Great North Road Solar and Biodiversity Park

Environmental Statement Report

Volume 4 – Technical Appendices

TA A10.1 – Desk Study and Preliminary Risk Assessment, Study Area 1

Document reference – EN010162/APP/6.4.10.1

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

A10.1.1 CONTENTS

A10.1.1 INTRODUCTION

A10.1.1.1 PREAMBLE

1 RPS Consulting Services Ltd (RPS) was commissioned by Elements Green Trent Ltd to undertake a Desk Study and Preliminary Risk Assessment DTS and PRA) of The Great North Road Solar and Biodiversity Park (GNR; "the Development"), within the Order Limits. The report has been commissioned prior to submission of the application for DCO consent for the Development.

2 The Development would be located to the north-west of Newark, in the Newark and Sherwood district, Nottinghamshire, East Midlands. The Development would be within an area bound by the Order Limits. The Order Limits are to the west of the A1, north of the A617, east of Eakring, and south of Egmanton, to the north and north-west of Staythorpe. The Development essentially consists of discrete land parcels proposed to be occupied by solar PV panels, BESS and associated infrastructure, and connected by cable route areas. The eastern side of the Development runs from the north of Norwell to Egmanton in the north (with additional parcels of land for mitigation/enhancement around North Muskham). The western side of the Development runs north-west from Staythorpe Power Station and then splits at Maplebeck, with spurs running to Eakring in the north-west and Kneesall to the north-north-east, then connecting with the eastern side of the Development.

3 A plan showing the location and Order Limits for the Development is provided as Figure 10.1: Site Desk Study Zoning Plan in Volume 2 Chapter 10 – Ground Conditions and Land Contamination [EN010162/APP/6.2.10]. In order to provide sufficient detail for the PRA, the Development has been subdivided by RPS into eight study areas (referenced as Study Areas 1 – 8). It should be noted that the split of the Study Areas are based on the previous Order Limits for PEIR and therefore the DTS and PRA presents an assessment of an area that is inclusive of the current Order Limits. It should be noted that where cable routes extend beyond the Study Area, along existing public highway, these cable routes have not been subject to specific desk based review or considered within the conceptual site model on the basis that these public highways would have been constructed to adoptable standards and therefore are not considered to represent potentially contaminated areas.

4 This report presents the Desk Top Study (DTS) information and Preliminary Risk Assessment (PRA) for Study Area 1 as shown in Figure A10.1.1: Ground Conditions Study Area 1. Study Area 1 constitutes Field Parcel ID.'s 2, 3, 61, 66, 67, 73, 74, 75, 76, 77, 78, 79, 80, 81, 219, 245, 250, 264, 289, 290, 291, 295, 296, 341, 342, 451, 452, 453, 454, 455, 456, 457, 458, 459, 460, 497, 543 and 556, and are identified on Figure A10.1.2: Ground Conditions Study Area 1 Field Boundaries.

5 The wider areas within and surrounding the Development Site are generally composed of agricultural land, interspersed by occasional woodlands. Surrounding villages and hamlets are connected by rural roads and public rights of way. Smaller fields and tree cover are more common close to the villages and along water courses, with larger and more open fields set

further away. The total area of the Development Site is approximately 1,765 hectares (ha), the majority of which is currently used for arable crops or is otherwise down to pasture.

6 The Desk Study assessment is based upon a review of published information available from local, regional, and national agencies. The desk study information is derived from Insight Reports provided by Groundsure, Ref. GSIP-2024-16448-21124_A_1 and GSIP-2024-16448-21124_B_1 which are presented within Volume 4 Technical Appendix A10.11 – Desk Study and Preliminary Risk Assessment Groundsure Data [EN010162/APP/6.4.10.11]. Please note the terms and conditions attached to the supply of data from Groundsure. It should be noted that the Study Area boundaries presented within the Groundsure Insights Reports are based on the previous Preliminary Environmental Information Report site boundary which was provided at the time of purchasing the Groundsure data. Only information relating to the Study Areas and a data search buffer of 250 m, where relevant, has been included within this assessment.

A10.1.1.2 OBJECTIVES

7 The principal objectives of this assessment were as follows:

- Establish from published sources the geological sequence for Study Area 1 and potential for ground instability to occur through development proposals.
- To assess potential sources of contamination associated with historical and current land uses both on Study Area 1 and within a data search area of 250 m radius.
- To review the environmental setting to assess the sensitivity of the surrounding area to contamination/pollution.
- To produce an outline Conceptual Site Model (CSM) detailing how any contamination may impact the identified receptors via pollutant linkages; and
- To conclude on the likely requirement for any further assessment and ground investigation required in support of the DCO application.

8 The PRA methodology utilised in the preparation of this assessment is presented in detail in Annex B.

A10.1.1.3 LEGISLATION AND GUIDANCE

9 The assessment has been undertaken in general accordance with British Standard BS EN ISO 21365:2020[1] and is considered suitable to meet the initial requirements of planning as outlined within the National Planning Policy Framework (NPPF)[2]. The assessment also reflects the

[1] British Standards Institution (2020). BS EN ISO 21365:2020 soil quality. Conceptual site models for potentially contaminated sites. Available at: https://standardsdevelopment.bsigroup.com/projects/2017-02617 (accessed 21.05.2025)
[2] Ministry of Housing, Communities and Local Government, National Planning Policy Framework (Dec 2024/ Amended Feb 2025) Available at: https://assets.publishing.service.gov.uk/media/67aafe8f3b41f783cca46251/NPPF_December_2024.pdf (accessed 21.05.25)

recommendations of Environment Agency guidance, Land Contamination: Risk Management, (LCRM, 2023)[3].

10 This report has been produced in general accordance with:

- Contaminated Land (England) Regulations 2006 (as amended);
- DEFRA Environmental Protection Act 1990: Part 2A – Contaminated Land Statutory Guidance (2012);
- Environment Agency (2023) Land Contamination: Risk Management (LCRM 2023);
- National Planning Policy Framework (2024);
- CIRIA Document C665 (2007): Assessing Risks Posed by Hazardous Ground Gases to Buildings;
- British Standard requirements for the 'Investigation of potentially contaminated sites – Code of practice' (ref. BS10175:2011+A2:2017);
- British Standard requirements for the 'Code of practice for ground investigations' (ref. BS5930:2015+A1:2020); and,
- British Standard requirements for the 'Code of practice for the design of protective measures for methane and carbon dioxide ground gases for new buildings' (ref BS8485:2015+A1:2019).

11 Details of the limitations of this type of assessment are described in Annex C.

A10.1.2 DESCRIPTION OF STUDY AREA 1 AND DESK STUDY

12 Study Area 1 is comprises the west of the Order Limits, east of Eakring and west of Maplebeck. See Figure A10.1.2: Study Area 1 Boundaries for the extent of Study Area 1.

13 Study Area 1 covers an approximate area of 255 hectares and currently comprises undeveloped agricultural land. The site is noted as being generally level and flat with topography ranging from 62 m Above Ordnance Datum (AOD) in the east, 81 m AOD in the centre and 72 m AOD in the west.

14 Given the absence of potentially significant contaminative land uses / sources, as identified from environmental data searches, within the Study Area, a targeted site inspection has not been required of this Study Area.

15 Study Area 1 is located in an area of predominantly agricultural land use. Based on the images reviewed the neighbouring land consisted of the following:

[3] Environment Agency (2023). Land Contamination: Risk Management (LCRM). Available at: https://www.gov.uk/government/publications/land-contamination-risk-management;lcrm (accessed on 25.01.2025).

Table A10.1.1: Neighbouring Land Uses

Direction	Description
North	Eakring Field Farm, Agricultural fields, Penny Pasture Nature Reserve.
East	Village of Maplebeck, Agricultural Fields, Tug Bridge Farm, Study Area 2.
West	Eakring, Agricultural Land.
South	Moor Lane, Agricultural Land.

A10.1.2.1 THE DEVELOPMENT

A10.1.2.1.1 The Great North Road Solar and Biodiversity Park (GNR) ("the Development")

16 Full details and a detailed description of The Development are outlined in Environmental Statement (ES) Volume 2 Chapter 5 - Development Description [EN010162/APP/6.2.5].

A10.1.2.1.2 Study Area 1

17 Three distinct areas of Study Area 1 are allocated as Works Area 1 solar PV areas, both to the north-west and south-east of Maplebeck and at the extreme western end of the Development Site, east of Eakring. Works Area 2 cable connect these three PV locations. The remaining fields within Study Area 1 are designated Work Area 3 mitigation / enhancement areas.

A10.1.2.2 SITE HISTORY

A10.1.2.2.1 Historical Map Review

18 The following review is based on past editions of readily available Ordnance Survey (OS) maps. These include scales of 1:1,250, 1:2,500, 1:10,560 and 1:10,000 dated 1884 to 2024. Extracts from the historical maps are included within Volume 4 TA A10.11 – Desk Study and Preliminary Risk Assessment Groundsure Data [EN010162/APP/6.4.10.11].

Table A10.1.2: Historical Site Uses within Study Area 1

Study Area 1 Land Use and Features	Dates
Agricultural Land – mainly fields with tree-line boundaries prevalent across most of this study area.	1883 - 2024
Allotment gardens west of Maplebeck (Field No 290).	1900 - 1919
Smithy on the western edge of Maplebeck (Field No 290).	1884 - 1950

19 Pertinent historical site uses within 250 m of Study Area 1 are presented below.

Table A10.1.3: Historical Neighbouring Land Uses within 250 m

Surrounding Land Use	Orientation	Distance	Dates	
			From	To
Brick Field immediately north of Field No 290.	North	0 m	1884	1899
Moor Lane	South	0 m	1884	2024
Brecks Farm	South	70 m	1899	2024

A10.1.2.2.2 Planning History

20 There are no available planning records for Study Area 1 on the Newark and Sherwood District Council planning website as of November 2024.

A10.1.2.3 ENVIRONMENTAL SETTING

21 The Groundsure Insight Reports used in preparation of the environmental setting assessment are included within Volume 4 TA A10.11 – Desk Study and Preliminary Risk Assessment Groundsure Data [EN010162/APP/6.4.10.11].

A10.1.2.3.1 Geology

22 Based on British Geological Survey (BGS)[4] mapping (1:50,000-scale) and the Environment Agency (EA) Groundwater Vulnerability mapping (1:100,000-scale), the stratigraphic sequence and aquifer classifications beneath the Study Area are indicated to be as follows:

23 Table A10.1.4: Descriptions of Geological Strata

Stratum	Description & approx. thickness (based upon BGS Lexicon of Rock Units and borehole data)	Aquifer Classification
Superficial Deposits		
Alluvium (limited to the north-west associated with The Beck and tributaries)	Unconsolidated clay, silt, sand, and gravel.	Secondary A Aquifer

[4] British Geological Survey (2025). Geoindex Onshore. Available at: https://www.bgs.ac.uk/map-voewers/geoindex-onshore/ (accessed on 21.05.2025).

Stratum	Description & approx. thickness (based upon BGS Lexicon of Rock Units and borehole data)	Aquifer Classification
Bedrock		
Mercia Mudstone Group - Mudstone	Dominantly red, less commonly green-grey, mudstones and subordinate siltstones with thick halite-bearing units in some basinal areas. Approximately 110 m thick.	Secondary B Aquifer
Tarporley Siltstone Formation - Siltstone, Mudstone and Sandstone (basal unit of the MMG) (outcrops in north-west)	Very fine to fine grained micaceous siltstones interlaminated with mudstones or sandstones. Typically 20 - 60 m thick.	Secondary B Aquifer

24 BGS borehole log (ref SK76SW/1) located in the south of Study Area 1 indicates Mercia Mudstone Group strata to approximately 122 m below ground level (BGL) overlying strata of the Sherwood Sandstone Group proven to a depth of 281 m BGL.

A10.1.2.3.2 Hydrogeology

25 The north-west of Study Area 1 is located on a Secondary A Aquifer relating to the localised superficial cover of Alluvium with a Secondary B Aquifer present across the remainder of Study Area 1 relating to the outcropping Tarporley Siltstone Formation and Mercia Mudstone Group bedrock.

- Secondary A Aquifer: These formations are formed of permeable layers capable of supporting water supplies at a local scale, in some cases forming an important source of base flow to rivers.
- Secondary B Aquifer: These formations are generally formed of lower permeability layers which may store and yield limited amounts of groundwater due to localised features such as fissures, thin permeable horizons and weathering.

26 According to EA data, the north-west of Study Area 1 falls within a groundwater Source Protection Zone (SPZ). This relates to the below:

- Zone 3 (Total catchment) - The total catchment is the total area needed to support removal of water from the borehole, and to support any discharge from the borehole.

27 Information provided by the EA indicates that there are no records of active licensed groundwater abstractions within 250 m of Study Area 1.

A10.1.2.3.3 Surface Water

28 There is one watercourse within 250 m of Study Area 1 which is classified within a River Basin Management Plan published by the EA under the European Water Framework Directive (2000). A list of readily identifiable nearby watercourses and water bodies is as follows:

Table A10.1.5: Nearby Watercourses and Water Bodies

Watercourse/Body	Quality Classification	Approx Distance and direction from Study Area 1
The Beck Catchment (tributary of the Trent)	Moderate	Onsite (north-eastern boundary)

29 The Beck is fed by two minor watercourses crossing Study Area 1 in a north-south direction, one of which is named The Dumble.

30 Information provided by the EA indicates that there are no records of active licensed surface water abstractions on or within 250 m of Study Area 1.

A10.1.2.3.4 Ecologically Sensitive Sites

31 Natural England data indicates that there is one ecologically sensitive site, that constitutes an environmental receptor as defined within Table 1 of the DEFRA Environmental Protection Act 1990: Part 2A - Contaminated Land Statutory Guidance (2012)[5], located within a 250 m radius of Study Area 1.

Table A10.1.6: Ecologically Sensitive Sites

Environmental Designation	Name	Approx Distance and direction from Study Area 1
Sites of Special Scientific Interest		
SSSI	Eakring and Maplebeck Meadows	1 m to the immediate north of Study Area 1

A10.1.2.3.5 Radon

32 According to the online Indicative Atlas of Radon in England and Wales published by the UK Health Security Agency (UKHSA)[6] and BGS, Study Area 1 lies within a kilometre grid square with maximum radon potential of less than 1 %. The Indicative Atlas is based upon Radon Potential Data and

[5] DEFRA (2012). Contaminated Land Statutory Guidance. Available at: www.gov.uk/government/publications/contaminated-land-statutory-guidance (accessed on 21.05.2025).
[6] UK Health Security Agency (2022). UK maps of radon. Available at: https://www.ukradon.org/information/ukmaps (accessed 21.05.2025).

classifies areas based upon the likelihood of a property having a radon action level at or above the Action Level of 200 Bq m^3 based upon a dataset of over 500,000 records provided by the UKHSA and geology provided by the BGS. The Radon Potential is calculated from statistics (geometric mean and geometric standard deviation) of indoor radon measurements collected over each geological unit.

33 The higher resolution Radon Potential dataset, as included within the Groundsure GeoInsight report, provides a more accurate assessment of the level of risk and the requirements for inclusion of preventative measures during construction based upon BGS Geology (1:50,000 scale) geological map data. This indicates a maximum radon potential of 1 % of properties having a radon level at or above the Action Level in Great Britain.

A10.1.2.3.6 Mining Remediation Authority

34 The Interactive Map Viewer on the Mining Remediation Authority[7] website indicates that Study Area 1 is located in a coal mining reporting area. The Mining Remediation Authority (formerly Coal Authority) have previously commented on the Development in response to Environmental Impact Assessment (EIA) scoping and have confirmed that Study Area 1 'does not fall within the defined Development High Risk Area and is located instead within the defined Development Low Risk Area. This means that there is no requirement under the risk-based approach that has been agreed with the Local Planning Authority (LPA) for a Coal Mining Risk Assessment to be submitted or for The Mining Remediation Authority to be consulted'

A10.1.2.3.7 Non-coal Mining

35 BGS sources indicate that Study Area 1 is not located in an area of recorded non-coal mining (vein minerals, chalk, oil shale, building stone, bedded ores, evaporites and 'other' commodities including ball clay, jet, black marble, graphite and chert).

36 BGS holds a database of British Pits, abbreviated to 'BritPit', comprising currently active, closed surface and underground mineral workings. There are six former British Pits (BritPits) within 250 m of Study Area 1, outlined in the following table:

Table A10.1.7: British Pit Record Details

Name	Commodity	Status	Distance and direction in relation to Study Area 1
Maplebeck Pit	Sandstone	Ceased	Between onsite and 185 m east
Brecks Farm Stone Pit	Sandstone	Ceased	37 m north-west
Maplebeck Brick Field	Clay and Shale	Ceased	39 m north-east

[7] Mining Remediation Authority (2025). Map Viewer. Available at: https://datamine-cauk.hub.arcgis.com (accessed 21.05.25).

37 It is noted that there are multiple entries for Maplebeck Pit (sandstone) ranging from within the Study Area to 185 m east. There is no historical map evidence to confirm the correct location and extent of workings.

A10.1.2.3.8 BGS Ground Stability Hazard Ratings

38 BGS Ground Stability Hazard ratings for the Study Area are summarised as follows:

Table A10.1.8: BGS Ground Stability Ratings

Ground Stability Hazard	BGS Risk Rating
Collapsible Ground	Negligible – Very Low
Compressible Ground	Negligible – Moderate (Alluvium)
Ground Dissolution	Negligible
Landslide	Very Low – Low
Running Sand	Negligible – Low
Shrinking or Swelling Clays	Negligible – Very Low

A10.1.2.4 AUTHORISED PROCESSES AND POLLUTION INCIDENTS

A10.1.2.4.1 Landfill and Waste Sites

39 Data provided by the EA, Local Authority and BGS indicates that there are no recorded licensed or known historical landfill sites located within 250 m of Study Area 1.

40 Information provided by the EA/Local Authority shows that there are no former or active waste treatment / transfer sites recorded within 250 m of Study Area 1.

A10.1.2.4.2 Environmental Permits

41 EA and Local Authority data indicates that there are no processes regulated by an Environmental Permit (under the Environmental Permitting Regulations (2010)) within 250 m of Study Area 1.

A10.1.2.4.3 COMAH Sites

42 There are no records of any operations under the Control of Major Accident Hazards (COMAH) Regulations 1999, located within 250 m of Study Area 1.

A10.1.2.4.4 Pollution Incidents

43 Environment Agency data indicates that there are no records of ‘major’ or ‘significant’ pollution incidents within 250 m of Study Area 1.

A10.1.2.5 UNEXPLODED ORDNANCE

44 CIRIA Report C681[8] (Stone *et al.,* (2009)) outlines recommendations for dealing with the potential risk associated with the legacy of Unexploded Ordnance Risk, largely relating to WWII bombing and military sites.

45 A detailed desk based UXO Risk Assessment was undertaken by Tetra Tech RPS Energy for The Development dated 28th August 2024. The findings of the assessment identifies that Study Area 1 is in a low risk UXO area. No further measures are considered necessary other than provision of tool box talks during site inductions for construction staff and inclusion of UXO in Risk Assessments and emergency plans at pre-construction stage. The Tetra Tech RPS Energy UXO Risk Assessment report is presented in Volume 4 TA A10.10 – Detailed Desk Study (Stage 2) for Potential UXO Contamination [EN010162/APP/6.4.10.1].

A10.1.3 OUTLINE CONCEPTUAL SITE MODEL

A10.1.3.1 BACKGROUND

46 An outline conceptual site model (CSM) consists of an appraisal of the source-pathway-receptor ‘contaminant linkages' which is central to the approach used to determine the existence of ‘contaminated land' according to the definition set out under Part 2A of the Environmental Protection Act, 1990. For a risk to exist (under Part 2A), all three of the following components must be present to facilitate a potential 'pollutant linkage'.

- **Source** referring to the source of contamination (Hazard).
- **Pathway** for the contaminant to move/migrate to receptor(s).
- **Receptor** (Target) that could be affected by the contaminant(s).

47 Receptors include human beings, controlled waters, environmentally sensitive land uses and buildings / structures. The National Planning Policy Framework, used to address contaminated land through the planning process, follows the same principles as those set out under Part 2A.

48 As part of the assessment, the potential risks to receptors from potential sources, are given one of the following classifications:

- **Low risk -** it is considered unlikely that issues within the category will give rise to significant harm to identified receptors.
- **Moderate risk** - it is possible, but not certain that issues within the category will give rise to significant harm to receptors.
- **High risk** - there is a high potential that issues within the category will give rise to significant harm to identified receptors.

A10.1.3.2 POTENTIAL POLLUTION LINKAGES

49 Each stage of the potential pollutant linkage sequence has been assessed individually on the basis of information obtained during the desk study exercise and are discussed in the following section.

[8] CIRIA (2009). Unexploded Ordnance C681: A Guide for the Construction Industry. Available at: https://www.ciria.org/CIRIA/CIRIA/Item_Detail.aspx?iProductcode=C681 (accessed on 21.05.2025).

A10.1.4 POTENTIAL CONTAMINANT SOURCES

A10.1.4.1 ONSITE CURRENT

50 Most of Study Area 1 comprises agricultural land. Whilst there is potential for contaminants such as pesticides, herbicides and insecticides to have been used on-site and in its close proximity, these chemicals typically have a low residency time in soils and they degrade rapidly in compliance with the requirements for crops and grazing prior to products being used for human consumption. Therefore, agricultural uses are not considered a potential significant source of contamination.

A10.1.4.2 ONSITE HISTORICAL

51 Historical Maps indicate a smithy within the Study Area, however is located on grass verge beyond the tree-lined boundary to Field 290 and The Hollows Lane. It is therefore outside of any proposed works and therefore unlikely to be disturbed by The Development.

A10.1.4.3 OFFSITE CURRENT

52 No potential current off-site sources of contamination have been identified.

A10.1.4.4 OFFSITE HISTORICAL

53 Historical Maps indicate a former brick field adjoining Study Area 1 representing a potential source of Made Ground. Brick production can result in generation of silica rich dust and firing processes generate particulates and gaseous pollutants. Given that the feature was disused by 1899, the potential impact from airborne contaminants on the Development from this source is considered to represent a low risk.

A10.1.4.4.1 Potential Pathways

54 The western section of Study Area 1 where there is localised superficial cover deposits of Alluvium may represent a potential pathway for mobilisation of gaseous or leachable contaminants of concern via granular horizons or via shallow groundwater, however there are no identified potential contamination sources coinciding with these deposits.

55 The remainder of the Study Area is located on outcropping mudstone strata of the Mercia Mudstone Group and Tarporley Siltstone Formation. These strata are considered to be of very low permeability, unlikely to contain a continuous shallow groundwater body or be in hydraulic continuity with the surface watercourses and are likely to retard the downward or lateral migration of contaminants over distance.

A10.1.4.4.2 Potential Receptors

56 The Alluvium, localised across the north of Study Area 1, is classed as a Secondary A Aquifer. The Mercia Mudstone Group bedrock is classed as a Secondary B Aquifer. The north-west of Study Area 1 is within a Zone 3 SPZ, and as such, groundwater is considered a potentially sensitive receptor.

57 The course of The Beck defines the northern limits of Study Area 1. This feature is considered to represent the main surface waters receptor, however the absence of identified on-site sources and limited lateral migration potential of the bedrock geology would indicate no significant risk to these water bodies.

58 During operation of the Development it is not envisaged that there would be any full-time occupancy, however it is expected that there would be periodic requirements for maintenance work/checks. The risks posed to maintenance workers are considered to be negligible given the historical site usage, low risk of contact with residual soils, likely absence of shallow groundwater and adoption of best working practises.

59 Off-site users are unlikely to be adversely impacted by any study area derived contaminants and off-site users have therefore also been discounted as significant receptors.

60 The assessment does not consider the risk to construction workers. These risks would be managed through appropriate Health & Safety legislation via the H&S At Work Act (1974) and in accordance with the Construction Design and Management (CDM, 2015) regulations.

61 Based on the identified potential sources and the site setting there is not considered to be a significant risk to ecological receptors (Eakring and Maplebeck Meadows SSSI), crops/vegetation or archaeological receptors from contamination.

A10.1.4.5 OUTLINE CONCEPTUAL SITE MODEL

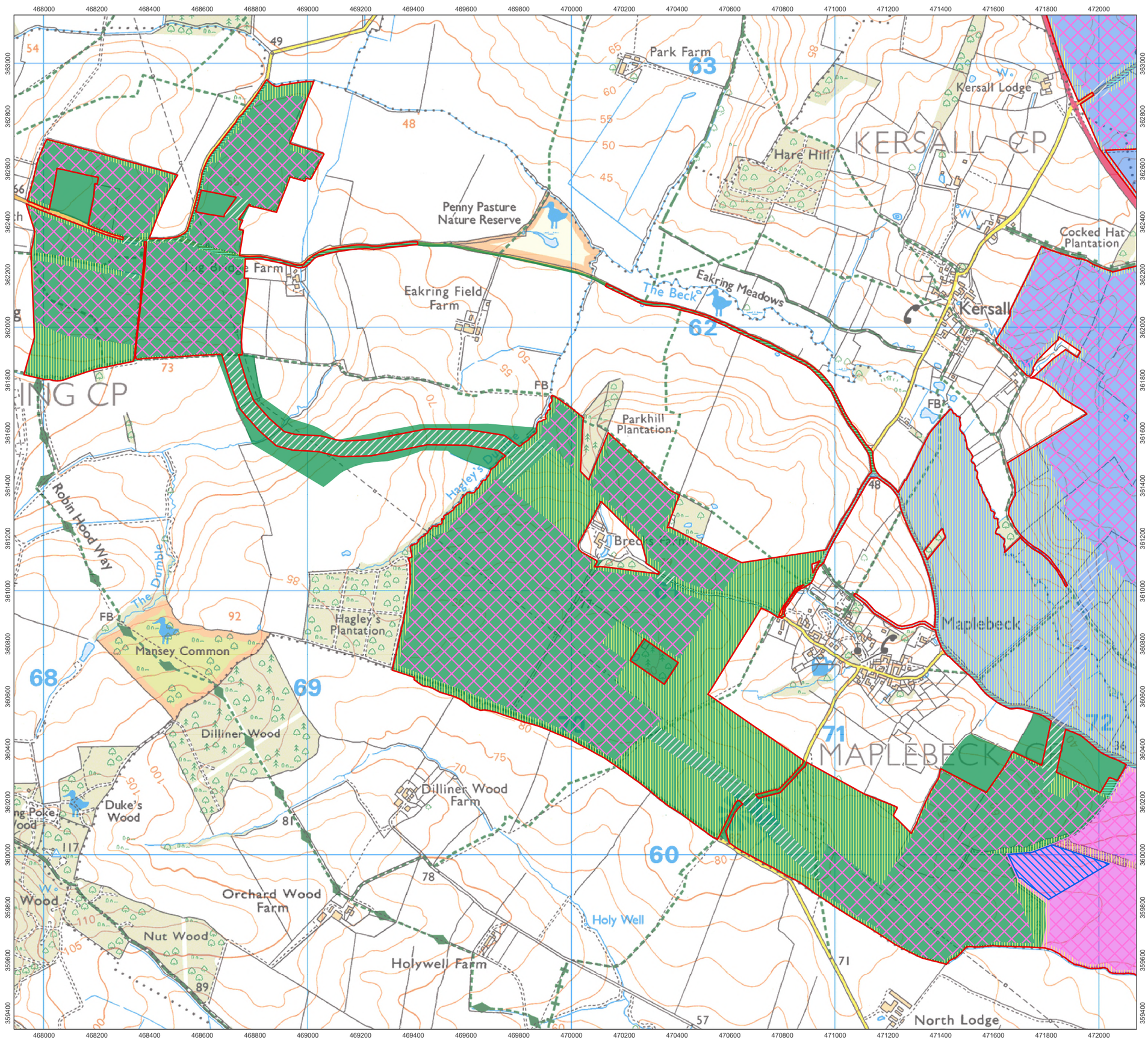
62 Given the lack of potentially significant historical or current contamination sources associated with Study Area 1, it is considered that there is negligible risk posed to human health, controlled waters, sensitive environmental receptors or buildings, buried structures or services.

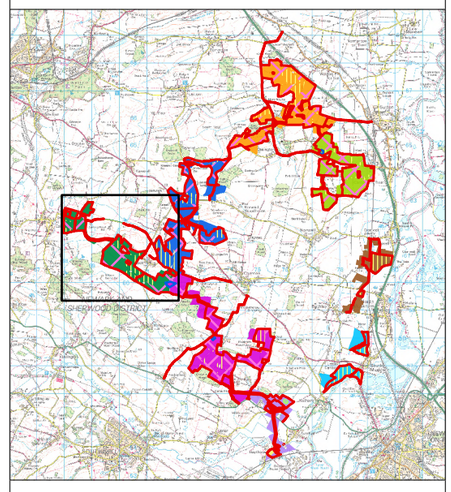
A10.1.5 CONCLUSIONS AND RECOMMENDATIONS

A10.1.5.1 PRELIMINARY GEO-ENVIRONMENTAL CONCLUSIONS

63 No significant potential contaminative sources or pathways have been identified for Study Area 1 that could impact on the potential receptors established in the PRA. Therefore, it is considered that no further works, in the form of intrusive ground investigations or assessments, are required relating to ground conditions / contamination for this Study Area, based on its former and current use.

A10.1.6 ANNEX A – FIGURES





1:14,000 Scale @ A3

0 0.13 0.25 0.5 km

Ref: NP12850 | Date: 11/06/2025

Study Area 1
Figure A10.1.1

Great North Solar and Biodiversity Park Environmental Statement

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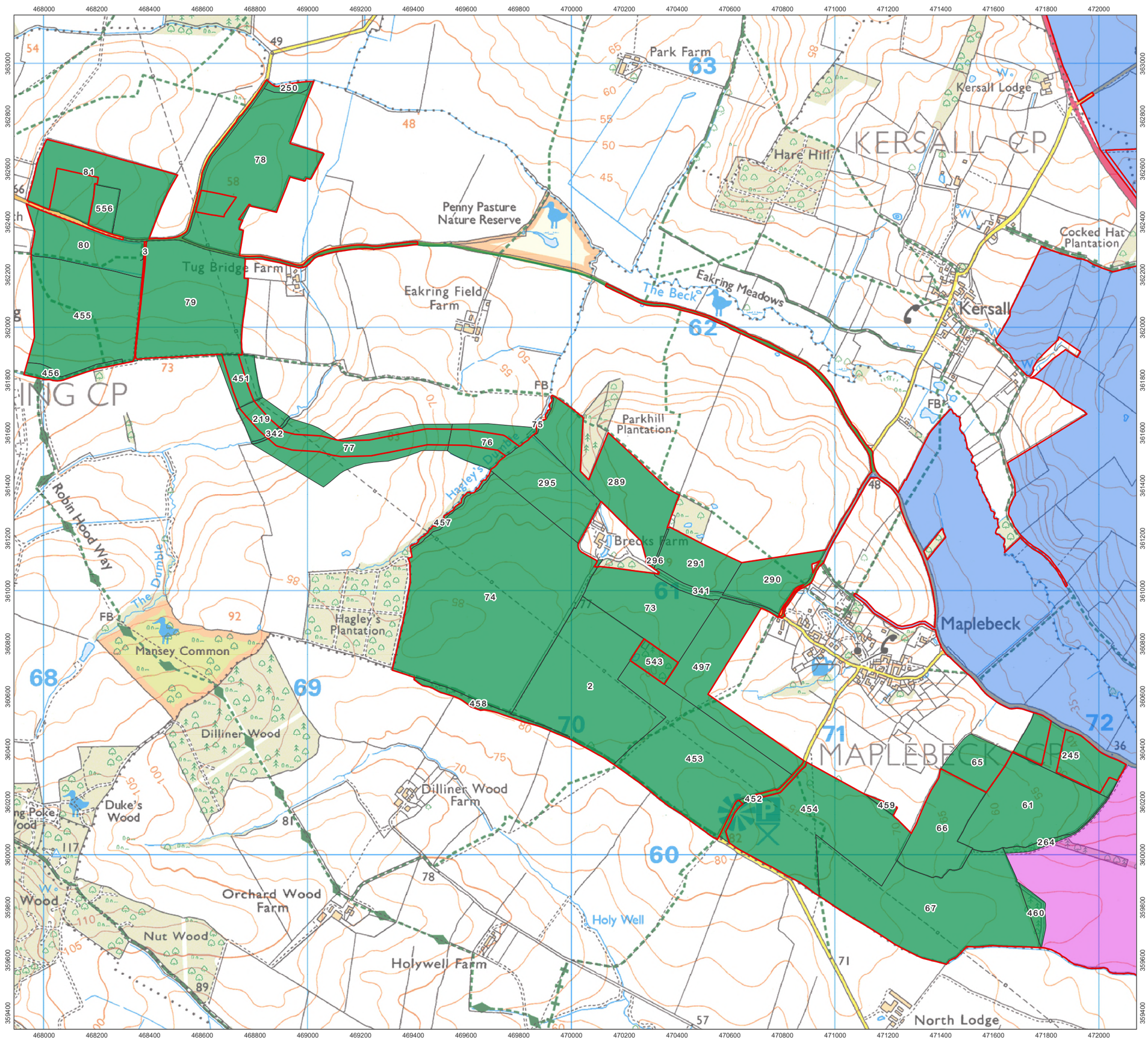
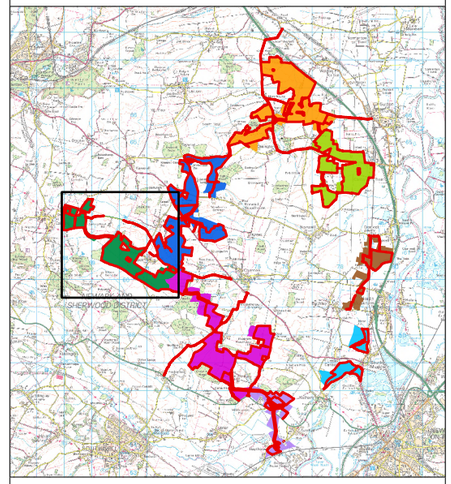


Order Limits
Field Boundaries
Study Area 1
Study Area 2
Study Area 8



1:14,000 Scale @ A3

0 0.13 0.25 0.5 km

Ref: NP12850 | Date: 11/06/2025

Study Area 1 Field Boundaries
Figure A10.1.2

Great North Solar and Biodiversity Park
Environmental Statement

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A10.1.7 ANNEX B - PRA METHODOLOGY

A10.1.7.1 INTRODUCTION

64 This report provides available factual data for the site obtained only from the sources described below and related to the site on the basis of the location provided by the Applicant. The desk study information is not necessarily exhaustive and further information relevant to the site may be available from other sources.

65 This report is written in the context of an agreed scope of work and should not be used in a different context. Furthermore, new information and changes in legislation may necessitate a re-interpretation of the report in whole or in part after its original submission. The report is provided for sole use by the client and is confidential to them and their professional advisors. No reliance whatsoever is provided to any party other than the Applicant unless otherwise agreed.

A10.1.7.2 INFORMATION SOURCES

A10.1.7.2.1 Current and Historical Land Use

66 This section establishes the former and current uses of the Study Area and within a 250 m data search radius, which could have caused contamination. Details of the Development including current land use and location provided by the Applicant.

67 Information about the history of the Study Area and a 250 m radius, has been obtained through an inspection of historical maps at 1:10,000, 1:10,560, 1:2,500 and 1:1,250 scales and historical aerial photographs (where available). The accuracy of maps cannot be guaranteed, and it should be recognised that different conditions on-site may have existed between, and subsequent to, the map survey dates.

A10.1.7.2.2 Regulatory Records

68 Regulatory records including landfills, pollution incidents (‘major’ and ‘significant’ only), industry authorisations and licensed water abstractions are derived from information purchased from Groundsure Ltd (unless otherwise specified).

A10.1.7.2.3 Environmental Setting

69 The geological sequence underlying the Study Area and the approximate depths of strata are provided by maps published by the British Geological Survey (BGS) 1:50,000 scale and available borehole records held by the BGS.

70 The hydrogeological classification is obtained from Groundwater Vulnerability mapping by the BGS/EA/National Resources Wales (NRW). The vulnerability of groundwater is determined from this mapping and geological information.

71 The location of surface watercourses has been obtained from an inspection of current OS maps. Flood risk details and information on groundwater

Source Protection Zones were obtained from readily available EA/NRW information published on-line and supplied by Groundsure Ltd.

72 Details of sensitive ecosystems/habitats and coal mining areas were supplied by Natural England and the Coal Authority respectively via Groundsure Ltd and inspection of the MAGIC website.

73 Radon is a radioactive gas produced naturally by certain types of geology. This report uses the Indicative Atlas of Radon in England and Wales (2007) produced by the Health Protection Agency (HPA) and the British Geological Survey (BGS) to determine whether the Study Area is located in an area at risk from radon gas. Where potential issues are identified, a site-specific radon report is obtained from the HPA and BGS to provide a more accurate estimate of the probability of the site being affected by radon gas ingress.

A10.1.8 ANNEX C – ASSUMPTIONS AND LIMITATIONS

75 A "desk study" means that no site visits have been carried out as part of an assessment, unless otherwise specified.

76 This report provides available factual data for the Study Area obtained only from the sources described in the text and related to the Study Area and a 250 m radius, where relevant, on the basis of the location information provided by the Applicant.

77 The desk study information is not necessarily exhaustive and further information relevant to the Study Area may be available from other sources.

78 The accuracy of maps cannot be guaranteed, and it should be recognised that different conditions within the Study Area may have existed between and subsequent to the various map surveys.

79 No sampling or analysis has been undertaken in relation to this desk study.

80 Any borehole data from British Geological Survey sources is included on the basis that: "The British Geological Survey accept no responsibility for omissions or misinterpretation of the data from their Data Bank as this may be old or obtained from non-BGS sources and may not represent current interpretation".

81 Where any data supplied by the Applicant or from other sources, including that from previous site investigations, have been used it has been assumed that the information is correct. No responsibility can be accepted by RPS for inaccuracies in the data supplied by any other party.

82 This report is prepared and written in the context of an agreed scope of work and should not be used in a different context. Furthermore, new information, improved practices and changes in legislation may necessitate a re-interpretation of the report in whole or in part after its original submission.