted soil, soil vapour and dust	Unlikely	Medium	Low	Users on adjacent sites will not come into direct contact with soil below the subject site
	Current/future buildings and services	Direct contact with contaminated soils or groundwater and chemical attack	Unlikely	Mild	Very low	Any linkage from this risk is considered to be very low due to the unlikelihood of significant contamination being present within made ground, and the low sensitivity of the receptor
		Migration of hazardous ground gases, potentially followed by explosion	Unlikely	Severe	Low	Although a severe impact could occur if gases build up, this is considered to be highly unlikely given the nature of the development, and the low probability that any made ground present contains significant quantities of gas-generating material. Therefore, although the risk matrix puts the potential risk as moderate/low, professional judgement (based on industry guidance relating to gas generation potential of fill material) has resulted

Potential source	Potential receptor	Possible pathway	Likelihood	Severity	Potential risk	Justification
						in a potential risk of low being assigned
	Existing/future vegetation	Direct contact with contaminated soils or groundwater and root uptake leading to phytotoxicity	Unlikely	Mild	Very low	This receptor is ranked to be of low sensitivity, and there is a low likelihood of significant contamination being present within made ground
	Groundwater in secondary aquifers within superficial deposits	Leaching from soils Percolation through permeable strata to aquifer Lateral migration of dissolved phase contamination Site run-off/drainage	Unlikely	Medium	Low	Although contamination within made ground could percolate into groundwater, it is considered unlikely that there would be significant quantities of leachable contamination present in fill material
	Groundwater dependent terrestrial ecosystem	Leaching from soils Percolation through permeable strata to aquifer Lateral migration of dissolved phase contamination	Unlikely	Medium	Low	Although contamination within made ground could percolate into groundwater, it is considered unlikely that there would be significant quantities of leachable contamination present in fill material that would migrate to the location of Finemere Wood

Potential source	Potential receptor	Possible pathway	Likelihood	Severity	Potential risk	Justification
	Surface watercourses (numerous drains and ditches on and close to all land parcels) and associated surface water abstraction points	Leaching from soils Percolation through permeable strata to aquifer Lateral migration of dissolved phase contamination Site run-off/drainage	Unlikely	Medium	Low	Due to the presence of drains across/around the fields within the Order Limits, movement of contamination across significant distances will not occur. Any impact to surface watercourses will therefore be laterally limited and significant effects are not anticipated
Contamination caused by storage of fuel, oil or chemicals for agricultural use; and **Contamination associated with East Claydon substation**	Current/future site users – agricultural/industrial workers	Oral, dermal and inhalation exposure with impacted soil, soil vapour and dust	Unlikely	Medium	Low	Potential for direct contact with impacted soil is considered to be low for the development type. Contamination from these sources is considered unlikely to be significant
	Current adjacent site users – residential, commercial, industrial, public open space users	Oral, dermal and inhalation exposure with impacted soil, soil vapour and dust	Unlikely	Medium	Low	Users on adjacent sites will not come into direct contact with soil below the subject site

Potential source	Potential receptor	Possible pathway	Likelihood	Severity	Potential risk	Justification
	Current/future buildings and services	Direct contact with contaminated soils or groundwater and chemical attack	Unlikely	Mild	Very low	Any linkage from this risk is considered to be very low due to the unlikelihood of significant contamination being present, and the low sensitivity of the receptor
	Existing/future vegetation	Direct contact with contaminated soils or groundwater and root uptake leading to phytotoxicity	Unlikely	Mild	Very low	This receptor is ranked to be of low sensitivity, and there is a low likelihood of significant contamination being present
	Groundwater in secondary aquifers within superficial deposits	Leaching from soils Percolation through permeable strata to aquifer Lateral migration of dissolved phase contamination Site run-off/drainage	Unlikely	Medium	Low	Although contamination from these sources could be present in groundwater, it is considered unlikely that this would be present in significant quantities
	Groundwater dependent terrestrial ecosystem	Leaching from soils Percolation through permeable strata to aquifer	Unlikely	Medium	Low	Although contamination from these sources could be present in groundwater, it is considered unlikely that there would be

Potential source	Potential receptor	Possible pathway	Likelihood	Severity	Potential risk	Justification
		Lateral migration of dissolved phase contamination				significant quantities migrating to the location of Finemere Wood
	Surface watercourses (numerous drains and ditches on and close to all land parcels) and associated surface water abstraction points	Leaching from soils Percolation through permeable strata to aquifer Lateral migration of dissolved phase contamination Site run-off/drainage	Unlikely	Medium	Low	Due to the presence of drains across/around the fields within the Order Limits, movement of contamination across significant distances will not occur. Any impact to surface watercourses will therefore be laterally limited and significant effects are not anticipated
Off-site current and historical landfill sites at Calvert; **Calvert Brick Works; and** **Off-site historical infilled pits**	Current/future site users – agricultural/industrial workers	Oral, dermal and inhalation exposure with impacted soil, soil vapour and dust	Unlikely	Medium	Low	Potential for direct contact with material within current and former landfills that are located off-site is considered to be low.
		Migration of hazardous ground gases, potentially followed by asphyxiation or explosion	Unlikely	Severe	Moderate/low	Although a severe impact could occur if gases build up, this is considered unlikely given the nature of the development, resulting in a potential risk of moderate/low. Further assessment is recommended to ascertain whether landfill sites could pose a risk as a

Potential source	Potential receptor	Possible pathway	Likelihood	Severity	Potential risk	Justification
						result of generation of hazardous ground gases
	Current/future buildings and services	Direct contact with contaminated soils or groundwater and chemical attack	Unlikely	Mild	Very low	Any linkage from this risk is considered to be very low due to the unlikelihood of significant contamination from landfills migrating to beneath the site, and the low sensitivity of the receptor
		Migration of hazardous ground gases, potentially followed by explosion	Unlikely	Severe	Moderate/low	Although a severe impact could occur if gases build up, this is considered unlikely given the nature of the development, resulting in a potential risk of moderate/low. Further assessment is recommended to ascertain whether landfill sites could pose a risk as a result of generation of hazardous ground gases
	Existing/future vegetation	Direct contact with contaminated soils or groundwater and root uptake leading to phytotoxicity	Unlikely	Mild	Very low	This receptor is ranked to be of low sensitivity, and there is a low likelihood of significant contamination being present that would result in a negative impact on vegetation

Potential source	Potential receptor	Possible pathway	Likelihood	Severity	Potential risk	Justification
	Groundwater in secondary aquifers within superficial deposits	Leaching from soils Percolation through permeable strata to aquifer Lateral migration of dissolved phase contamination Site run-off/drainage	Unlikely	Medium	Low	Although contamination from landfills could migrate into groundwater, it is considered unlikely that this would be present in significant quantities beneath the site
	Surface watercourses (numerous drains and ditches on and close to all land parcels) and associated surface water abstraction points	Leaching from soils Percolation through permeable strata to aquifer Lateral migration of dissolved phase contamination Site run-off/drainage	Unlikely	Medium	Low	Due to the presence of drains across/around the fields within the Order Limits, movement of contamination across significant distances will not occur. Any impact to surface watercourses will therefore be limited to local impact and significant effects are not anticipated

6.3.3. Potentially complete contaminant linkages with a potential risk of moderate to low or higher identified in **Table 6.2** comprise:

- Risks to current or future Site users from migration of hazardous ground gases, potentially followed by asphyxiation or explosion, due to the presence of off-site current and historical landfill sites at Calvert. These risks are defined as moderate to low based on available information; ~~and~~
- Risks to current or future buildings and services from migration of hazardous ground gases, potentially followed by explosion, due to the presence of off-site current and historical landfill sites at Calvert. These risks are defined as moderate to low based on available information; and~~.~~
- Although the potential risks to groundwater and groundwater dependent terrestrial ecosystems have been identified by this preliminary risk assessment as being low, it is acknowledged that information from intrusive investigation works is currently not available. Stages of intrusive work will be completed that will include assessment work relating to the groundwater regime, to provide assurance in relation to these sensitive receptors. The works to be undertaken will be scoped in agreement with Buckinghamshire Council and the Environment Agency.

6.3.4. These potentially complete contaminant linkages need to be assessed further through appropriate site investigation to target the identified sources of potential contamination and assess the feasibility of identified pathways. It is noted that any site investigation works should not adversely affect any monitoring locations associated with the active landfill site located at Calvert, to the south-west of Parcel 1.

6.4. Data Gaps and Uncertainties

6.4.1. Key data gaps and uncertainties identified in the CSM at desk study stage include:

- On some occasions information may be missed due to gaps between available historical OS maps. However, for the area of the Site for this development, there are few changes to field boundaries between the subsequent map editions, and it is considered unlikely that significant features have been missed;
- There are no existing ground investigations available for the Site, therefore information on concentrations of potential contaminants in soil and groundwater is not available;
- As there are no existing ground investigations, there is no current site-specific information on groundwater depths and flow directions.

Assumptions can be made from the desk-based data that there will be some areas of shallow groundwater and some perched groundwater above the low permeability bedrock units; and

- Potential uncertainties exist relating to climate change impacts, including predicted increases in extreme weather events and/or predicted long term impacts, for example rising groundwater levels.

7. Conclusion and Recommendations

7.1. Geo-environmental Assessment

7.1.1. Based on the results of the Preliminary Risk Assessment the contaminant linkages that have been identified to be potentially complete (relevant contaminant linkages) and to require further action are:

- Risks due to contamination associated with the off-site current and historical landfill sites at Calvert, potentially affecting site users, due to migration of hazardous ground gases, potentially followed by asphyxiation or explosion; and
- Risks due to contamination associated with the off-site current and historical landfill sites at Calvert, potentially affecting buildings or services due to migration of hazardous ground gases, potentially followed by explosion.

7.1.2. Further to this, site investigation data will also be collected to provide a more detailed indication of the groundwater regime, to support the preliminary risk assessment presented in this report, and to allow the conceptual site model to be refined.

~~7.1.2.~~7.1.3. Should unforeseen contamination be encountered during construction works then specialist advice should be sought to determine the appropriate course of action.

7.2. Geotechnical Assessment

7.2.1. The key findings of the initial geotechnical assessment are as follows:

- Geotechnical Category 2 has been assigned to the Site for the purposes of designing the geotechnical investigation (this should be reviewed and revised as the project progresses);
- Shrinkable clay soils could be present within superficial units;
- Highly compressible and low bearing capacity soils (including peat and soft clay) could be present, with peat reported in nearby borehole records;
- Silt-rich soils susceptible to rapid loss of strength in wet conditions could be present within alluvium;
- The ground is potentially subject to risks from shallow soil instability, with a moderate risk for landslides identified by the Envirocheck report, and some visual evidence observed during the site walkover in the southern part of Parcel 2;
- Filled and made ground are expected to be present in isolated locations, including at embankments, infilled ponds and infilled pits;

- The site topography may pose challenges, if varying site levels affect areas of the infrastructure; and
- A high groundwater table is expected, which will need to be considered when planning construction works and excavations.

7.3. Recommendations

Geo-environmental Assessment

7.3.1. The following recommendations are made for further assessment of the Site to investigate the risks identified above:

- A Phase 2 intrusive ground investigation should be completed to include, but not necessarily be limited to, the following:
  - Ground gas monitoring in monitoring wells located in proximity to current and historical landfill sites (ensuring that existing monitoring infrastructure for Calvert landfill site is not adversely affected); and
  - Groundwater monitoring and assessment to inform a refined conceptual site model with respect to sensitive receptors relating to the groundwater (aquifers and the groundwater dependent terrestrial ecosystem in Finemere Wood).

Geotechnical Assessment

7.3.2. With respect to issues that could affect geotechnical aspects of the Proposed Development, additional work is recommended to provide site-specific information.

7.3.3. As part of intrusive ground investigation works for the Proposed Development, geotechnical in situ and laboratory testing should be incorporated, in order to inform infrastructure and foundation design. This should include an assessment of soil and bedrock types and depths, with additional focus on areas where the ground will be more heavily loaded. The geotechnical investigation should be developed in consultation with the project design team to ensure that all necessary areas are assessed for the intended end-use.

Glossary

Term	Definition
Abnormal Indivisible Load (AIL)	A load that cannot be divided into two or more loads for transport by road, and which cannot be carried on a vehicle complying with standard regulations
Agricultural Land Classification (ALC)	A classification system for defining the suitability of land for agricultural use based on the soil characteristics
Aquifer	Water present within the spaces between particles within soil or bedrock units
Conceptual site model (CSM)	A simplified representation of a site or system, used to understand how hazards and risks interact
Dermal exposure	Contact of a contaminant or pollutant with a human through direct contact with their skin
Desktop study	An assessment completed from information available to review in paper or digital format, without need for site survey work
Gleying/gleyed	Gleying occurs when soils are waterlogged, and is visible as a mottled discoloration
Hazard	Anything with the potential to cause harm, including physical hazards (e.g., sharp objects), chemical hazards (e.g., toxic substances) and biological hazards (e.g., bacteria)
HS2	High Speed 2 railway project, connecting London with the West Midlands, located close to the western boundary of the Order Limits
Hydrogeology	The study of water present within soil and bedrock units
Hydrology	The study of water in relation to its movement (for example within streams and rivers)
Impact	The severity of the consequence of an event
Inhalation exposure	Contact of a contaminant or pollutant with a human due to breathing in the substance
Invasive species	In the context of this report, a term used to describe plant species which are not native to the area, and cause harm by their presence
ISO14001	A system that is used for managing an organisation's environmental risks
Likelihood	The chance of an event occurring, often expressed as a probability or frequency

Term	Definition
Made ground	Material that has been placed by human action. This could be reworked natural material, but could incorporate anthropogenic material such as bricks or plastic.
Mitigation	Action taken to reduce the severity of a risk
Oral exposure	Contact of a contaminant or pollutant with a human through swallowing the substance
Ordnance Survey (OS)	The national mapping agency in Great Britain
Pathway	This describes the route by which a contaminant can move from its source to a receptor. Pathways can be via air, water, soil or through the food chain.
Preliminary Risk Assessment	A technical report prepared in accordance with Land Contamination Risk Management (LCRM) (Environment Agency, 2021) that presents information on possible risks associated with a site in terms of potential contamination.
Receptor	The individual or entity that is potentially affected by a hazard (e.g., human health, environment).
Risk	The likelihood of a specified undesired event occurring
Source	The origin or location of a contaminant, such as a leaking storage tank or a contaminated site
Vulnerability	The susceptibility of a receptor to harm from a contaminant or pollutant
Unexploded ordnance (UXO)	A term used to describe all types of ordnance and components that form explosive devices (bombs, mines, and grenades), that have been used (or are intended for use) in armed conflict but failed to detonate.

8. References

ADAS, Agricultural Land Classification, Land East of Calvert, Buckinghamshire, report reference 1011117, final version, 6 July 2023.

AGS Interim Guidance (2013), 'Site investigation and asbestos risk assessment for the protection of site investigation and geotechnical laboratory personnel', February 2013.

BRE (2015). Radon – Guidance on protective measures for new buildings, Chris Scivyer, BRE Report BRE 211. BRE Group, 2015.

British Standards Institution (BSI) (2020), 'BS 5930:2015+A1:2020. Code of practice for ground investigations'.

British Standards Institution (BSI) (2017), 'BS 10175:2011 + A2:2017. Investigation of potentially contaminated sites: Code of practice'.

British Standards Institution (BSI) (2013), BS8576:2013. Guidance on investigations for ground gas – permanent gases and volatile organic compounds (VOCs).

Chartered Institute of Environmental Health (CIEH), (2008), The Local Authority Guide to Ground Gas. Wilson, Card and Haines, September 2008.

CL:AIRE (2021), Good practice for risk assessment for coal mine gas emissions. CL:AIRE, November 2021.

The Contaminated Land Regulations (England) 2006, https://www.legislation.gov.uk/ .

The Contaminated Land (England) (Amendment) Regulations 2012, https://www.legislation.gov.uk/

Defra (2012), Part IIA of the Environmental Protection Act 1990, Contaminated Land Statutory Guidance, April 2012.

Defra (accessed 2024), Magic Maps, https://magic.defra.gov.uk/magicmap.aspx.

Environment Agency (2021), Land contamination risk management, https://www.gov.uk/government/publications/land-contamination-risk-management-lcrm, April 2021.

Natural England (2010), https://publications.naturalengland.org.uk/publication/141047?category=5954148537204736.

Rudland, D. J., Lancefield, R. M. and Mayell, P. N. (2001), CIRIA C552. Contaminated Land Risk Assessment: A Guide to Good Practice.

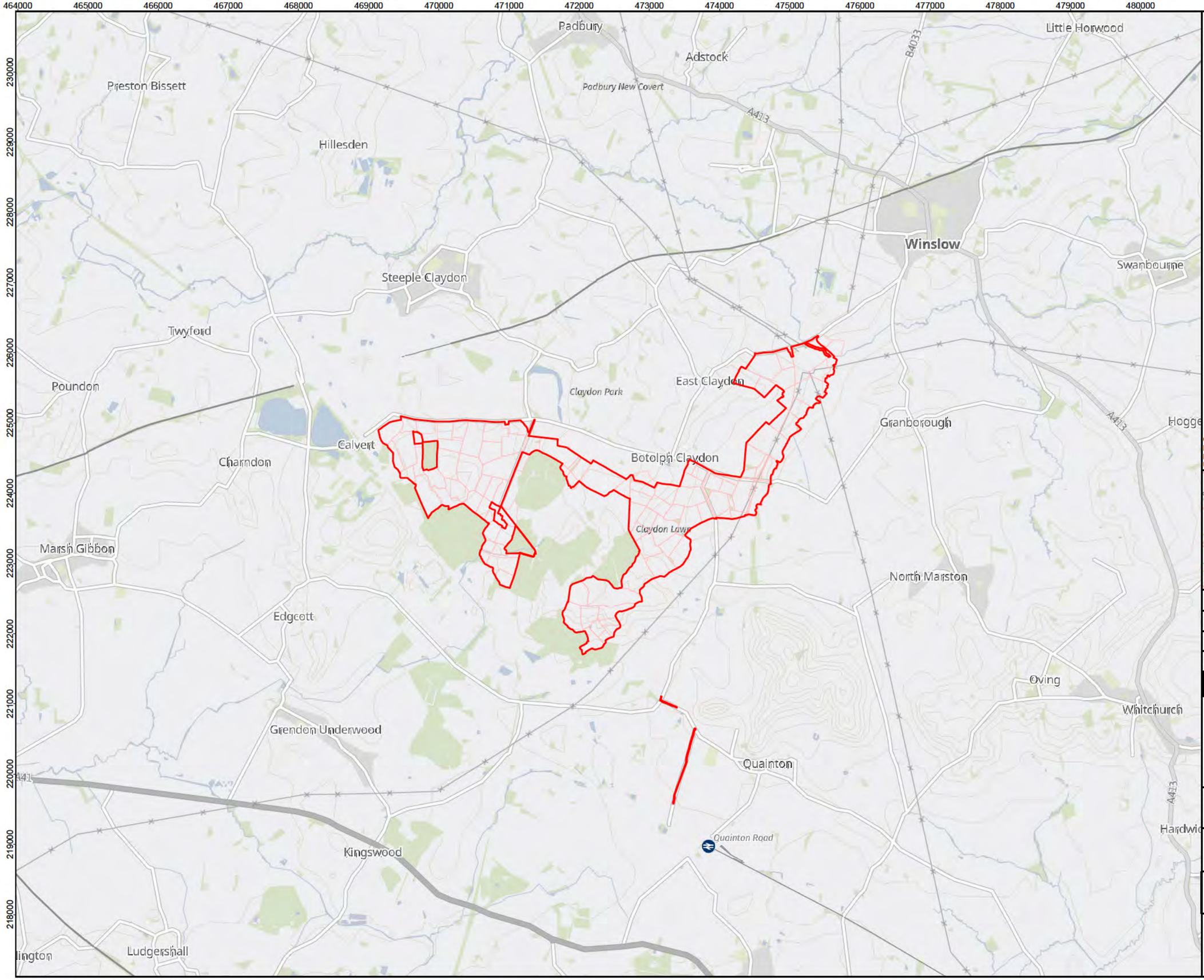
SoBRA (2022), Guidance on Assessing Risk to Controlled Waters from UK Land Contamination Under Conditions of Future Climate Change, Version 1.0, August 2022.

Stone, K., Murray, A., Cooke, S., Foran, J., Gooderham, L., (2009) CIRIA C681, Unexploded Ordnance (UXO). A guide or the construction industry.

UK Health Security Agency & British Geological Survey (2022), UK Radon Affected Area Map. Accessed from: www.ukradon.org/information/maps.

Zetica (2023), Unexploded bomb risk maps obtained for site-specific locations. Accessed from: https://zeticauxo.com/guidance/risk-maps/.

Figures



LEGEND:

- Order Limits
- Field Boundary

NOTES:

Coordinate System: British National Grid
Projection: Transverse Mercator
Datum: OSGB 1936
Units: Meter

Rev	Date	Description	Drn	Chk	App
01	03/06/2025	RLB v21	DL	FC	JG
00	28/04/2025	RLB v19	DL	FC	JG

Rosefield Solar Farm

Rosefield Solar Farm

DOCUMENT:
ROSEFIELD SOLAR FARM

TITLE:
Figure 1
Site location plan

PINS REFERENCE NUMBER:
EN010158/APP/6.4

0 1 2
Kilometers

Scale: 1:50,000 @ A3

REV 01

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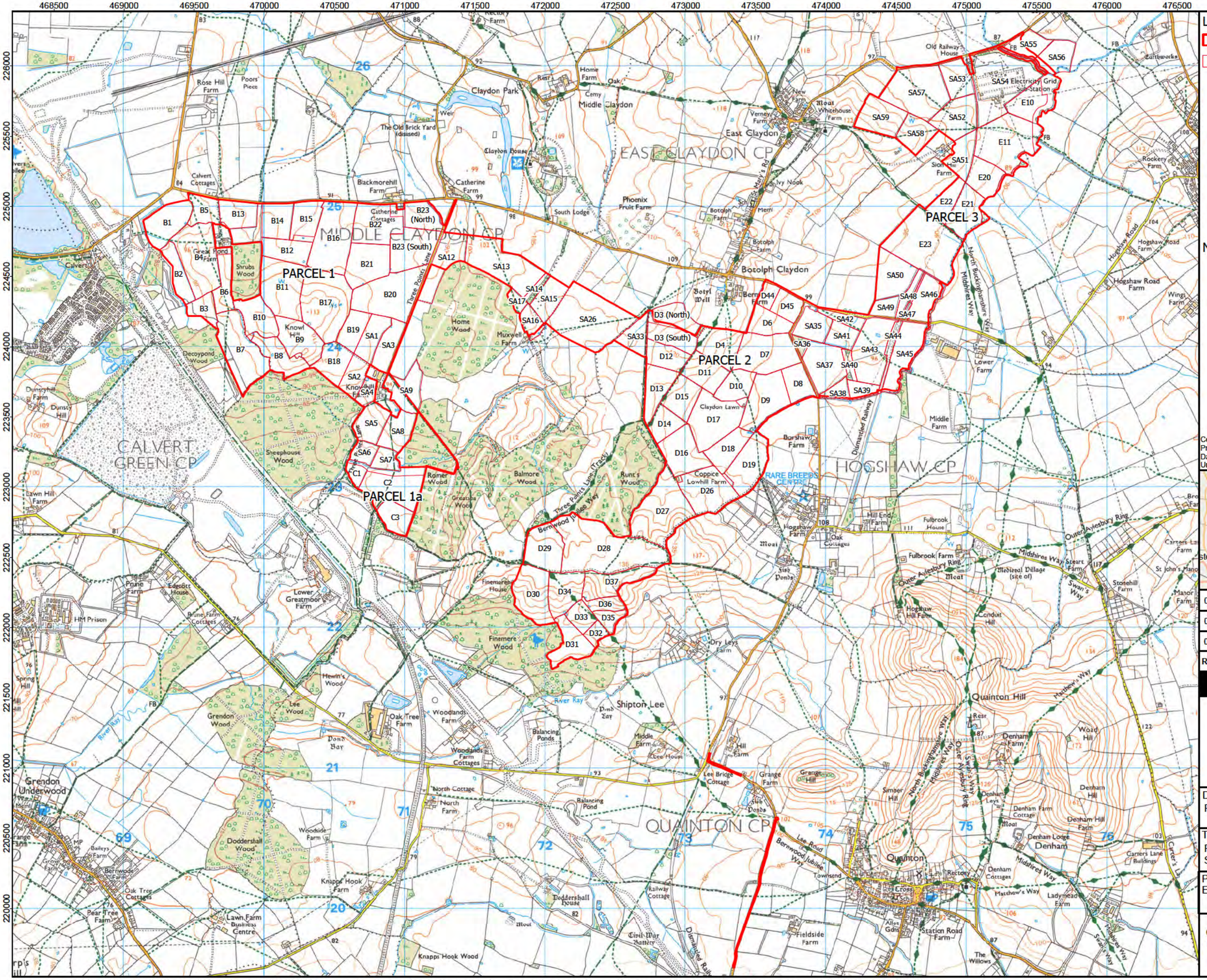

LEGEND:

- Order Limits
- Field Boundary

NOTES:

Coordinate System: British National Grid
Projection: Transverse Mercator
Datum: OSGB 1936
Units: Meter

Rev	Date	Description	Drn	Chk	App
02	03/06/2025	RLB v21	DL	FC	JG
01	01/05/2025	Parcels added	DL	FC	JG
00	28/04/2025	RLB v19	DL	FC	JG

Rosefield Solar Farm

Rosefield Solar Farm

DOCUMENT:
ROSEFIELD SOLAR FARM

TITLE:
Figure 2
Site boundary plan

PINS REFERENCE NUMBER:
EN010158/APP/6.4

0 0.5 1
Kilometers
Scale: 1:25,000 @ A3

REV 02

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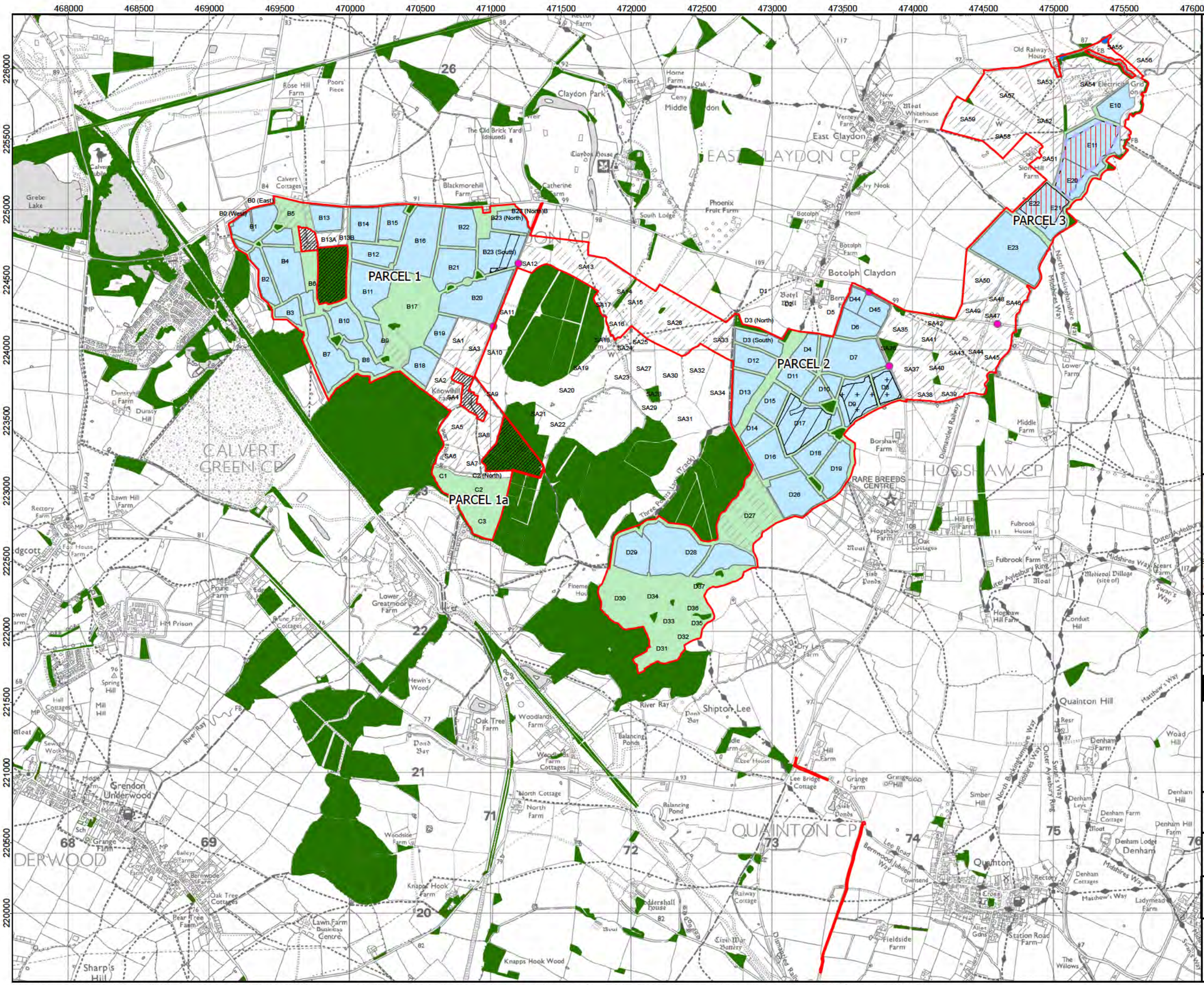

LEGEND:

- Order Limits
- Areas outside the Order Limits
- Proposed area for Solar PV development
- Proposed siting zone for Satellite Collector Compounds
- Proposed siting zone for BESS
- Proposed siting zone for Satellite Collector Compounds Transformers
- Area for underground cable routes and / or access tracks (locations to be determined) Grid connection corridor may include above-ground infrastructure within the National Grid East Claydon Substation
- Proposed siting zone for Main Collector Compound
- Proposed siting zone for Rosefield Substation
- Indicative site access location
- Indicative access location for abnormal indivisible loads (AIL)
- Proposed area for mitigation and/or enhancement
- Existing Woodland

NOTES:

1. The location of features shown are indicative only. Exact locations to be confirmed on site.
2. Additional features may be present on site that have not been identified on the topographical plan.
3. Parameter plan drawings are based on OS MasterMap information.
4. The following components are not shown on the parameter plan drawings within fields where solar PV development or other associated infrastructure is proposed: internal cable route corridors, boundary fencing and CCTV, inverter and transformers and switchgear compounds, internal access tracks, drainage, construction access and compounds.
5. Offsets from the outermost overhead transmission line and from the base of the transmission towers will be applied when the revised alignment of overhead lines is finalised by National Grid.

Coordinate System: British National Grid Projection: Transverse Mercator
Datum: OSGB 1936 Units: Meter

Rev	Date	Description	Drn	Chk	App
02	03/06/2025	RLB v21	DL	FC	JG
01	01/05/2025	Revised Zonal Plan	DL	FC	JG
00	28/04/2025	RLB v19	DL	FC	JG

Rosefield Solar Farm

Rosefield Solar Farm

DOCUMENT:
ROSEFIELD SOLAR FARM

TITLE:
Figure 3
Zonal masterplan

PINS REFERENCE NUMBER:
EN010158/APP/6.4

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Kilometers
Scale: 1:25,000 @ A3

REV 02

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469000 470000 471000 472000 473000 474000 475000 476000

226000 225000 224000 223000 222000 221000 220000

PARCEL 1 PARCEL 1a PARCEL 2 PARCEL 3

B1 B2 B3 B4 B5 B6 B7 B8 B9 B10 B11 B12 B13 B14 B15 B16 B17 B18 B19 B20 B21 B22 B23 (North) B23 (South)

SA1 SA2 SA3 SA4 SA5 SA6 SA7 SA8 SA9 SA12 SA13 SA14 SA15 SA16 SA17 SA26 SA33 SA35 SA36 SA37 SA38 SA39 SA40 SA41 SA42 SA43 SA44 SA45 SA46 SA47 SA48 SA49 SA50 SA51 SA52 SA53 SA54 SA55 SA56 SA57 SA58 SA59

C1 C2 C3

D3 (North) D3 (South) D4 D6 D7 D8 D9 D10 D11 D12 D13 D14 D15 D16 D17 D18 D19 D26 D27 D28 D29 D30 D31 D32 D33 D34 D35 D36 D37 D44 D45

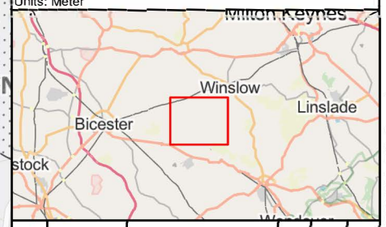
E10 E11 E20 E21 E22 E23

Calvert
Middle Claydon
East Claydon
Botolph Claydon
Claydon Park
Knowl Hill
Dunsty Hill
Lawn Hill
Muxwell Brook
Lee Wood Farm Ditch
Shipton Lee
Conduit Hill
Quainton Hill
Woad Hill
Grange Hill
Simber Hill
Denham Hill
Quainton
Doddershall Brook
River Ray
Lawn Farm Ditch
Three Points Rd
Sandhill Rd
St Marys Rd
Hogsdaw Rd
Lee Rd
Main St

LEGEND:

- Order Limits
- Field Boundary
- Mineral Safeguarding Areas for Alluvium
- Landfill Site (Calvert Pit)
- Potential for Contamination
- Recorded Infilled Land (Calvert Pit)
- Groundwater Dependent Terrestrial Ecosystem (Finemere Wood)

Coordinate System: British National Grid
Projection: Transverse Mercator
Datum: OSGB 1936
Units: Meter



Rev	Date	Description	Drn	Chk	App
03	24/02/2026	GWDE (Finemere Wood)	FA	FC	HH
02	24/02/2026	RLB v21	DL	FC	JG
01	01/05/2025	Parcels added	DL	FC	JG

Rosefield Solar Farm

Rosefield Solar Farm

DOCUMENT:
ROSEFIELD SOLAR FARM

TITLE:
Figure 4
Land and groundwater constraints plan

PINS REFERENCE NUMBER:
EN010158/APP/6.4

0 0.5 1
Kilometers

Scale: 1:25,000 @ A3

REV 03

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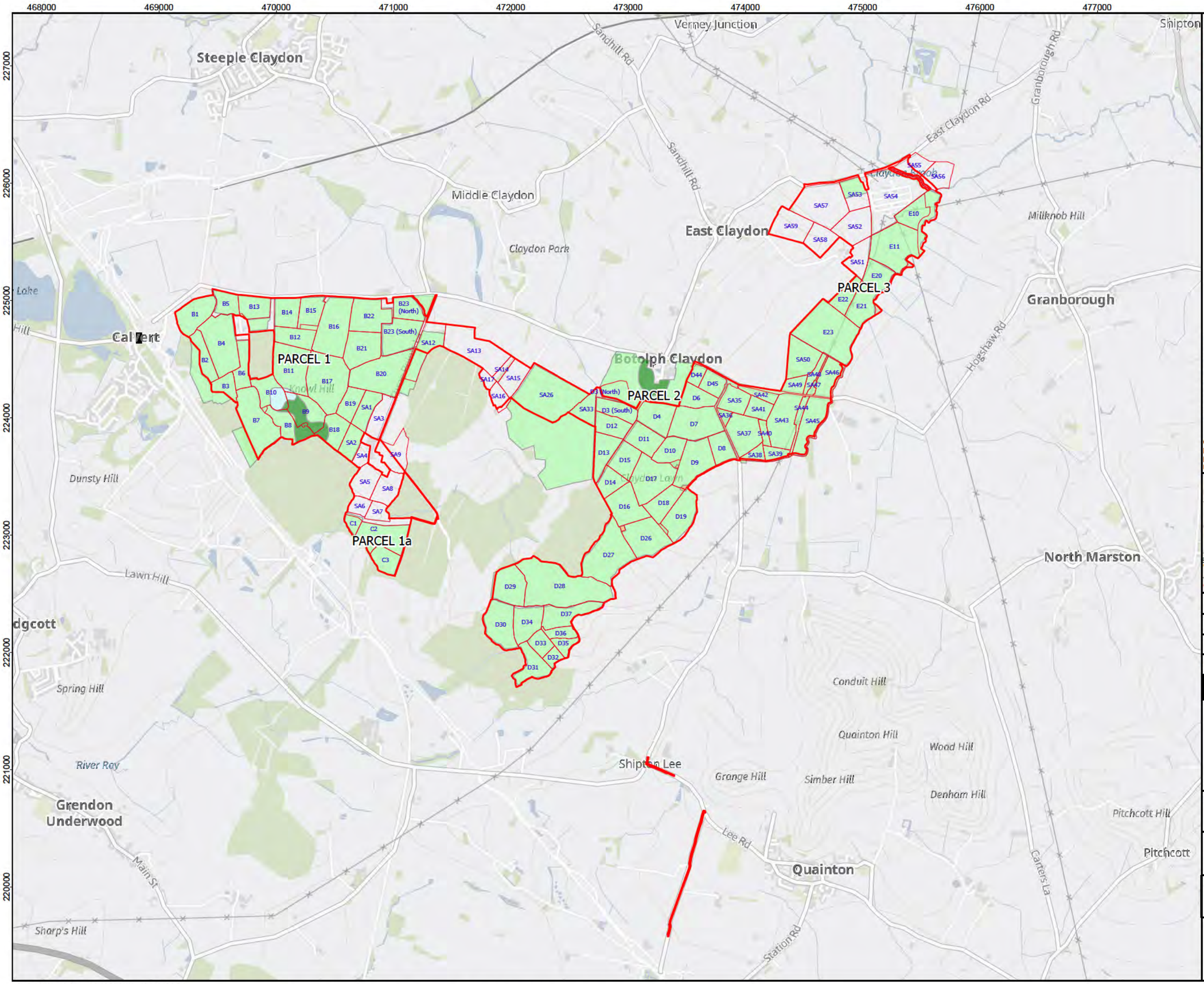

LEGEND:

- Order Limits
- Field Boundary

ALC Grades

- Grade 2
- Subgrade 3a
- Subgrade 3b
- Non Agricutural

NOTES:
Data taken from Agricultural Land Classification report for Rosefield Solar Farm (ref 1011117, dated 06/07/2023) Survey work was completed in shaded fields only. Some fields south of Botolph Claydon were surveyed, but are no longer within the red line boundary.

Coordinate System: British National Grid
Projection: Transverse Mercator
Datum: OSGB 1936
Units: Meter

Rev	Date	Description	Drn	Chk	App
02	03/06/2025	RLB v21	DL	FC	JG
01	01/05/2025	Parcels added	DL	FC	JG
00	28/04/2025	RLB v19	DL	FC	HH

Rosefield Solar Farm

Rosefield Solar Farm

DOCUMENT:
ROSEFIELD SOLAR FARM

TITLE:
Figure 5
Agricultural Land Classification plan

PINS REFERENCE NUMBER:
EN010158/APP/6.4

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Kilometers
Scale: 1:30,000 @ A3

REV 02

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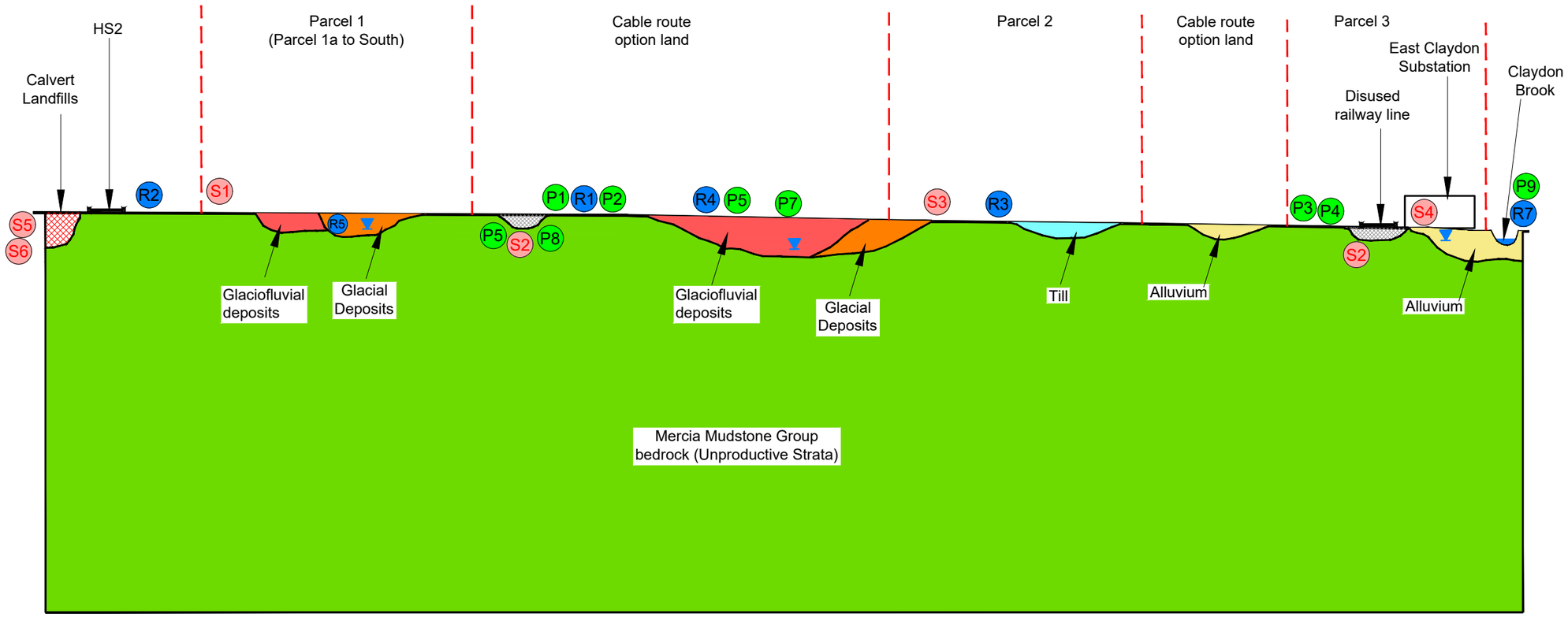


KEY:

- Groundwater
- Made ground
- Landfill site
- Glaciofluvial Deposits
- Glacial Deposits
- Alluvium
- Till
- Mercia Mudstone Group

NOTES:

1. Indicative drawing, not representative of a specific cross-section line.
2. R6 & S7 are off site (not shown)

Potential sources

On-site

- S1 Contamination caused by agricultural land use
- S2 Made ground (i.e. fill material), including associated with historical railway line (parcel 3 and cable route option land between parcels 2 and 3), associated with former buildings or agricultural buildings, bases of electricity pylons, historical infilled pits or ponds
- S3 Storage of fuel, oil or chemicals for agricultural use
- S4 East Claydon substation

Off-site

- S5 Current and historical landfill sites at Calvert
- S6 Calvert Brick Works (historical)
- S7 Historical infilled pits

Sensitive receptors

- R1 Current/future site users - agricultural/industrial workers
- R2 Current adjacent site users - residential, commercial, industrial, public open space users
- R3 Current/future buildings and services
- R4 Existing/future vegetation
- R5 Groundwater in secondary A and secondary undifferentiated aquifers within superficial deposits, including groundwater abstraction points for non-potable supplies (alluvium, glacial till and glaciofluvial deposits)
- R6 Groundwater dependent terrestrial ecosystem (in Finemere Wood, just off-site)
- R7 Surface watercourses (numerous drains and ditches on and close to all land parcels and cable route option land) and associated surface water abstraction points

Migration Pathways

- P1 Oral, dermal and inhalation exposure with impacted soil, soil vapour and dust,
- P2 Inhalation of vapours from groundwater
- P3 Migration and build-up of hazardous ground gases, potentially followed by asphyxiation or explosion
- P4 Direct contact with contaminated soils or groundwater and chemical attack
- P5 Direct contact with contaminated soils or groundwater and root uptake leading to phytotoxicity
- P6 Leaching from soils
- P7 Percolation through permeable strata to aquifer,
- P8 Lateral migration of dissolved phase contamination
- P9 Site run-off/drainage

North

App	Date	Description	Drn	Chk	App
C02	25.02.2026	Second Issue	BS	FC	FC
C01	01.05.2025	First Issue	BS	FC	FC

Rosefield Solar Farm

Rosefield Solar Farm

DOCUMENT:
ROSEFIELD SOLAR FARM

TITLE:
Figure 6
Initial schematic conceptual site model

PINS REFERENCE NUMBER:
EN010158/APP/6.4

SCALE : NTS @ A3

REV: C02

Annex A

NB: The Environmental Database Reports provided in this appendix were obtained in May 2023 (main site area) and May 2024 (area close to East Claydon Substation), and therefore the Order Limits shown in this mapping reflects the Proposed Development boundary at that time.

The Environmental Database results should be viewed alongside the current Order Limits plans, as shown on **ES Volume 3, Figure 11.1: Order Limits and Study Area for Land and Groundwater [EN010158/APP/6.3]** and **ES Volume 3, Figure 11.2: Sensitive Receptors Relating to Land [EN010158/APP/6.3]**. All areas within the Order Limits are covered by the Environmental Database Reports.

Annex B

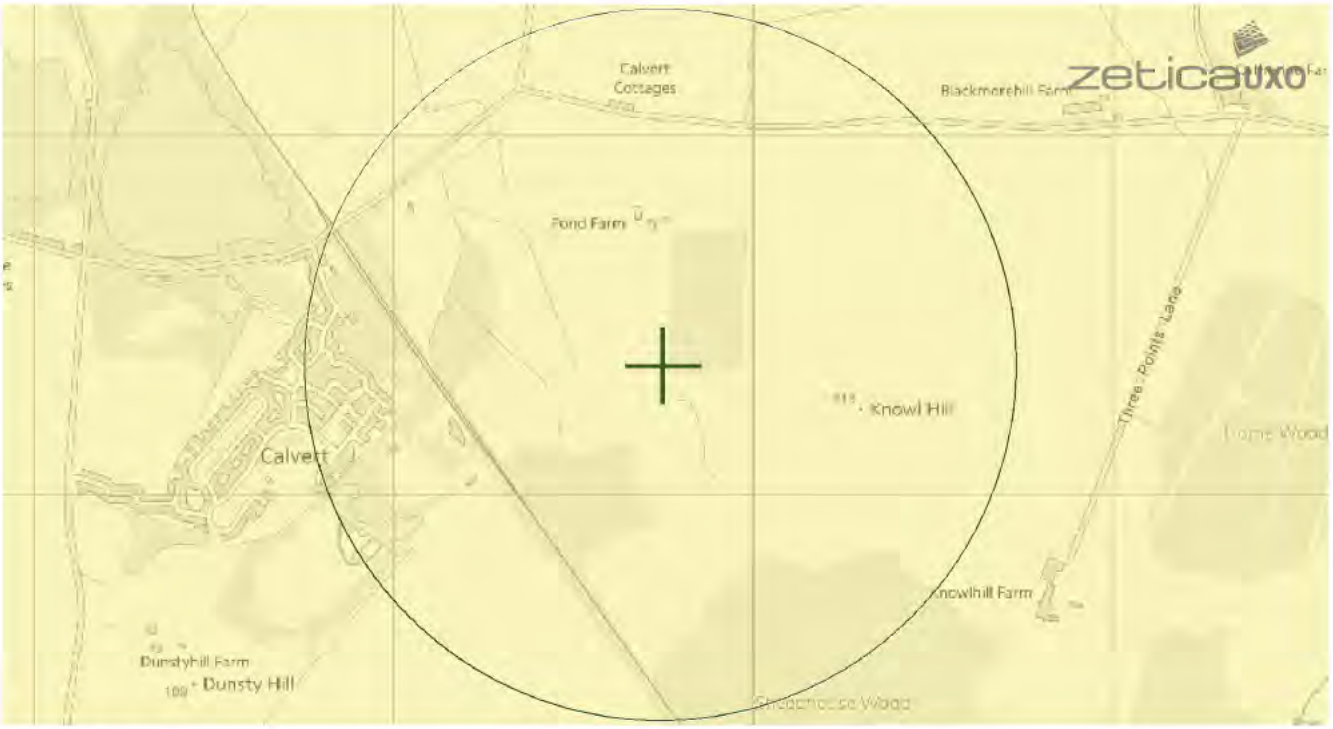
Other supporting desk study information

UNEXPLODED BOMB RISK MAP

zeticaUXO

SITE LOCATION

Map Centre: 469755,224363



LEGEND

- **High:** Areas indicated as having a bombing density of 50 bombs per 1000acre or higher.
- **Moderate:** Areas indicated as having a bombing density of 15 to 49 bombs per 1000acre.
- **Low:** Areas indicated as having 15 bombs per 1000acre or less.

miltary	**industry**	**UXO find**
transport	**dock**	**Luftwaffe targets**
utilities	**Bombing decoy**	**other**

How to use your Unexploded Bomb (UXB) risk map?

The map indicates the potential for Unexploded Bombs (UXB) to be present as a result of World War Two (WWII) bombing.

You can incorporate the map into your preliminary risk assessment* for potential Unexploded Ordnance (UXO) for a site. Using this map, you can make an informed decision as to whether more in-depth detailed risk assessment* is necessary.

What do I do if my site is in a moderate or high risk area?

Generally, we recommend that a detailed UXO desk study and risk assessment is undertaken for sites in a moderate or high UXB risk area.

Similarly, if your site is near to a designated Luftwaffe target or bombing decoy then additional detailed research is recommended.

More often than not, this further detailed research will conclude that the potential for a significant UXO hazard to be present on your site is actually low.

Never plan site work or undertake a risk assessment using these maps alone. More detail is required, particularly where there may be a source of UXO from other military operations which are not reflected on these maps.

If my site is in a low risk area, do I need to do anything?

If both the map and other research confirms that there is a low potential for UXO to be present on your site then, subject to your own comfort and risk tolerance, works can proceed with no special precautions.

A low risk really means that there is no greater probability of encountering UXO than anywhere else in the UK.

If you are unsure whether other sources of UXO may be present, you can ask for one of our **pre-desk study assessments (PDSA)**

If I have any questions, who do I contact?

tel: **+44 (0) 1993 886682**

email: **uxo@zetica.com**

web: **www.zeticauxo.com**

The information in this UXB risk map is derived from a number of sources and should be used in conjunction with the accompanying notes on our website: **(https://zeticauxo.com/downloads-and-resources/risk-maps/)**

It is important to note that this map is not a UXO risk assessment and should not be reported as such when reproduced.

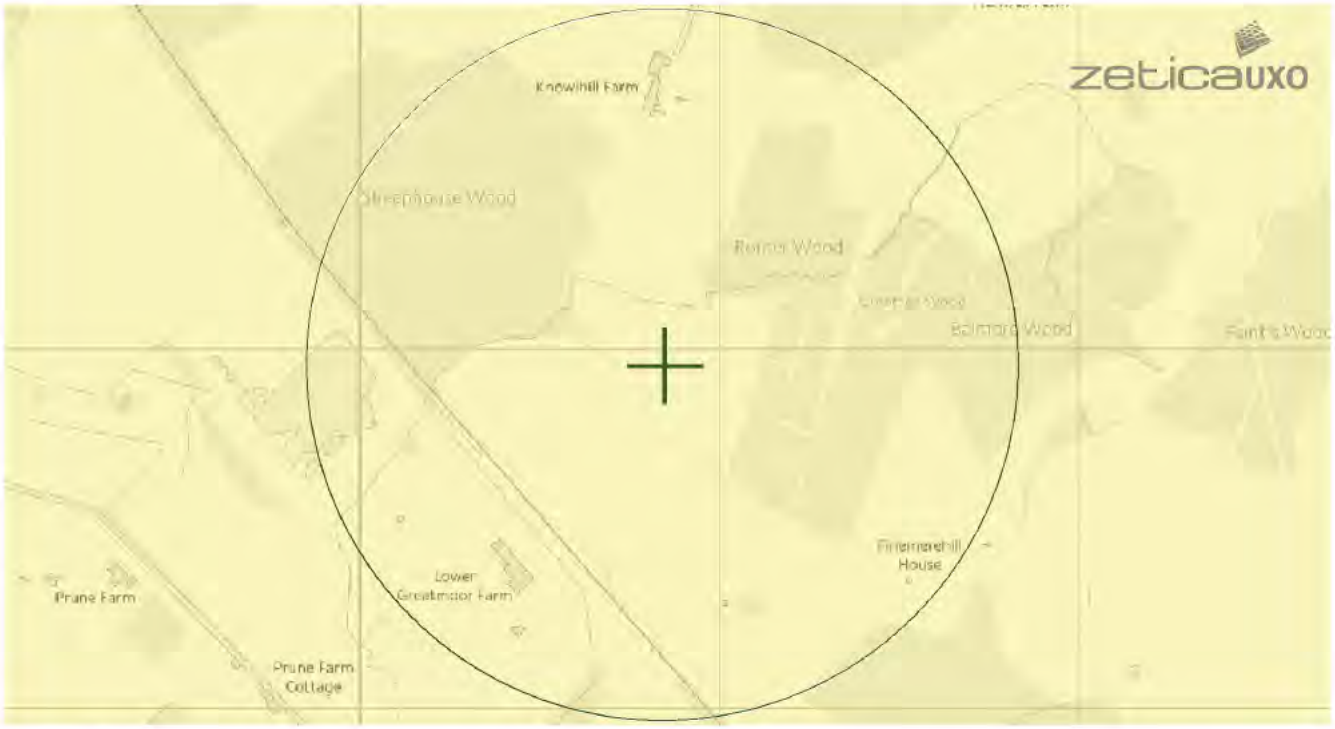
*Preliminary and detailed UXO risk assessments are advocated as good practice by industry guidance such as CIRIA C681 'Unexploded Ordnance (UXO), a guide for the construction industry'.

UNEXPLODED BOMB RISK MAP

zeticauxo

SITE LOCATION

Map Centre: 470857,222956



LEGEND

- **High:** Areas indicated as having a bombing density of 50 bombs per 1000acre or higher.
- **Moderate:** Areas indicated as having a bombing density of 15 to 49 bombs per 1000acre.
- **Low:** Areas indicated as having 15 bombs per 1000acre or less.

miltary	**industry**	**UXO find**
transport	**dock**	**Luftwaffe targets**
utilities	**Bombing decoy**	**other**

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UNEXPLODED BOMB RISK MAP

zeticauxo

SITE LOCATION

Map Centre: 473165,223442

LEGEND

- **High:** Areas indicated as having a bombing density of 50 bombs per 1000acre or higher.
- **Moderate:** Areas indicated as having a bombing density of 15 to 49 bombs per 1000acre.
- **Low:** Areas indicated as having 15 bombs per 1000acre or less.

miltary	**industry**	**UXO find**
transport	**dock**	**Luftwaffe targets**
utilities	**Bombing decoy**	**other**

How to use your Unexploded Bomb (UXB) risk map?

The map indicates the potential for Unexploded Bombs (UXB) to be present as a result of World War Two (WWII) bombing.

You can incorporate the map into your preliminary risk assessment* for potential Unexploded Ordnance (UXO) for a site. Using this map, you can make an informed decision as to whether more in-depth detailed risk assessment* is necessary.

What do I do if my site is in a moderate or high risk area?

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UNEXPLODED BOMB RISK MAP

zeticauxo

SITE LOCATION

Map Centre: 475119,225541

LEGEND

- **High:** Areas indicated as having a bombing density of 50 bombs per 1000acre or higher.
- **Moderate:** Areas indicated as having a bombing density of 15 to 49 bombs per 1000acre.
- **Low:** Areas indicated as having 15 bombs per 1000acre or less.

miltary | **industry** | **UXO find**
transport | **dock** | **Luftwaffe targets**
utilities | **Bombing decoy** | **other**

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NGRC

BOREHOLE RECORDS

ADJUSTMENT FORM

QUARTER SHEET SP 72 SW .

BH REGISTRATION NUMBER 5-14 .

RECORDS ENTERED AND HELD BY WALLINGFORD

BH REGISTRATION NUMBER(S)

SP 72 SW 5

RECORD OF WELL (SHAFT OR BORE)

(Attach copy of analysis if available)

Sp 92 NW 5022 2438

For Survey use only

N. 219/183

EXACT SITE OF WELL

At KNOWL HILL

Spring. SP 72 /23

Town or Village MIDDLE CLAYDON

County BUCKS Six-inch quarter sheet 22NE/W

For Mr. State whether owner, tenant, builder, contractor, consultant, etc. :—

Address (if different from above) SP 7022 2438

Level of ground surface above sea-level (O.D.) O.D. 325 ft. If well-top is not at ground level, state how far ... {above; below; ft.

SHAFT ft.; diameter ft.; Details of headings

BORE ft.; diameter of bore: at top ins.; at bottom ins.

Details of permanent lining tubes

Water struck at depths of ft. below well-top.

TEST CONDITIONS

Rest-level of water ft. above / below well-top. Suction at ft. Yield on hours' / days' test pumping at galls. per with depression to ft. below well-top.

Recovery to rest-level in mins. / hours Capacity of pump g.p.h. Date of measurements

NORMAL CONDITIONS

Description of permanent pumping equipment:

Make and/or type Motive power

Capacity gallons per hour. Suction at ft.

Amount pumped galls. per day. Estimated consumption galls. per week.

Well made by Date of well

Information from Clayden Estate Office.

ADDITIONAL NOTES

A spring on Knowl Hill was used for the supply of Great Pond Farm and Knowlhill Farm. Water piped from the spring to these farms. Farms now on mains. Spring water can still be utilised if mains supply should be cut off. Information and site obtained from Clayden Estate Office

H.M.P. 4.8.50

LOG OF STRATA OVERLEAF.

GEOLOGICAL SURVEY AND MUSEUM, SOUTH KENSINGTON, LONDON, S.W.7.		Date Received	1" O.S. Map No.	Site marked on 1" Map	(use symbol) on 6" Map
		4.8.50		5.	5.

(*33243) W.L.44731/0424 12,000 3/48 A. & E.W.Ltd. Gp.685

(*For Survey use only*) GEOLOGICAL CLASSIFICATION	NATURE OF STRATA If measurements start below ground surface, state how far ...	THICKNESS Feet ...	 Inches ...	DEPTH Feet	 Inches

NGRC

BOREHOLE RECORDS

ADJUSTMENT FORM

QUARTER SHEET SP 72 SW .

BH REGISTRATION NUMBER 5-14 .

RECORDS ENTERED AND HELD BY WALLINGFORD

BH REGISTRATION NUMBER(S)

SP 72 SW 5

For Survey use only

N.

219 2490

184

RECORD OF WELL (SHAFT OR BORE)

(attach copy of analysis if available)

The grid reference number for this site is 219 2490

EXACT SITE OF WELL

At LODGE,

CLAYDON PARK

Town or Village MIDDLE CLAYDON SP72/24

County BUCKS. Six-inch quarter sheet 22 NE/W

For Mr. State whether owner, tenant, builder, contractor, consultant, etc. :—

Address (if different from above) SP 7203 2490

Level of ground surface above sea-level (O.D.) ft. If well-top is not at ground level, state how far {above; below; ft.

SHAFT ft.; diameter ft.; Details of headings

BORE ft.; diameter of bore: at top ins.; at bottom ins.

Details of permanent lining tubes

Water struck at depths of ft. below well-top.

TEST CONDITIONS

Rest-level of water ft. above/below well-top. Suction at ft. Yield on hours'/days' test

pumping at galls. per with depression to ft. below well-top.

Recovery to rest-level in mins./hours Capacity of pump g.p.h. Date of measurements

NORMAL CONDITIONS

Description of permanent pumping equipment:

Make and/or type Motive power

Capacity gallons per hour. Suction at ft.

Amount pumped galls. per day. Estimated consumption galls. per week.

Well made by Date of well

Information from Tenant

ADDITIONAL NOTES

Shallow well with handpump, used for supply of lodge.
Water became contaminated, & had to be boiled for drinking.
Plentiful supply.
Now disused, on mains.
Information and site obtained in field.
H.M.P. 4·8·50

LOG OF STRATA OVERLEAF.

Geological Survey and Museum, South Kensington, London, S.W.7.		Date Received	1" O.S. Map No.	Site marked on 1" Map	(use symbol) on 6" Map
		4·8·50		O	O

(*35243) Wt.44731/0424 12,000 3/48 A.& E.W.Ltd. Gp.685

(*For Survey use only*) GEOLOGICAL CLASSIFICATION	NATURE OF STRATA If measurements start below ground surface, state how far ...	THICKNESS Feet ...	 Inches ...	DEPTH Feet	 Inches

NGRC

BOREHOLE RECORDS

ADJUSTMENT FORM

QUARTER SHEET SP 72 SW .

BH REGISTRATION NUMBER 5-14 .

RECORDS ENTERED AND HELD BY WALLINGFORD

BH REGISTRATION NUMBER(S)

SP 72 SW 5

RECORD OF WELL (SHAFT OR BORE)

(attach copy of analysis if available)

For Survey use only

N. 219

SP 72/25 185

This site has a grid reference number, SP 7208 2418

EXACT SITE OF WELL

At MUXWELL FARM

SP 7208 2418.

Town or Village MIDDLE CLAYDON

County BUCKS Six-inch quarter sheet 22 NE/W

For Mr. State whether owner, tenant, builder, contractor, consultant, etc. :—

Address (if different from above)

Level of ground surface above sea-level (O.D.) 370 ft. If well-top is not at ground level, state how far ... (above; below; ft.

SHAFT ft.; diameter ft.; Details of headings

BORE ft.; diameter of bore: at top ins.; at bottom ins.

Details of permanent lining tubes

Water struck at depths of ft. below well-top.

TEST CONDITIONS

Rest-level of water ft. above / below well-top. Suction at ft. Yield on hours' / days' test pumping at galls. per with depression to ft. below well-top.

Recovery to rest-level in mins. / hours Capacity of pump g.p.h. Date of measurements

NORMAL CONDITIONS

Description of permanent pumping equipment:

Make and/or type Motive power

Capacity gallons per hour. Suction at ft.

Amount pumped galls. per day. Estimated consumption galls. per week.

Well made by Date of well

Information from Claydon Estate Office.

ADDITIONAL NOTES

Hand pump on spring
Used for farm supply formerly.
Now disused as farm is on mains.
O.D. 370 feet.
Information and site obtained in
field from Claydon Estate Office.
H.M.P 4-8-50

LOG OF STRATA OVERLEAF.

GEOLOGICAL SURVEY AND MUSEUM, SOUTH KENSINGTON, LONDON, S.W.7.		Date Received 4.8.50	1" O.S. Map No.	Site marked on 1" Map	(use symbol) on 6" Map

(*35843) Wt.44731/0424 12,000 8/48 A.& E.W.Ltd. Gp.685

(*For Survey use only*) GEOLOGICAL CLASSIFICATION	NATURE OF STRATA If measurements start below ground surface, state how far ...	THICKNESS		DEPTH	
		Feet ...	Inches ...	Feet	Inches

NGRC

BOREHOLE RECORDS

ADJUSTMENT FORM

QUARTER SHEET SP 72 SW .

BH REGISTRATION NUMBER 5-14 .

RECORDS ENTERED AND HELD BY WALLINGFORD

BH REGISTRATION NUMBER(S)

SP 72 SW 5

RECORD OF WELL (SHAFT OR BORE)

(attach copy of analysis if available)

This site has a reference grid number. which is ... 2282 ... 2428.

For Survey use only

N. 219/186

EXACT SITE OF WELL

At ST. BOTOLPH'S WELL

called BOTYL WELL on 6"

Town or Village BOTOLPH CLAYDON, EAST CLAYDON

County BUCKS

Six-inch quarter sheet 28 NE/E

For Mr.

State whether owner, tenant, builder, contractor, consultant, etc. :—

Address (if different from above) SP 72/26

Level of ground surface above sea-level (O.D.) c. 390 ft.

If well-top is not at ground level, state how far ... above; below; ft.

SHAFT ft.; diameter ft.; Details of headings SP 7316 2444

BORE ft.; diameter of bore: at top ins.; at bottom ins.

Details of permanent lining tubes

Water struck at depths of ft. below well-top.

TEST CONDITIONS

Rest-level of water ft. above / below well-top. Suction at ft. Yield on hours' / days' test

pumping at galls. per with depression to ft. below well-top.

Recovery to rest-level in mins. / hours Capacity of pump g.p.h. Date of measurements

NORMAL CONDITIONS

Description of permanent pumping equipment :

Make and/or type Motive power

Capacity gallons per hour. Suction at ft.

Amount pumped galls. per day. Estimated consumption galls. per week.

Well made by Date of well

Information from Villagers.

ADDITIONAL NOTES

Said to be very old, and part of a monastery which was nearby.
Was used as a public supply.
Later pump was erected 100yards to North in main street, to pump the water from this well for village supply.
Water said to be very pure.
Now disused as village has mains supply.
O.D. c 390 feet. Water level 2feet below surface.
Information and site collected in field.

LOG OF STRATA OVERLEAF.

H. M. P. 4.5.50

		Date Received	1" O.S. Map No.	Site marked on 1" Map	(use symbol) on 6" Map
GEOLOGICAL SURVEY AND MUSEUM, SOUTH KENSINGTON, LONDON, S.W.7.		4.8.50		O	O

(*35243) Wt.44731/0424 12,000 3/48 A.& E.W.Ltd. Gp.685

(For Survey use only) GEOLOGICAL CLASSIFICATION	NATURE OF STRATA If measurements start below ground surface, state how far ...	THICKNESS Feet ...	Inches ...	DEPTH Feet	Inches

NGRC

BOREHOLE RECORDS

ADJUSTMENT FORM

QUARTER SHEET SP 72 SW .

BH REGISTRATION NUMBER 5-14 .

RECORDS ENTERED AND HELD BY WALLINGFORD

BH REGISTRATION NUMBER(S)

SP 72 SW 5

RECORD OF WELL (SHAFT OR BORE)

(attach copy of analysis if available)

This is a grid reference number for this site which is SP 72 SW 42 SE 7330 2440

For Survey use only

N. 219/187

EXACT SITE OF WELL

At BERNWOOD FARM

BOTOLPH CLAYDON

Town or Village EAST CLAYDON PARISH

SP 7330 2439

County BUCKS Six-inch quarter sheet 22 NE/E

For Mr. .... State whether owner, tenant, builder, contractor, consultant, etc. :— ....

Address (if different from above) SP 72/27

Level of ground surface above sea-level (O.D.) 405 ft. If well-top is not at ground level, state how far ... {above ; below ; .... ft.

SHAFT .... ft. ; diameter .... ft. ; Details of headings ....

BORE .... ft. ; diameter of bore : at top .... ins. ; at bottom .... ins.

Details of permanent lining tubes ....

Water struck at depths of .... ft. below well-top.

TEST CONDITIONS

Rest-level of water .... ft. above/below well-top. Suction at .... ft. Yield on .... hours'/days' test

pumping at .... galls. per .... with depression to .... ft. below well-top.

Recovery to rest-level in .... mins./hours Capacity of pump .... g.p.h. Date of measurements ....

NORMAL CONDITIONS

Description of permanent pumping equipment :

Make and/or type .... Motive power ....

Capacity .... gallons per hour. Suction at .... ft.

Amount pumped .... galls. per day. Estimated consumption .... galls. per week.

Well made by .... Date of well ....

Information from Tenant

ADDITIONAL NOTES

Shallow well and handpump.
Farm on mains, and this supply is not used. Can be brought into use again if mains supply should be cut off.
Information and site obtained in field.

H.M.H. 4·8·50

LOG OF STRATA OVERLEAF.

GEOLOGICAL SURVEY AND MUSEUM, SOUTH KENSINGTON, LONDON, S.W.7.		Date Received	1" O.S. Map No.	Site marked on 1" Map	(use symbol) on 6" Map
		4·8·50		O	O

(*35243) Wt.44731/0424 12,000 3/48 A.& E.W.Ltd. Gp.685

(*For Survey use only*) GEOLOGICAL CLASSIFICATION	NATURE OF STRATA If measurements start below ground surface, state how far ...	THICKNESS Feet ...	 Inches ...	DEPTH Feet	 Inches

NGRC

BOREHOLE RECORDS

ADJUSTMENT FORM

QUARTER SHEET SP 72 SW .

BH REGISTRATION NUMBER 5-14 .

RECORDS ENTERED AND HELD BY WALLINGFORD

BH REGISTRATION NUMBER(S)

SP 72 SW 5

For Survey use only

N. 2280

219 SP 72/28 188

RECORD OF WELL (SHAFT OR BORE)

(attach copy of analysis if available)

The grid reference for this site is number Sp 72 ... 2280

EXACT SITE OF WELL

At COPPICE LOWHILL FARM

Town or Village EAST CLAYDON

County BUCKS Six-inch quarter sheet 22NE/E SP 7265 2230

For Mr. State whether owner, tenant, builder, contractor, consultant, etc. :—

Address (if different from above)

Level of ground surface above sea-level (O.D.) ...ft. If well-top is not at ground level, state how far ... {above; below; ...ft.

SHAFT ...ft.; diameter ...ft.; Details of headings

BORE ...ft.; diameter of bore: at top ...ins.; at bottom ...ins.

Details of permanent lining tubes

Water struck at depths of ...ft. below well-top.

TEST CONDITIONS

Rest-level of water ...ft. above/below well-top. Suction at ...ft. Yield on ... hours'/days' test

pumping at ...galls. per ... with depression to ...ft. below well-top.

Recovery to rest-level in ... mins./hours Capacity of pump ...g.p.h. Date of measurements

NORMAL CONDITIONS

Description of permanent pumping equipment:

Make and/or type ... Motive power

Capacity ... gallons per hour. Suction at ...ft.

Amount pumped ... galls. per day. Estimated consumption ... galls. per week.

Well made by ... Date of well

Information from Owner of Dry Leys Farm.

ADDITIONAL NOTES

Coppice Lowhill Farm is on mains supply, but a spring about 400 yards South West of the farm is used for watering cattle in some of the fields.
Good supply.

H.M.P. 4.8.50

LOG OF STRATA OVERLEAF.

Geological Survey and Museum, South Kensington, London, S.W.7.		Date Received	1" O.S. Map No.	Site marked on 1" Map	(use symbol) on 6" Map
		4.8.50		S.	S.

(*35243) Wt.44731/0424 12,000 3/48 A.& E.W.Ltd. Gp.685

(For Survey use only) GEOLOGICAL CLASSIFICATION	NATURE OF STRATA If measurements start below ground surface, state how far ...	THICKNESS Feet ...	THICKNESS Inches ...	DEPTH Feet	DEPTH Inches

Borehole Log

WS2E28E

Project Name: East West Rail Phase 2 Project No: 20150810t

Borehole ID: WS2E28E

Location: Co-ords (British National Grid): 471262 - 224665 Level: 84.8

Hole Type: WS- Logged By: Dates: -

Client: East West Rail Alliance Contractor: Project Engineer [redacted]

Plant Used: SPT Hammer Serial No:

Well	Water	Samples Depth (m)	Samples Type	Result	Depth (m)	Level (m)	Legend	Stratum Description	Depth m
		0.3	ES D		0.20	84.60		TOPSOIL Dark brown clayey fine to coarse SAND Moderate proportion of rootlets	0.5
		1.0	D ES						1.0
		1.6	D		1.20	83.60		Firm grey mottled orange brown slightly gravelly sandy CLAY Sand is fine to coarse Gravel is rounded medium to coarse of flint OXFORD CLAY WEYMOUTH MEMBER	1.5
		2.0 - 2.45	UT100						2.0
		2.6	D						2.5
		3.6	D					Stiff brownish grey mottled orange silty sandy CLAY Sand is fine to coarse Low proportion of rootlets Gypsum growth OXFORD CLAY WEYMOUTH MEMBER	3.0
									3.5
									4.0
		4.6	D		4.60	80.20			4.5

GENERAL REMARKS

Coordinates were provided by WSP/PB using a hand held GPS (Gamin etrex 10) with an accuracy of +/-4metres. Ground levels are approximate and are based on the coordinates taken by WSP/PB and cross-correlated with LiDAR survey information provided by Network Rail.

SP 72 NW/2.
219
749 260

EAST CLAYDON

2. Winslow Road Station, eastward of the village. 1904.

Well 30 ft. in Oxford Clay, according to H. Pearce, Assistant Engineer, Great Central Railway, who adds "I am told that about half a mile to the east of the station, towards Winslow (and therefore in that parish) water has been obtained by boring in several wells and the depth has not been more than 120 ft."

Bucks 5" 19 S.W.

Water Supply of Bucks. & Herts.

Page 131

SP 72/17

219

The grid reference for this site is SP 72 NW 9/1/28

52

EAST CLAYDON

2. Winslow Road Station, eastward of the village, 1914.

Well 30 ft. in Oxford Clay, according to H. PERKIN, Assistant Engineer, Great Central Railway, who adds "I am told that about half a mile to the east of the station, towards Winslow (and therefore in that parish) water has been obtained by boring in several wells and the depth has not been more than 120 ft."

Bucks. 6" 19 S.W./W.

SP 7505 2605

Water Supply of
Bucks. & Herts.
Page 131

NGRC

BOREHOLE RECORDS

ADJUSTMENT FORM

QUARTER SHEET SP72NW.

BH REGISTRATION NUMBER 3-16.

RECORDS ENTERED AND HELD BY WALLINGFORD

BH REGISTRATION NUMBER(S)

RECORD OF WELL (SHAFT OR BORE)

(attach copy of analysis if available) New site to tracked by grid reference Sp 42 M2 7338 2575

For Survey use only
N.

219 / 73

SP72/18

EXACT SITE OF WELL
At WINSLOW ROAD STATION
SPRING
Town or Village EAST CLAYDON

County BUCKS Six-inch quarter sheet 19 SW/W

For Mr. State whether owner, tenant, builder, contractor, consultant, etc. :—

Address (if different from above) SP 7462 2565

Level of ground surface above sea-level (O.D.) ft. If well-top is not at ground level, state how far ... above; below; ft.

SHAFT ft.; diameter ft.; Details of headings

BORE ft.; diameter of bore: at top ins.; at bottom ins.

Details of permanent lining tubes

Water struck at depths of ft. below well-top.

TEST CONDITIONS
Rest-level of water ft. above/below well-top. Suction at ft. Yield on hours'/days' test pumping at galls. per with depression to ft. below well-top.

Recovery to rest-level in mins./hours Capacity of pump g.p.h. Date of measurements

NORMAL CONDITIONS
Description of permanent pumping equipment:
Make and/or type Motive power
Capacity gallons per hour. Suction at ft.
Amount pumped galls. per day. Estimated consumption galls. per week.

Well made by Date of well

Information from Claydon Estate Office.

ADDITIONAL NOTES

Spring 400 yards South West of station.
Water piped to station.
Now disused.
Station has mains supply.
Information and site from Claydon Estate Office.

H.M.P. 4·8·50

LOG OF STRATA OVERLEAF.

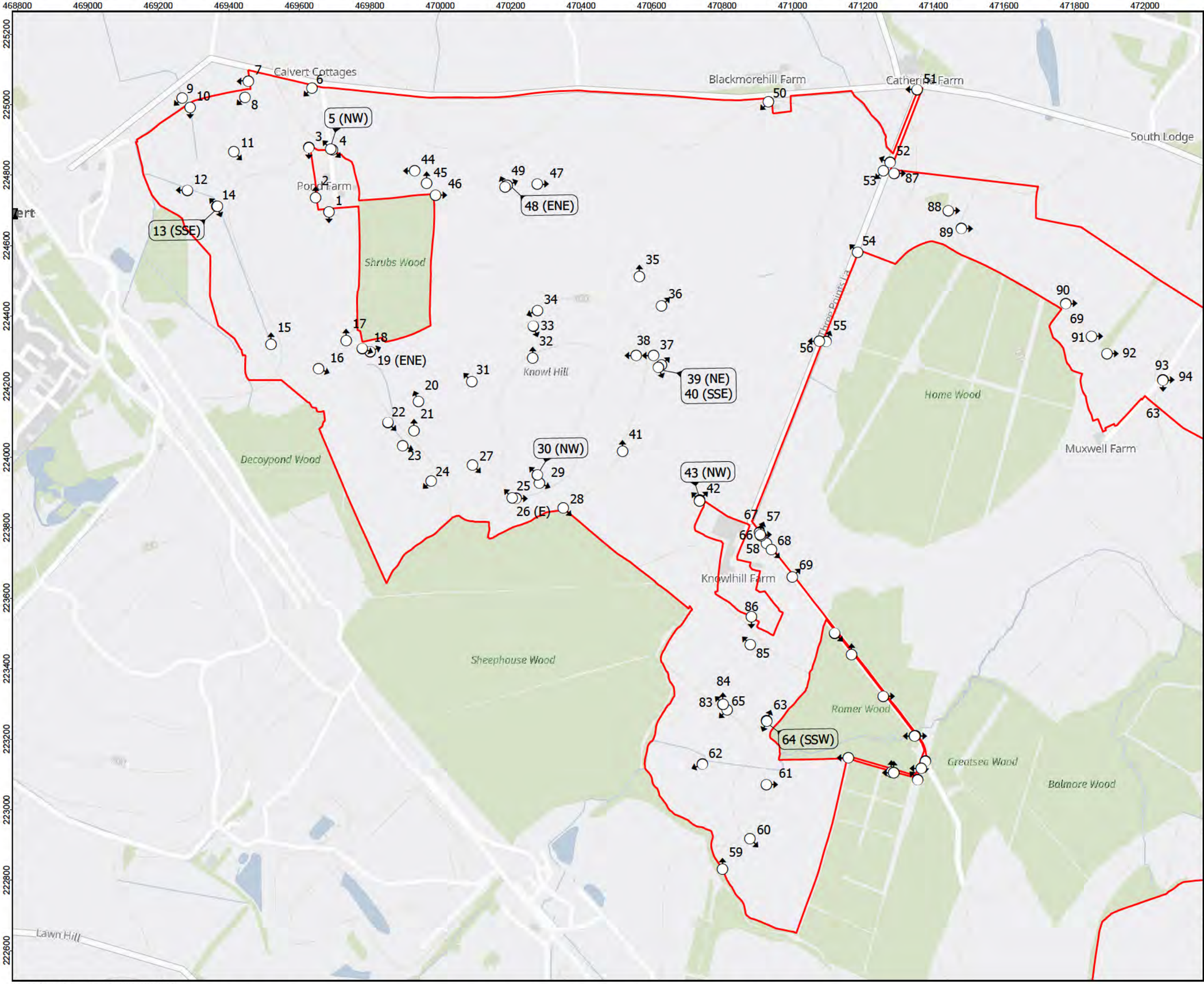
GEOLOGICAL SURVEY AND MUSEUM, SOUTH KENSINGTON, LONDON, S.W.7.		Date Received	1" O.S. Map No.	Site marked on 1" Map	(use symbol) on 6" Map
		4·8·50		S.	S.

(*35843) Wt.44731/0424 12,000 3/48 A.& E.W.Ltd. Gp.685

(*For Survey use only*) GEOLOGICAL CLASSIFICATION	NATURE OF STRATA If measurements start below ground surface, state how far ...	THICKNESS Feet ...	 Inches ...	DEPTH Feet	 Inches

Annex C

Site reconnaissance photographs



LEGEND:

Order Limits

Photo Location

Direction taken

N
NNE
NE
ENE
E
ESE
SE
SSE
S
SSW
SW
WSW
W
WNW
NW
NNW

Coordinate System: British National Grid
Projection: Transverse Mercator
Datum: OSGB 1936
Units: Meter

Rev	Date	Description	Drn	Chk	App
04	03/06/2025	RLB v21	DL	FC	HH
03	25/04/2025	RLB v19	DL	FC	HH
02	12/07/2024	RLB v16	FA	FC	HH

Rosefield Solar Farm

Rosefield Solar Farm

DOCUMENT:
ROSEFIELD SOLAR FARM

TITLE:
Figure C1: Site Walkover photograph location plan (Parcel 1 and Parcel 1a)

PINS REFERENCE NUMBER:
EN010158/APP/6.4

0 0.2 0.4
Kilometres
Scale: 1:10,000 @ A3

REV 04

Path: rskgroup.sharepoint.com\RSK Group\RSK Environment GIS Projects - 663899 - Rosefield Solar Farm\01 - GIS\P663899_PEIR_Geoscience_siteWalkover.aprx

PHOTOGRAPHIC LOG

Contract Reference: 323202

Site Location: Rosefield Solar Farm, Parcel 1, Rosefield Solar Farm, Buckinghamshire

See Figure E1 for locations and directions of photographs

-

Photo No. 1
Date 21/05/2024 10:02:00

Description
B6 towards Shrubs Wood

Co-ordinates
51.916530253:-0.988228555

Photo No. 2
Date 21/05/2024 10:04:00

Description
B4, looking N to B5. Ditch under hedge on right

Co-ordinates
51.916886289:-0.98877979

Photo No. 3 **Date** 21/05/2024 10:07:00 **Description** B4 looking S from gateway in B6. Note ditch under track **Co-ordinates** 51.918174416:-0.989024979	
Photo No. 4 **Date** 21/05/2024 10:09:00 **Description** B13 from Pond Farm access track **Co-ordinates** 51.918110759:-0.988050724	

Photo No. 5 **Date** 21/05/2024 10:10:00 **Description** B5 from Pond Farm access track **Co-ordinates** 51.918129457:-0.988118764	
Photo No. 6 **Date** 21/05/2024 10:21:00 **Description** View over B5 onto B1. Note overhead wires in B1 and HS2 works beyond **Co-ordinates** 51.919686157:-0.988863444	

Photo No. 7 **Date** 21/05/2024 10:24:00 **Description** Field 3506 **Co-ordinates** 51.9198889:-0.9914808	
Photo No. 8 **Date** 21/05/2024 10:32:00 **Description** B1. Note overhead wires **Co-ordinates** 51.919479756:-0.991634372	

Photo No. 9 **Date** 21/05/2024 10:36:00 **Description** Field 1694 from 2702 **Co-ordinates** 51.919486392:-0.994223147	
Photo No. 10 **Date** 21/05/2024 10:39:00 **Description** Ditch crossing B1. 'Source' in middle of field. **Co-ordinates** 51.919243398:-0.993897201	

Photo No. 11 **Date** 21/05/2024 10:43:00 **Description** Pond / boggy area in SE corner of B1 (4477) **Co-ordinates** 51.918093224:-0.992124798	
Photo No. 12 **Date** 21/05/2024 10:49:00 **Description** Ditch crossing SW part of B1 **Co-ordinates** 51.917124309:-0.994059192	

Photo No. 13 **Date** 21/05/2024 10:53:00 **Description** B2 from access gateway **Co-ordinates** 51.916703531:-0.992854451	
Photo No. 14 **Date** 21/05/2024 10:53:00 **Description** Corner of B2 into B1. Note ditch in B1 **Co-ordinates** 51.916699815:-0.992826297	

Photo No. 15 **Date** 21/05/2024 11:06:00 **Description** Land drain in SW corner of B4 **Co-ordinates** 51.913164114:-0.990697933	
Photo No. 16 **Date** 21/05/2024 11:10:00 **Description** B3 from gateway into B6 **Co-ordinates** 51.912522757:-0.988748998	

Photo No. 17 **Date** 21/05/2024 11:13:00 **Description** B6 looking at Pond Farm. B4 on left, Shrubs Wood on right **Co-ordinates** 51.913236458:-0.987597612	
Photo No. 18 **Date** 21/05/2024 11:16:00 **Description** Old farm buildings in N corner of B10 **Co-ordinates** 51.913029098:-0.986937657	

Photo No. 19 **Date** 21/05/2024 11:19:00 **Description** Old farm buildings in N corner of B10 **Co-ordinates** 51.91294483:-0.986609697	
Photo No. 20 **Date** 21/05/2024 11:23:00 **Description** B10 view NW. Note old Farm buildings. B7 on left **Co-ordinates** 51.911652154:-0.984648216	

Photo No. 21 **Date** 21/05/2024 11:29:00 **Description** Dried up pond (9208). Note this is in quite a deep narrow dip between fields B8 and B10 **Co-ordinates** 51.910908602:-0.984850471	
Photo No. 22 **Date** 21/05/2024 11:32:00 **Description** B7 **Co-ordinates** 51.91113263:-0.985918504	

Photo No. 23 **Date** 21/05/2024 11:36:00 **Description** Pond (9003) in B7 **Co-ordinates** 51.910535942:-0.985328372	
Photo No. 24 **Date** 21/05/2024 11:39:00 **Description** B7 with HS2 works and Calvert Landfill beyond **Co-ordinates** 51.909630934:-0.984167888	

Photo No. 25 **Date** 21/05/2024 11:48:00 **Description** B8, view N. Note (0694) spring just to left of cow lick **Co-ordinates**	
Photo No. 26 **Date** 21/05/2024 11:51:00 **Description** B8, view S over B 18 to Knowl Hill Farm **Co-ordinates** 51.909153102:-0.980673245	

Photo No. 27 **Date** 21/05/2024 11:57:00 **Description** B8, (0694) spring **Co-ordinates** 51.910020967:-0.982453991	
Photo No. 28 **Date** 21/05/2024 12:13:00 **Description** B18 with Knowl Hill Farm **Co-ordinates** 51.908891682:-0.978743317	

Photo No. 29 **Date** 21/05/2024 12:18:00 **Description** B9, overlooking B18 and Knowle Hill Farm **Co-ordinates** 51.909532089:-0.979704836	
Photo No. 30 **Date** 21/05/2024 12:21:00 **Description** B9, view NnWfrom Knowl Hill **Co-ordinates** 51.909736639:-0.979784279	

Photo No. 31 **Date** 21/05/2024 12:28:00 **Description** B11 **Co-ordinates** 51.912149077:-0.982435227	
Photo No. 32 **Date** 21/05/2024 12:35:00 **Description** B11 with B12, B14 and B15 beyond. Possible spring in central midground - ground boggy **Co-ordinates** 51.912719015:-0.97991147	

Photo No. 33 **Date** 21/05/2024 12:39:00 **Description** B17 **Co-ordinates** 51.913537693:-0.979869518	
Photo No. 34 **Date** 21/05/2024 12:42:00 **Description** Possible spring on E side of B11 **Co-ordinates** 51.913931379:-0.979688037	

Photo No. 35 **Date** 21/05/2024 12:49:00 **Description** B16 **Co-ordinates** 51.914760521:-0.975466339	
Photo No. 36 **Date** 21/05/2024 12:55:00 **Description** B21. Trees on right conceal a small pond (7144) **Co-ordinates** 51.914013311:-0.974567742	

Photo No. 37 **Date** 21/05/2024 13:02:00 **Description** Well on E side of B17 **Co-ordinates** 51.912742293:-0.97492097	
Photo No. 38 **Date** 21/05/2024 13:05:00 **Description** Well on E side of B17 **Co-ordinates** 51.912753863:-0.975640345	

Photo No. 39 **Date** 21/05/2024 13:10:00 **Description** B20 **Co-ordinates** 51.912493618:-0.974602952	
Photo No. 40 **Date** 21/05/2024 13:12:00 **Description** B19 **Co-ordinates** 51.912435525:-0.974731207	

Photo No. 41 **Date** 21/05/2024 13:21:00 **Description** Below ground water tank in SW corner of B19 **Co-ordinates** 51.910309435:-0.976261053	
Photo No. 42 **Date** 21/05/2024 13:21:00 **Description** B19 **Co-ordinates** 51.909047905:-0.973110576	

Photo No. 43 **Date** 21/05/2024 13:26:00 **Description** B20 **Co-ordinates** 51.909024905:-0.973108967	
Photo No. 44 **Date** 21/05/2024 15:05:00 **Description** Field 8478. Towards Pond Farm **Co-ordinates** 51.917543416:-0.984669925	

Photo No. 45 **Date** 21/05/2024 15:07:00 **Description** Field 9686 **Co-ordinates** 51.91721899:-0.984186261	
Photo No. 46 **Date** 21/05/2024 15:09:00 **Description** B12 **Co-ordinates** 51.916914112:-0.983824425	

Photo No. 47 **Date** 21/05/2024 15:14:00 **Description** Pond in B15 **Co-ordinates** 51.917156257:-0.979622462	
Photo No. 48 **Date** 21/05/2024 15:15:00 **Description** B15. Note pond **Co-ordinates** 51.917134714:-0.980868363	

Photo No. 49 **Date** 21/05/2024 15:16:00 **Description** B14 **Co-ordinates** 51.917094608:-0.980952376	
Photo No. 50 **Date** 21/05/2024 15:29:00 **Description** B22 **Co-ordinates** 51.919167717:-0.970038399	

PHOTOGRAPHIC LOG

Contract Reference: 323202

Site Location: Rosefield Solar Farm, Parcel 1 and Parcel 1A, Rosefield Solar Farm, Buckinghamshire

See Figure E1 for locations and directions of photographs

-	
Photo No. 51 **Date** 21/05/2024 15:33:00 **Description** NW part of B23 (North) **Co-ordinates** 51.919428602:-0.963895051	
Photo No. 52 **Date** 21/05/2024 15:37:00 **Description** S part of B23 (North **Co-ordinates** 51.917585195:-0.965055946	

Photo No. 53 **Date** 21/05/2024 15:37:00 **Description** B23 South **Co-ordinates** 51.917379506:-0.965334795	
Photo No. 54 **Date** 21/05/2024 15:41:00 **Description** B23 South **Co-ordinates** 51.915300192:-0.966443197	

Photo No. 55 **Date** 21/05/2024 15:45:00 **Description** Field SA12 **Co-ordinates** 51.913041253:-0.967796805	
Photo No. 56 **Date** 21/05/2024 15:46:00 **Description** B20 **Co-ordinates** 51.913051264:-0.968077978	

Photo No. 57 **Date** 21/05/2024 15:51:00 **Description** Fields SA10 and SA11 **Co-ordinates** 51.9081938:-0.970653431	
Photo No. 58 **Date** 21/05/2024 15:52:00 **Description** Field SA9 **Co-ordinates** 51.90791056:-0.970376297	

Photo No. 59 **Date** 21/05/2024 16:40:00 **Description** C2 **Co-ordinates** 51.899616647:-0.972379925	
Photo No. 60 **Date** 21/05/2024 16:42:00 **Description** C3 **Co-ordinates** 51.900385539:-0.971229511	

Photo No. 61 **Date** 21/05/2024 16:45:00 **Description** C2 **Co-ordinates** 51.901765347:-0.970518428	
Photo No. 62 **Date** 21/05/2024 16:48:00 **Description** C1 **Co-ordinates** 51.902307911:-0.97314851	

Photo No. 63 **Date** 21/05/2024 16:55:00 **Description** Field 9438 **Co-ordinates** 51.903388194:-0.970474596	
Photo No. 64 **Date** 21/05/2024 16:55:00 **Description** Field 8519 **Co-ordinates** 51.903382047:-0.970469458	

Photo No. 65 **Date** 21/05/2024 16:56:00 **Description** Field 7124 **Co-ordinates** 51.903678234:-0.972091646	
Photo No. 66 **Date** 26/03/2025 **Description** Access route **Co-ordinates** 51° 54' 29.247" N 0° 58' 14.35" W	

Photo No. 67 **Date** 26/03/2025 **Description** Entrance to access route from Knowshill Farm **Co-ordinates** 51° 54' 29.16" N 0° 58' 14.259" W	
Photo No. 68 **Date** 26/03/2025 **Description** Pylons across access route **Co-ordinates** 51° 54' 27.875" N 0° 58' 12.68" W	

Photo No. 69 **Date** 26/03/2025 **Description** Pylons continuing NE from access route **Co-ordinates** 51° 54' 25.352" N 0° 58' 9.665" W	
Photo No. 70 **Date** 26/03/2025 **Description** Path through forest as part of access track **Co-ordinates** 51° 54' 20.127" N 0° 58' 3.487" W	

Photo No. 71 **Date** 26/03/2025 **Description** Romer Wood either side of access path **Co-ordinates** 51° 54' 18.115" N 0° 58' 1.112" W	
Photo No. 72 **Date** 26/03/2025 **Description** Romer Wood either side of access path **Co-ordinates** 51° 54' 18.118" N 0° 58' 1.057" W	

Photo No. 73 **Date** 26/03/2025 **Description** Access track deeper in the forest approaching the bend **Co-ordinates** 51° 54' 14.265" N 0° 57' 56.432" W	
Photo No. 74 **Date** 26/03/2025 **Description** Brook running beneath the road the access track will use **Co-ordinates** 51° 54' 10.565" N 0° 57' 51.859" W	

Photo No. 75 **Date** 26/03/2025 **Description** Brook close to access track **Co-ordinates** 51° 54' 10.607" N 0° 57' 51.72" W	
Photo No. 76 **Date** 26/03/2025 **Description** Fork in the track where access path heads to the tight of the photo **Co-ordinates** 51° 54' 8.249" N 0° 57' 50.254" W	

Photo No. 77 **Date** 26/03/2025 **Description** Following the track as it bears south and around. **Co-ordinates** 51° 54' 7.632" N 0° 57' 50.942" W	
Photo No. 78 **Date** 26/03/2025 **Description** Access track as it bears back round towards the farm **Co-ordinates** 51° 54' 6.556" N 0° 57' 51.444" W	

Photo No. 79 **Date** 26/03/2025 **Description** Beehives within Romer wood **Co-ordinates** 51° 54' 7.288" N 0° 57' 55.393" W	
Photo No. 80 **Date** 26/03/2025 **Description** Access track continuing west **Co-ordinates** 51° 54' 7.235" N 0° 57' 55.006" W	

Photo No. 81 **Date** 26/03/2025 **Description** End of access path **Co-ordinates** 51° 54' 7.238" N 0° 57' 55.021" W	
Photo No. 82 **Date** 26/03/2025 **Description** Woodland adjacent to end of access track **Co-ordinates** 51° 54' 8.684" N 0° 58' 1.753" W	

Photo No. 83 **Date** 26/03/2025 **Description** SA5 **Co-ordinates** 51° 54' 13.721" N 0° 58' 20.203" W	
Photo No. 84 **Date** 26/03/2025 **Description** SA5 **Co-ordinates** 51° 54' 13.75" N 0° 58' 20.233" W	

Photo No. 85 **Date** 26/03/2025 **Description** SA5 northern half **Co-ordinates** 51° 54' 19.177" N 0° 58' 16.035" W	
Photo No. 86 **Date** 26/03/2025 **Description** SA5 from access **Co-ordinates** 51° 54' 21.747" N 0° 58' 15.825" W	

Photo No. 87 **Date** 26/03/2025 **Description** Cable route A from western end looking and travelling east **Co-ordinates** 51° 55' 2.236" N 0° 57' 53.72" W	
Photo No. 88 **Date** 26/03/2025 **Description** Next field along cable route A **Co-ordinates** 51° 54' 58.765" N 0° 57' 45.703" W	

Photo No. 89 **Date** 26/03/2025 **Description** Same field from crest **Co-ordinates** 51° 54' 57.11" N 0° 57' 43.826" W	
Photo No. 90 **Date** 26/03/2025 **Description** From next crest **Co-ordinates** 51° 54' 50.073" N 0° 57' 28.487" W	

Photo No. 91 **Date** 26/03/2025 **Description** Small track connecting larger fields **Co-ordinates** 51° 54' 47.037" N 0° 57' 24.755" W	
Photo No. 92 **Date** 26/03/2025 **Description** Next field along **Co-ordinates** 51° 54' 45.426" N 0° 57' 22.462" W	

Photo No. 93
Date 26/03/2025

Description
Access road splitting the cable route. Leads to outbuildings and back to the main road to the north

Co-ordinates
51° 54' 42.946" N
0° 57' 14.179" W

Photo No. 94
Date 26/03/2025

Description
Next large field

Co-ordinates
51° 54' 42.946" N
0° 57' 14.18" W

Appendix E Photographs shown on Figure E1

471200 471400 471600 471800 472000 472200 472400 472600 472800 473000 473200 473400 473600 473800 474000 474200 474400

224600 224400 224200 224000 223800 223600 223400 223200 223000 222800 222600 222400 222200 222000

Three Point Hill

Orchard Way

Botolph Claydon

Home Wood

Muxwell Farm

Claydon Lawn

Borshaw Farm

Romer Wood

Greatsea Wood

Balmore Wood

Runt's Wood

Coppice Lowhill Farm

Hogshaw Farm

Hill End Stables

Finmere Hill House

Hill Cottage Farm

Finemere Wood

1 2 (NE) 3 (SE) 4 5 6 7 (SE) 8 9 10 11 12 13 14 15 (NNE) 16 17 18 (E) 19 20 21 22 23 24 25 26 27 28 29 30 31 32 (NE) 33 34 35 36 37 38 39 40 (SE) 41 (S) 42 (SW) 43 44 45 46 47 (E) 48 49 50 51 52 53 54 55 56 57 58 59 (S) 60 61 62 63 64 65 66 67 68 69 70 71 72 89 90 91 92 93 94

LEGEND:

Order Limits

Photo Location

Direction taken

N NNE NE ENE E ESE SE SSE S SSW SW WSW W WNW NW NNW

Coordinate System: British National Grid
Projection: Transverse Mercator
Datum: OSGB 1936
Units: Meter

Rev	Date	Description	Drn	Chk	App
04	03/06/2025	RLB v21	DL	FC	HH
03	25/04/2025	RLB v19	DL	FC	HH
02	12/07/2024	RLB v16	FA	FC	HH

Rosefield Solar Farm

Rosefield Solar Farm

DOCUMENT:
ROSEFIELD SOLAR FARM

TITLE:
Figure C2: Site Walkover photograph location plan (Parcel 2 and western cable route option land)

PINS REFERENCE NUMBER:
EN010158/APP/6.4

0 0.2 0.4
Kilometres
Scale: 1:10,000 @ A3

REV 04

Path: riskgroup.sharepoint.com\RSK Group\RSK Environment GIS Projects - 663899 - Rosefield Solar Farm\01 - GIS\P663899_PEIR_Geoscience_siteWalkover.aprx

PHOTOGRAPHIC LOG

Contract Reference: 323202

Site Location: Rosefield Solar Farm, Parcel 2. Rosefield Solar Farm, Buckinghamshire

See Figure E2 for locations and directions of photographs

-

Photo No. 1
Date 22/05/2024 09:20:00

Description
D1

Co-ordinates
51.914662474:-0.941719787

Photo No. 2
Date 22/05/2024 09:32:00

Description
Pond on W side of D3 (North)

Co-ordinates
51.911893971:-0.94393704

Photo No. 3 **Date** 22/05/2024 09:33:00 **Description** Field SA33 **Co-ordinates** 51.911616607:-0.944065632	
Photo No. 4 **Date** 22/05/2024 09:34:00 **Description** D3 (South) **Co-ordinates** 51.911358828:-0.944061604	

Photo No. 5 **Date** 22/05/2024 09:38:00 **Description** D3 (Noth) **Co-ordinates** 51.910900056:-0.940681343	
Photo No. 6 **Date** 22/05/2024 09:46:00 **Description** D3 (South) **Co-ordinates** 51.910383087:-0.944123382	

Photo No. 7 **Date** 22/05/2024 09:48:00 **Description** D12 **Co-ordinates** 51.910342151:-0.944130447	
Photo No. 8 **Date** 22/05/2024 09:51:00 **Description** D13 **Co-ordinates** 51.908690305:-0.944292298	

Photo No. 9 **Date** 22/05/2024 09:55:00 **Description** View SE over S end of D13 **Co-ordinates** 51.90631131:-0.944547697	
Photo No. 10 **Date** 22/05/2024 09:58:00 **Description** Field SA34 **Co-ordinates** 51.905180729:-0.944775005	

Photo No. 11 **Date** 22/05/2024 10:02:00 **Description** D14 with D16 beyond **Co-ordinates** 51.904731534:-0.94415167	
Photo No. 12 **Date** 22/05/2024 10:08:00 **Description** D15 with D17 beyond **Co-ordinates** 51.907591482:-0.941182623	

Photo No. 13 **Date** 22/05/2024 10:12:00 **Description** D11 with D10 beyond **Co-ordinates** 51.909500048:-0.939183318	
Photo No. 14 **Date** 22/05/2024 10:14:00 **Description** D4 with D7 beyond **Co-ordinates** 51.909609673:-0.938982242	

Photo No. 15 **Date** 22/05/2024 10:14:00 **Description** D4 **Co-ordinates** 51.909622849:-0.938948381	
Photo No. 16 **Date** 22/05/2024 10:18:00 **Description** D2, view N **Co-ordinates** 0.0:-0.938005189	

Photo No. 17 **Date** 22/05/2024 10:29:00 **Description** D5 and part of D2 on left **Co-ordinates** 51.911275144:-0.937186948	
Photo No. 18 **Date** 22/05/2024 10:29:00 **Description** D5 **Co-ordinates** 51.911279844:-0.93717721	

Photo No. 19 **Date** 22/05/2024 10:33:00 **Description** D44, D45 and D6 Note line of tres is boundary between D45 and D6 **Co-ordinates** 51.911853368:-0.934117844	
Photo No. 20 **Date** 22/05/2024 10:36:00 **Description** E edge of D5 with D6 and Fields SA35, SA41 and SA42 beyond **Co-ordinates** 51.911883784:-0.934158972	

Photo No. 21 **Date** 22/05/2024 10:45:00 **Description** View over D4 to D7 with D8 and D9 beyond **Co-ordinates** 51.910772582:-0.935897376	
Photo No. 22 **Date** 22/05/2024 10:52:00 **Description** D10 **Co-ordinates** 51.9082038:-0.9353638	

Photo No. 23 **Date** 22/05/2024 10:57:00 **Description** D10 with D4 and D11 beyond **Co-ordinates** 51.906458171:-0.9337235	
Photo No. 24 **Date** 22/05/2024 11:03:00 **Description** D8 **Co-ordinates** 51.908206047:-0.930062528	

Photo No. 25 **Date** 22/05/2024 11:06:00 **Description** D9 **Co-ordinates** 51.908172422:-0.930218442	
Photo No. 26 **Date** 22/05/2024 11:18:00 **Description** D19 **Co-ordinates** 51.904242793:-0.933021223	

Photo No. 27 **Date** 22/05/2024 11:21:00 **Description** D18 with D26 and D16 beyond, with Copice Lowhill Farm **Co-ordinates** 51.904395384:-0.934191011	
Photo No. 28 **Date** 22/05/2024 11:29:00 **Description** D16 **Co-ordinates** 51.902822535:-0.938313447	

Photo No. 29 **Date** 22/05/2024 11:32:00 **Description** D26 **Co-ordinates** 0.0:0.0	
Photo No. 30 **Date** 22/05/2024 11:40:00 **Description** D26 **Co-ordinates** 51.900118833:-0.934954461	

Photo No. 31 **Date** 22/05/2024 11:48:00 **Description** D27, E side. View N **Co-ordinates** 51.898547313:-0.940484124	
Photo No. 32 **Date** 22/05/2024 11:49:00 **Description** D27, view NE **Co-ordinates** 51.898552165:-0.940491187	

Photo No. 33 **Date** 22/05/2024 11:51:00 **Description** D27, W side, view W **Co-ordinates** 51.898236354:-0.941398703	
Photo No. 34 **Date** 22/05/2024 11:51:00 **Description** D28 view NW **Co-ordinates** 51.896893804:-0.942701468	

Photo No. 35 **Date** 22/05/2024 11:55:00 **Description** D37, view S **Co-ordinates** 51.895590884:-0.945220003	
Photo No. 36 **Date** 22/05/2024 12:05:00 **Description** Pond in D37 (6440) **Co-ordinates** 51.895584478:-0.945741601	

Photo No. 37 **Date** 22/05/2024 12:06:00 **Description** D37 west. Stand of trees surrounds pond (4833) **Co-ordinates** 51.895496287:-0.945993004	
Photo No. 38 **Date** 22/05/2024 12:09:00 **Description** Pond in W of D37 (4833) **Co-ordinates** 51.894841214:-0.947668145	

Photo No. 39 **Date** 22/05/2024 12:12:00 **Description** D37 view S over Area 2 S area. Note HS2 works **Co-ordinates** 51.894117497:-0.948283324	
Photo No. 40 **Date** 22/05/2024 12:14:00 **Description** D36 view SE. Note historical shallow soil movement **Co-ordinates** 51.893788566:-0.948935062	

Photo No. 41 **Date** 22/05/2024 12:16:00 **Description** View over D36 to D35 **Co-ordinates** 51.893784597:-0.94895824	
Photo No. 42 **Date** 22/05/2024 12:17:00 **Description** D36. Pond in W end **Co-ordinates** 51.893769507:-0.949143431	

Photo No. 43 **Date** 22/05/2024 12:19:00 **Description** D34 from D37. Note overhead wires. These head S via. D33 and D35 **Co-ordinates** 51.894722596:-0.949126485	
Photo No. 44 **Date** 22/05/2024 12:24:00 **Description** D33 with D32 and D31 beyond. View from D34 **Co-ordinates** 51.894584635:-0.951421142	

Photo No. 45 **Date** 22/05/2024 12:28:00 **Description** Pond on boundary between D33 and D34 **Co-ordinates** 51.893050165:-0.952913374	
Photo No. 46 **Date** 22/05/2024 12:28:00 **Description** D33 with D32 beyond **Co-ordinates** 51.893155826:-0.950669078	

Photo No. 47 **Date** 22/05/2024 12:37:00 **Description** Relic structure in NE D33 **Co-ordinates** 51.893292532:-0.950883482	
Photo No. 48 **Date** 22/05/2024 12:41:00 **Description** D31 view S **Co-ordinates** 51.892467978:-0.952727116	

PHOTOGRAPHIC LOG

Contract Reference: 323202

Site Location: Rosefield Solar Farm, Parcel 2 and cable option route land between Parcel 1 and Parcel 2, Rosefield Solar Farm, Buckinghamshire

See Figure E2 for locations and directions of photographs

-	
Photo No. 49 **Date** 22/05/2024 12:46:00 **Description** D30, view. N **Co-ordinates** 51.892278563:-0.954142996	
Photo No. 50 **Date** 22/05/2024 12:55:00 **Description** D30 view SW. Note overhead wires **Co-ordinates** 51.895970003:-0.957378552	

Photo No. 51 **Date** 22/05/2024 12:57:00 **Description** D29 **Co-ordinates** 51.89607246:-0.957300138	
Photo No. 52 **Date** 22/05/2024 13:28:00 **Description** D28 view SE **Co-ordinates** 51.899298232:-0.952483673	

Photo No. 53 **Date** 22/05/2024 13:29:00 **Description** D29 from D28. Note beehives on N boundary of D28 **Co-ordinates** 51.89906757:-0.952627689	
Photo No. 54 **Date** 22/05/2024 13:36:00 **Description** Field SA31, S end **Co-ordinates** 51.901195659:-0.950087568	

Photo No. 55 **Date** 22/05/2024 13:45:00 **Description** Field SA31, N end **Co-ordinates** 51.904686019:-0.946654083	
Photo No. 56 **Date** 22/05/2024 13:58:00 **Description** D1 **Co-ordinates** 51.912292628:-0.943249268	

Photo No. 57 **Date** 22/05/2024 15:40:00 **Description** Field SA26 **Co-ordinates** 51.911398033:-0.948148143	
Photo No. 58 **Date** 22/05/2024 15:44:00 **Description** Field SA33 **Co-ordinates** 51.910265054:-0.947617157	

Photo No. 59 **Date** 22/05/2024 15:45:00 **Description** Field SA32 **Co-ordinates** 51.910264707:-0.947623407	
Photo No. 60 **Date** 22/05/2024 15:47:00 **Description** Field SA30 **Co-ordinates** 51.909614707:-0.94987045	

Photo No. 61 **Date** 22/05/2024 15:51:00 **Description** Field SA27 **Co-ordinates** 51.909682117:-0.952193245	
Photo No. 62 **Date** 22/05/2024 15:52:00 **Description** Field SA25 **Co-ordinates** 51.910312115:-0.952169258	

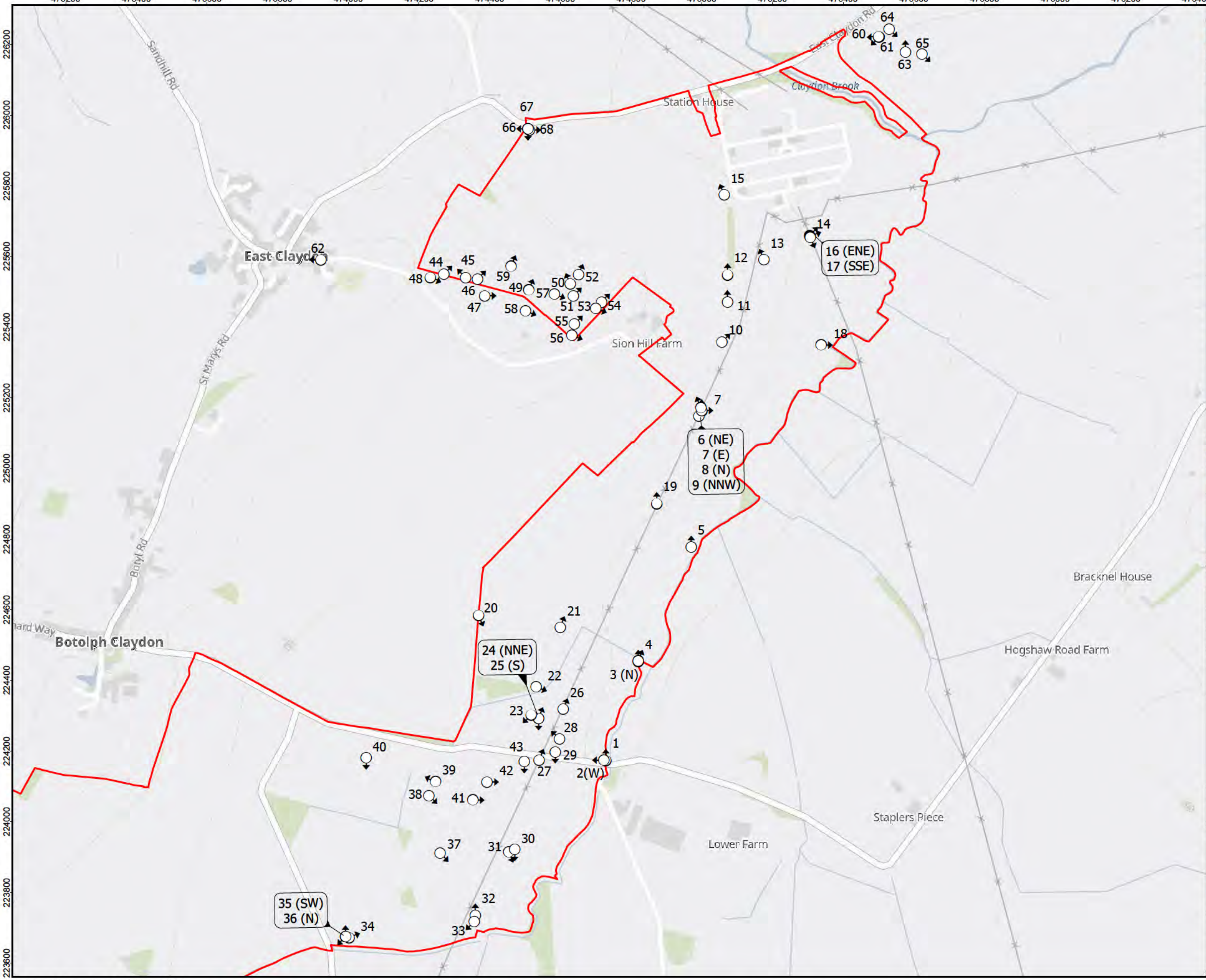
Photo No. 63 **Date** 22/05/2024 15:58:00 **Description** Field SA15, S end **Co-ordinates** 51.911418786:-0.95436063	
Photo No. 64 **Date** 22/05/2024 16:02:00 **Description** Field SA24 **Co-ordinates** 51.91033328:-0.954812598	

Photo No. 65 **Date** 22/05/2024 16:03:00 **Description** Field SA20 **Co-ordinates** 51.909603557:-0.956078958	
Photo No. 66 **Date** 22/05/2024 16:07:00 **Description** Field SA16 **Co-ordinates** 51.910259939:-0.95544652	

Photo No. 67 **Date** 22/05/2024 16:08:00 **Description** Field SA18. Note overhead wires **Co-ordinates** 51.911474241:-0.957135372	
Photo No. 68 **Date** 22/05/2024 16:11:00 **Description** Field SA17 **Co-ordinates** 51.912139977:-0.957418652	

Photo No. 69 **Date** 22/05/2024 16:14:00 **Description** Field SA13 **Co-ordinates** 51.913698361:-0.957883129	
Photo No. 70 **Date** 22/05/2024 16:37:00 **Description** Field 1349. N end **Co-ordinates** 51.913744948:-0.951995585	

Photo No. 71 **Date** 26/03/2025 **Description** Penultimate field at east end of cable route between Parcel 1 and Parcel 2 **Co-ordinates** 51° 54' 40.266" N 0° 57' 9.995" W	
Photo No. 72 **Date** 26/03/2025 **Description** Last field at east end of cable route between Parcel 1 and Parcel 2 **Co-ordinates** 51° 54' 36.942" N 0° 56' 51.199" W	



LEGEND:

Order Limits

Photo Location

Direction taken

N
NNE
NE
ENE
E
ESE
SE
SSE
S
SW
W
WNW
NW
NNW

Coordinate System: British National Grid
Projection: Transverse Mercator
Datum: OSGB 1936
Units: Meter

Rev	Date	Description	Drn	Chk	App
04	03/06/2025	RLB v21	DL	FC	HH
03	25/04/2025	RLB v19	DL	FC	HH
02	12/07/2024	RLB v16	FA	FC	HH

Rosefield Solar Farm

Rosefield Solar Farm

DOCUMENT:
ROSEFIELD SOLAR FARM

TITLE:
Figure C3: Site Walkover photograph location plan (Parcel 3 and eastern cable route option land)

PINS REFERENCE NUMBER:
EN010158/APP/6.4

0 0.2 0.4
Kilometres
Scale: 1:10,000 @ A3

REV 04

Path: rskgroup.sharepoint.com\RSK Group\RSK Environment GIS Projects - 663899 - Rosefield Solar Farm\01 - GIS\P663899_PEIR_Geoscience_siteWalkover.aprx

PHOTOGRAPHIC LOG

Contract Reference: 323202

Site Location: Rosefield Solar Farm, Parcel 3, Rosefield Solar Farm, Buckinghamshire

See Figure E3 for locations and directions of photographs

-	
Photo No. 1 **Date** 23/05/2024 07:59:00 **Description** Field SA46 **Co-ordinates** 51.911176491:-0.915020424	
Photo No. 2 **Date** 23/05/2024 07:58:00 **Description** Site of former railway station (SA47) **Co-ordinates** 51.911186369:-0.915098204	

Photo No. 3 **Date** 23/05/2024 08:04:00 **Description** E23, W side. View N **Co-ordinates** 51.913682823:-0.913630308	
Photo No. 4 **Date** 23/05/2024 08:05:00 **Description** E23, E side **Co-ordinates** 51.913701633:-0.91362599	

Photo No. 5 **Date** 23/05/2024 08:12:00 **Description** E21 **Co-ordinates** 51.916571702:-0.91137653	
Photo No. 6 **Date** 23/05/2024 08:20:00 **Description** E21, line of former railway **Co-ordinates** 51.919906482:-0.910977759	

Photo No. 7 **Date** 23/05/2024 08:21:00 **Description** E20 **Co-ordinates** 51.920039587:-0.910867518	
Photo No. 8 **Date** 23/05/2024 08:22:00 **Description** E20, line of former railway **Co-ordinates** 51.920028403:-0.910863364	

Photo No. 9 **Date** 23/05/2024 08:23:00 **Description** Field SA51. Note old ridge and furrow **Co-ordinates** 51.920114729:-0.910893007	
Photo No. 10 **Date** 23/05/2024 08:29:00 **Description** E11 **Co-ordinates** 51.921783075:-0.909990121	

Photo No. 11 **Date** 23/05/2024 08:32:00 **Description** E11, line of former railway **Co-ordinates** 51.922795063:-0.909734878	
Photo No. 12 **Date** 23/05/2024 08:36:00 **Description** SA52 Line of former railway, Old Railway House in distance **Co-ordinates** 51.923479342:-0.90971454	

Photo No. 13 **Date** 23/05/2024 08:39:00 **Description** MH cover, N end of E11. Concrete marker inscribed D900 **Co-ordinates** 51.923857005:-0.908208293	
Photo No. 14 **Date** 23/05/2024 08:43:00 **Description** E10 **Co-ordinates** 51.924454514:-0.906316581	

Photo No. 15 **Date** 23/05/2024 09:05:00 **Description** Field SA53 SW of Old Railway House **Co-ordinates** 51.92552211:-0.909801567	
Photo No. 16 **Date** 23/05/2024 09:14:00 **Description** E10 **Co-ordinates** 51.924428762:-0.906291005	

Photo No. 17 **Date** 23/05/2024 09:15:00 **Description** E11 **Co-ordinates** 51.92440473:-0.906291366	
Photo No. 18 **Date** 23/05/2024 09:21:00 **Description** Pond (3434) in E11 **Co-ordinates** 51.921666008:-0.905907733	

Photo No. 19 **Date** 23/05/2024 09:36:00 **Description** E22 **Co-ordinates** 51.917689299:-0.912767136	
Photo No. 20 **Date** 23/05/2024 10:27:00 **Description** Field SA50. Evidence of historical ridge and furrow **Co-ordinates** 51.914917173:-0.920160743	

Photo No. 21 **Date** 23/05/2024 10:34:00 **Description** Pond 6157 on N side of Field SA50 **Co-ordinates** 51.914583391:-0.916814694	
Photo No. 22 **Date** 23/05/2024 10:38:00 **Description** Ecological area in S part of Field SA50 **Co-ordinates** 51.913077476:-0.917845478	

Photo No. 23 **Date** 23/05/2024 10:41:00 **Description** Field SA49 **Co-ordinates** 51.912365027:-0.918065369	
Photo No. 24 **Date** 23/05/2024 10:43:00 **Description** Field SA48, N end **Co-ordinates** 51.912278345:-0.917760851	

Photo No. 25 **Date** 23/05/2024 10:43:00 **Description** Field SA48, S end **Co-ordinates** 51.912272954:-0.917756597	
Photo No. 26 **Date** 23/05/2024 10:45:00 **Description** Line of former railway line (SA47). View N from former station **Co-ordinates** 51.912497255:-0.916741775	

Photo No. 27 **Date** 23/05/2024 10:49:00 **Description** Former railway station SA47 (4624) **Co-ordinates** 51.911209248:-0.917763235	
Photo No. 28 **Date** 23/05/2024 10:57:00 **Description** N end of former railway station SA47 (4624) **Co-ordinates** 51.911735972:-0.916910858	

Photo No. 29 **Date** 23/05/2024 11:02:00 **Description** Field SA45 **Co-ordinates** 51.911415374:-0.917092843	
Photo No. 30 **Date** 23/05/2024 11:23:00 **Description** Field SA45, S end **Co-ordinates** 51.908947749:-0.918818195	

Photo No. 31 **Date** 23/05/2024 11:24:00 **Description** Line of former railway SA44. View S **Co-ordinates** 51.908885818:-0.919068298	
Photo No. 32 **Date** 23/05/2024 11:29:00 **Description** Field SA43. View N from SE corner **Co-ordinates** 51.907285985:-0.920483834	

Photo No. 33 **Date** 23/05/2024 11:30:00 **Description** Field SA39 **Co-ordinates** 51.907122708:-0.920531416	
Photo No. 34 **Date** 23/05/2024 11:32:00 **Description** Field SA38 (0867) **Co-ordinates** 51.906762705:-0.92568696	

Photo No. 35 **Date** 23/05/2024 11:38:00 **Description** Field SA38 (9765) **Co-ordinates** 51.906793023:-0.925825955	
Photo No. 36 **Date** 23/05/2024 11:39:00 **Description** Field SA37 **Co-ordinates** 51.906790381:-0.925833637	

Photo No. 37 **Date** 23/05/2024 11:48:00 **Description** Area of former allotments in S part of Field SA43 **Co-ordinates** 51.908879613:-0.921890462	

PHOTOGRAPHIC LOG

Contract Reference: 323202

Site Location: Rosefield Solar Farm, cable route option land between Parcel 2 and Parcel 3, Rosefield Solar Farm, Buckinghamshire

See Figure E3 for locations and directions of photographs

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Photo No. 38
Date 23/05/2024 12:01:00

Description
Field SA41

Co-ordinates
51.91034741:-0.922317244

Photo No. 39
Date 23/05/2024 12:03:00

Description
Field SA42

Co-ordinates
51.910704938:-0.922031878

Photo No. 40 **Date** 23/05/2024 12:08:00 **Description** Field SA35 **Co-ordinates** 51.911335877:-0.92487525	
Photo No. 41 **Date** 23/05/2024 12:15:00 **Description** Pond (3707) in Field SA43 **Co-ordinates** 51.910225495:-0.920516467	

Photo No. 42 **Date** 23/05/2024 12:18:00 **Description** Pond (3707) in Field SA43 **Co-ordinates** 51.910675134:-0.919918091	
Photo No. 43 **Date** 23/05/2024 12:20:00 **Description** Field SA44, view S down E side **Co-ordinates** 51.911181115:-0.918374505	

Photo No. 44 **Date** 26/03/2025 **Description** Field SA58 **Co-ordinates** Not recorded	
Photo No. 45 **Date** 26/03/2025 **Description** Field SA58 **Co-ordinates** Not recorded	

Photo No. 46 **Date** 26/03/2025 **Description** Field SA58 **Co-ordinates** Not recorded	
Photo No. 47 **Date** 26/03/2025 **Description** Field SA58 **Co-ordinates** Not recorded	

Photo No. 48 **Date** 26/03/2025 **Description** Field SA58 **Co-ordinates** Not recorded	
Photo No. 49 **Date** 26/03/2025 **Description** Field SA58 **Co-ordinates** Not recorded	

Photo No. 50 **Date** 26/03/2025 **Description** Field SA59 **Co-ordinates** Not recorded	
Photo No. 51 **Date** 26/03/2025 **Description** Field SA59 **Co-ordinates** Not recorded	

Photo No. 52 **Date** 26/03/2025 **Description** Field SA59 **Co-ordinates** Not recorded	
Photo No. 53 **Date** 26/03/2025 **Description** Field SA59 **Co-ordinates** Not recorded	

Photo No. 54 **Date** 26/03/2025 **Description** Field SA59 **Co-ordinates** Not recorded	
Photo No. 55 **Date** 26/03/2025 **Description** Field SA59 **Co-ordinates** Not recorded	

Photo No. 56 **Date** 26/03/2025 **Description** Field SA59 **Co-ordinates** Not recorded	
Photo No. 57 **Date** 26/03/2025 **Description** Field SA59 **Co-ordinates** Not recorded	

Photo No. 58 **Date** 26/03/2025 **Description** Field SA59 **Co-ordinates** Not recorded	
Photo No. 59 **Date** 26/03/2025 **Description** Field SA58 **Co-ordinates** Not recorded	

Photo No. 60 **Date** 26/03/2025 **Description** Field SA55, looking at northern edge **Co-ordinates** 51° 55' 46.119" N 0° 54' 12.14" W	
Photo No. 61 **Date** 26/03/2025 **Description** SA55, looking south towards the middle of the field. **Co-ordinates** 51° 55' 46.111" N 0° 54' 12.071" W	

Photo No. 60 **Date** 26/03/2025 **Description** Field SA55, looking at northern edge **Co-ordinates** 51° 55' 46.119" N 0° 54' 12.14" W	
Photo No. 61 **Date** 26/03/2025 **Description** SA55, looking south towards the middle of the field. **Co-ordinates** 51° 55' 46.111" N 0° 54' 12.071" W	

Photo No. 62 **Date** 26/03/2025 **Description** Claydon Substation to the west of SA55 **Co-ordinates** 51° 55' 26.46" N 0° 55' 35.266" W	
Photo No. 63 **Date** 26/03/2025 **Description** Field SA55 southern edge **Co-ordinates** 51° 55' 44.675" N 0° 54' 8.21" W	

Photo No. 64 **Date** 26/03/2025 **Description** SA56 from boundary with SA55 **Co-ordinates** 51° 55' 46.805" N 0° 54' 10.563" W	
Photo No. 65 **Date** 26/03/2025 **Description** SA56 looking towards south and boundary with fields not within survey area **Co-ordinates** 51° 55' 44.508" N 0° 54' 5.776" W	

Photo No. 66 **Date** 26/03/2025 **Description** Field SA57 **Co-ordinates** 51° 55' 38.188" N 0° 55' 4.306" W	
Photo No. 67 **Date** 26/03/2025 **Description** Field SA57 **Co-ordinates** 51° 55' 38.188" N 0° 55' 4.306" W	

Photo No. 68 **Date** 26/03/2025 **Description** Field SA57 **Co-ordinates** 51° 55' 38.03" N 0° 55' 4.093" W	

Annex D
Technical background

Desk Study

Aquifer designation and Source protection zones

Principal aquifer: layers of rock or drift deposit that have high intergranular and/or fracture permeability (usually providing a high level of water storage). They may support water supply and/or river base flow on a strategic scale.

Secondary A aquifer: permeable layers capable of supporting water supplies at a local rather than strategic scale, and in some cases forming an important source of base flow to rivers.

Secondary B aquifer: predominantly lower permeability layers that may store and yield limited amounts of groundwater due to localised features such as fissures, thin permeable horizons and weathering.

Secondary undifferentiated aquifer: it has not been possible to attribute either a category A or B to a rock type. In most cases this means that it was previously designated as both a minor and non-aquifer in different locations owing to the variable characteristics.

Unproductive' strata: low permeability with negligible significance for water supply or river base flow.

The EA generally adopts a three-fold classification of source protection zones (SPZ) surround abstractions for public water supply. The Site is situated in an area defined as follows:

- Zone 1 or the 'inner protection zone' is located immediately adjacent to the groundwater source and is based on a 50-day travel time from any point below the water table to the source. It is designed to protect against the effects of human activity and biological/chemical contaminants that may have an immediate effect on the source;
- Zone 2 or the 'outer protection zone' is defined by a 400-day travel time from a point below the water table to the source. The travel time is designed to provide delay and attenuation of slowly degrading pollutants; and
- Zone 3 or the 'total catchment' is the area around the source within which all groundwater recharge is presumed to be discharged at the source.

Preliminary risk assessment methodology

LCRM outlines the framework to be followed for risk assessment in the UK. The framework is designed to be consistent with UK legislation and policies including planning. An outline conceptual model should be formed at the preliminary risk assessment stage that collates all the existing information pertaining to a site in text, tabular or diagrammatic form. The outline conceptual model identifies potentially complete (termed possible) contaminant linkages (contaminant–pathway–receptor) and is used as the basis for the design of the site investigation. The outline

conceptual model is updated as further information becomes available, for example as a result of the site investigation. Production of a conceptual model requires an assessment of risk to be made. Risk is a combination of the likelihood of an event occurring and the magnitude of its consequences. Therefore, both the likelihood and the consequences of an event must be taken into account when assessing risk. RSK has adopted guidance provided in CIRIA C552 for use in the production of conceptual models.

The likelihood of an event can be classified on a four-point system using the following terms and definitions based on CIRIA C552:

- Highly likely: the event appears very likely in the short term and almost inevitable over the long term or there is evidence at the receptor of harm or pollution;
- Likely: it is probable that an event will occur or circumstances are such that the event is not inevitable, but possible in the short term and likely over the long term;
- Low likelihood: circumstances are possible under which an event could occur, but it is not certain even in the long term that an event would occur and it is less likely in the short term; and
- Unlikely: circumstances are such that it is improbable the event would occur even in the long term.

The severity can be classified using a similar system also based on CIRIA C552. The terms and definitions relating to severity are:

- Severe: short term (acute) risk to human health likely to result in 'significant harm' as defined by the Environment Protection Act 1990, Part IIA. Short-term risk of pollution of sensitive water resources. Catastrophic damage to buildings or property. Short-term risk to an ecosystem or organism forming part of that ecosystem (note definition of ecosystem in 'Draft Circular on Contaminated Land', DETR 2000);
- Medium: chronic damage to human health ('significant harm' as defined in 'Draft Circular on Contaminated Land', DETR 2000), pollution of sensitive water resources, significant change in an ecosystem or organism forming part of that ecosystem;
- Mild: pollution of non-sensitive water resources. Significant damage to crops, buildings, structures and services ('significant harm' as defined in 'Draft Circular on Contaminated Land', DETR 2000). Damage to sensitive buildings, structures or the environment; and
- Minor: harm, not necessarily significant, but that could result in financial loss or expenditure to resolve. Non-permanent human health effects easily prevented by use of personal protective clothing. Easily repairable damage to buildings, structures and services.

Once the probability of an event occurring and its consequences have been classified, a risk category can be assigned according to the table below.

		Consequences			
		Severe	Medium	Mild	Minor
Probability	Highly likely	Very high	High	Moderate	Moderate/low
	Likely	High	Moderate	Moderate/low	Low
	Low likelihood	Moderate	Moderate/low	Low	Very low
	Unlikely	Moderate/low	Low	Very low	Very low

Definitions of these risk categories are as follows together with an assessment of the further work that may be required:

- Very high: there is a high probability that severe harm could occur or there is evidence that severe harm is currently happening. This risk, if realised, could result in substantial liability; urgent investigation and remediation are likely to be required;
- High: harm is likely to occur. Realisation of the risk is likely to present a substantial liability. Urgent investigation is required. Remedial works may be necessary in the short term and are likely over the long term;
- Moderate: it is possible that harm could arise, but it is unlikely that the harm would be severe and it is more likely that the harm would be relatively mild. Investigation is normally required to clarify the risk and determine the liability. Some remedial works may be required in the longer term;
- Low: it is possible that harm could occur, but it is likely that if realised this harm would at worst normally be mild;
- Very low: there is a low possibility that harm could occur and if realised the harm is unlikely to be severe.

Rosefield
Solar Farm

rosefieldsolarfarm.co.uk