Cottam Solar Project

Environmental Statement:

Chapter 11: Ground Conditions and Contamination

Prepared by: Delta Simons

January 2023

PINS reference: EN010133

Document reference: APP/C6.2.11

APFP Regulation 5(2)(a)

Cottam
SOLAR PROJECT

Contents

Issue Sheet

Report Prepared for: Cottam Solar Project Ltd.
DCO Submission

Environmental Statement:
Ground Conditions and Contamination

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Date: January 2023

Revision: [02]

11 Ground Conditions and Contamination

11.1 Introduction

11.1.1 The Ground Conditions and Contamination chapter of the Environmental Statement (ES) considers the land comprising the Scheme which includes Cottam 1, Cottam 2 and Cottam 3 (divided in to Cottam 3a and 3b) (the 'Sites'); and the associated Cable Route Corridor. The Scheme, which is assessed in this chapter, is described in Chapter 4 of the ES, Scheme Description **[EN010133/APP/C6.2.4].**

11.1.2 This chapter discusses the historical and current uses of the Sites and Cable Route Corridor with respect to the underlying geology, hydrogeology and hydrology and evaluates the potential impact of the Scheme on sensitive receptors during its construction, operational, and decommissioning phases in relation to sensitive receptors (human health and controlled waters).

11.1.3 This chapter is supported by the following Appendices which should be read for details on the target Sites:

- **Appendix 11.1** - Preliminary Geo-Environmental Risk Assessment, Cottam Solar Project – Cottam 1, Delta-Simons Project Ref. 21-1088.02, dated November 2021 **[EN010133/APP/C6.3.11.1]**;
- **Appendix 11.2** - Preliminary Geo-Environmental Risk Assessment, Cottam Solar Project – Cottam 2, Delta-Simons Project Ref. 21-1088.02, dated November 2021 **[EN010133/APP/C6.3.11.2]**;
- **Appendix 11.3** - Preliminary Geo-Environmental Risk Assessment, Cottam Solar Project – Cottam 3, Delta-Simons Project Ref. 21-1088.02, dated November 2021**[EN010133/APP/C6.3.11.3]**; and
- **Appendix 11.4** - Preliminary Geo-Environmental Risk Assessment, Cottam Solar Project – Cable Corridor, Delta-Simons Project Ref. 21-1088.04, dated July 2022 **[EN010133/APP/C6.3.11.4].**

11.1.4 The Preliminary Geo-Environmental Risk Assessments are sometimes referred to as PRAs in this Chapter. Due to design evolution and Scheme refinement, the site plans in the PRAs cover a greater extent of land than that subject of the DCO application (the 'Order Limits'). As such, the PRAs provide complete and comprehensive coverage of the land subject of the DCO application. The PRAs and this chapter has been produced by Delta-Simons Limited (see Statement of Competence at Appendix 1.1 of the ES **[EN010133/APP/C6.3.1.1]**).

11.2 Consultation

11.2.1 A summary of the consultation responses related to contaminated land and ground conditions is detailed in Table 11.1 below.

Table 11.1: Consultation and Responses

Consultee	Comments / Matters Raised	Response / Matters Addressed
Phase One Consultation – Scoping		
The Planning Inspectorate (PINS), (9th March 2022)	Scoping Report paragraph 10.5.1 proposed to scope out ground conditions and contamination impacts from Cottam 1 to 3 sites from the ES on the basis that the potential for impacts is low and mitigation measures will reduce potential impacts to negligible. Appendix 10 provides a Preliminary Risk Assessment (PRA) for Cottam Sites 1 to 3. This sets out potential sources of contamination and contamination pathways; only limited contamination sources and pathways have been identified at each site and mitigation measures are described and committed to in Scoping Report paragraph 10.4.7 and 10.4.12. It is noted that for Cottam 1 and 2, ground gas sources have been identified and it is recommended that a further limited investigation be carried out once the site layout design is complete. The Inspectorate is content to scope out ground conditions and contamination at the Cottam three site on the basis of the PRA information. In light of the identified ground gas source at Cottam one and two sites, the ES should include an assessment of impacts arisings from ground gas sources where significant effects are likely to occur and describe and secure any associated mitigation. The approach to ground gas emission assessment should be agreed with the local planning authority, where possible.	Following the issuing of the Scoping Report by PINS , Cottam 3 has been scoped out of the assessment in respect of ground conditions and contamination. With relation to Cottam 1 and 2 the risk from ground gases is addressed in Section 11.6 of this ES Chapter. Additional assessment has been undertaken following confirmation of the proposed site layout. No specific mitigation measures are considered to be required.
Phase Two Statutory Consultation		
Bassetlaw District Council (27th July 2022)	Again it is acknowledged that the cabling element in this regard is less advanced. There are no further comments to make at this stage.	A formal Preliminary Risk Assessment has been undertaken for the Cable Route Corridor, with potential impacts

		considered within this chapter.
Environment Agency (21st July 2022)	We have reviewed the following documents in relation to the protection of the controlled water environment in the vicinity of the sites. • Environmental Impact Assessment Scoping Report January 2022 (in particular Chapter 11 relating to land contamination); • Appendices 11.1 –11.3 Preliminary Geo-Environmental Risk Assessments for each of the 3 sites. We are satisfied with the information presented and conclusions reached in relation to risks from contamination. We have no further comments to make at this stage.	No response required.
West Lindsey District Council (27th July 2022)	The preliminary findings are noted and that "The following potential contaminant linkages were assessed and the PRAs indicate that the risk is generally classified as Moderate to Minor across Cottam 1, 2 and 3" and that with mitigation "the potential effects of contamination or risk of contamination will be negligible and not significant."	No response required.

11.3 Policy Context

Legislation

11.3.1 The main legislative drivers for managing risks to human health and the environment from land contamination include;

- Part IIA of the Environmental Protection Act (1990);
- Contaminated Land (England) Regulations (2006);
- Groundwater Regulations,1998;
- Water Resources Act (1991);
- Environment Act (1995); and
- The Groundwater Directive (2006).

11.3.2 Part IIA of the Environmental Protection Act 1990 (EPA 1990) provides for the identification and remediation of contaminated land where it poses unacceptable levels of risk. Section 78A(2) of the EPA 1990, provides the definition of "contaminated land" for the purposes of Part IIA, which is:

(2) "Contaminated Land" is any land which appears to the local authority in whose area it is situated to be in such a condition, by reason of substances in, on or under the land, that –

a) significant harm is being caused or there is a significant possibility of such harm being caused; or

b) significant pollution of controlled waters is being caused or there is a significant possibility of such pollution being caused…".

In Section 78A(4) of the EPA 1990 "harm" is defined as meaning "harm to the health of living organisms or other interference with the ecological systems of which they form part and, in the case of man, includes harm to his property'."

11.3.3 In addition, Sections 161 to 161D of the Water Resources Act 1991 gives powers to the Environment Agency (EA) to take action to prevent or remedy the pollution of controlled waters. A "works notice" served under Section 161A specifies what works or operations have to be carried out and in what time periods. A "works notice" is served on any responsible person where it appears that:

- any poisonous, noxious or polluting matter or any waste matter is or has been present in, or is likely to enter, any controlled waters; or
- any controlled waters are being or have been harmed, or are likely to be harmed, by any event, process or other source of potential harm.

Guidance

11.3.4 The statutory government guidance to Part 2A (DEFRA, 2012), describes the concept of the 'contaminant linkage' in Sections 3.8 to 3.11.This states as follows:

3.8 "Under Part 2A, for a relevant risk to exist there needs to be one or more contaminant-pathway-receptor linkages – "contaminant linkage" – by which a relevant receptor might be affected by the contaminants in question. In other words, for a risk to exist there must be contaminants present in, on or under the land in a form and quantity that poses a hazard, and one or more pathways by which they might significantly harm people, the environment, or property; or significantly pollute controlled waters. For the purposes of this Guidance:

a) A "contaminant" is a substance which is in, on or under the land and which has the potential to cause significant harm to a relevant receptor, or to cause significant pollution of controlled waters.

b) A "receptor" is something that could be adversely affected by a contaminant, for example a person, an organism, an ecosystem, property, or controlled

waters. The various types of receptors that are relevant under the Part 2A regime are explained in later sections.

c) A "pathway" is a route by which a receptor is or might be affected by a contaminant.

3.9 The term "contaminant linkage" means the relationship between a contaminant, a pathway and a receptor. All three elements of a contaminant linkage must exist in relation to particular land before the land can be considered potentially to be contaminated land under Part2A, including evidence of the actual presence of contaminants. The term "significant contaminant linkage", as used in this Guidance, means a contaminant linkage which gives rise to a level of risk sufficient to justify a piece of land being determined as contaminated land. The term "significant contaminant" means the contaminant which forms part of a significant contaminant linkage.

3.10 In some cases the local authority may encounter land where risks are presented by groups of substances which are likely to behave in the same manner, or a substantially very similar manner, in relation to the risks they may present (e.g. as may be the case with organic substances found in oils). For the purposes of identifying and assessing contaminant linkages and taking regulatory decisions in relation to such linkages, the local authority may treat such groups of contaminants as being in effect a single contaminant and multiple contaminant linkages as being in effect a single contaminant linkage. The authority should only do this if there is a scientifically robust reason for doing so, and it should state clearly why this approach has been taken in relevant documentation (including the risk summary discussed later in this Section) if the land is later determined as contaminated land.

3.11 In considering contaminant linkages, the local authority should consider whether:

a) The existence of several different potential pathways linking one or more potential contaminants to a particular receptor, or to a particular class of receptors, may result in a significant contaminant linkage.

b) There is more than one significant contaminant linkage on any land. If there are, the authority should consider whether or not each should be dealt with separately, since different people may be responsible for the remediation of individual contaminant linkages."

11.3.5 The UK government guidance titled 'Land affected by contamination', updated in July 2019, provides guiding principles on the role of planning when dealing with land which may be affected by contamination. To ensure a site is suitable for its new use and to prevent unacceptable pollution risk, the implications of contamination for development should be considered through the planning process where it is not addressed by other regimes. Those regimes include the system for identifying and remediating statutorily defined contaminated land under Part 2A of the EPA 1990,

Building Regulations and Environmental Permitting Regulations. Guidance is also provided as to how to determine if land is contaminated through the use of several recommended data sources (such as River Basin Management Plans, National Land Use Database, Historical Ordnance Survey Maps, local planning authority records and Natural England's MAGIC site).

11.3.6 The EA's, 'Managing and reducing land contamination: guiding principles', issued in March 2010 and updated in April 2016, sets out how to undertake a risk assessment focusing on risks to water, how to undertake a remediation options appraisal and how to implement remediation.

11.3.7 Further relevant UK Guidance relevant to this chapter includes;

- British Standard BS 5930: Code of practice for ground investigations
- British Standard BS 8485: Code of practice for the design of protective measures for methane and carbon dioxide ground gases for new buildings
- British Standard BS 8576: Guidance on investigations for ground gas – permanent gases and volatile organic compounds
- CIRIA C665: Assessing risks posed by hazardous ground gases to buildings

Policy

11.3.8 National Policy Statements (NPSs) form a principal part of the decision-making process for Nationally Significant Infrastructure Projects (NSIPs); the policy statements of relevance to the Scheme are:

- The Overarching NPS for Energy (EN-1) (Department of Energy and Climate Change (DECC) 2011a)
- NPS for Renewable Energy Infrastructure (EN-3)
- NPS for Electricity Networks Infrastructure (EN-5)

11.3.9 In addition, the Government published a suite of Draft Energy NPSs for consultation in September 2021. These include the following Draft NPSs, which are expected to be important and relevant to the Secretary of State's decision and, for that reason, have been taken into account for the assessment:

- Draft Overarching NPS for Energy (EN-1) (Draft NPS EN-1),
- Draft NPS for Renewable Energy (EN-3) (Draft NPS EN-3)
- Draft NPS for Electricity Networks Infrastructure (EN-5) (Draft NPS EN-5).

11.3.10 Sections of the NPSs relevant to this chapter include;

- EN-1 Paragraph 5.10.5 - The ES should identify existing and proposed land uses near the project, any effects of replacing an existing development or use of the site with the proposed project or preventing a development or use on a neighbouring site from continuing. Applicants should also assess any effects of precluding a new development or use proposed in the development plan.

- EN-1 Paragraph 5.10.7 - During any pre-application discussions with the Applicant the LPA (Local Planning Authority) should identify any concerns it has about the impacts of the application on land use, having regard to the development plan and relevant applications and including, where relevant, whether it agrees with any independent assessment that the land is surplus to requirements.
- EN-1 Paragraph 5.10.8 - Applicants should seek to minimise impacts on the best and most versatile agricultural land (defined as land in grades 1, 2 and 3a of the Agricultural Land Classification) and preferably use land in areas of poorer quality (grades 3b, 4 and 5) except where this would be inconsistent with other sustainability considerations. Applicants should also identify any effects and seek to minimise impacts on soil quality taking into account any mitigation measures proposed. For developments on previously developed land, Applicants should ensure that they have considered the risk posed by land contamination.

11.3.11 Sections of the Draft NPSs relevant to this chapter include:

- Draft NPS EN-1 Paragraph 5.11.8 - For developments on previously developed land, applicants should ensure that they have considered the risk posed by land contamination, and where contamination is present, applicants should consider opportunities for remediation where possible. Applicants are encouraged to develop and implement a Soil Management Plan which could help minimise potential land contamination.
- Draft NPS EN-3 Paragraph 2.48.13 - Solar is a highly flexible technology and as such can be deployed on a wide variety of land types. Where possible, ground mounted Solar PV projects should utilise previously developed land, brownfield land, contaminated land, industrial land, or agricultural land preferably of classification 3b, 4, and 5 (avoiding the use of "Best and Most Versatile" cropland where possible). However, land type should not be a predominating factor in determining the suitability of the site location.
- Draft NPS EN-3 – Paragraph 2.48.14 - The Agricultural Land Classification (ALC) is the only approved system for grading agricultural quality in England and Wales and should be used to establish the ALC and identify the soil types to inform soil management at the construction, operation and decommissioning phases. This should be extended to the underground cabling and access routes. The soil survey may also inform the suitable beneficial use of the land during the operational phase. Criteria for grading the quality of agricultural land using the Agricultural Land Classification (ALC) of England and Wales is decided by Natural England and considerations relating to land classification are expected to be made with reference to this guidance, or any successor to it.
- Draft NPS EN-3 – Paragraph 2.48.15 - Whilst the development of ground mounted solar arrays is not prohibited on sites of agricultural land classified

1, 2 and 3a, or designated for their natural beauty, or recognised for ecological or archaeological importance, the impacts of such are expected to be considered and are discussed under paragraphs 2.50 and 2.53. It is recognised that at this scale, it is likely that applicants' developments may use some agricultural land, however applicants should explain their choice of site, noting the preference for development to be on brownfield and non-agricultural land.

11.3.12 **Chapter 19** of the ES **Soils and Agriculture [EN010133/APP/APP/C6.2.19]** should be consulted for details on the Agricultural Land Classification of the Scheme.

11.3.13 The NPPF (Ministry of Housing, Communities and Local Government (MHCLG), 2021) does not contain specific policies relating to NSIPs. However, some policy requirements detailed in the NPPF are relevant to this chapter, namely:

- Planning policies and decisions should contribute to and enhance the natural and local environment by, inter alia: preventing new and existing development from contributing to, being put at unacceptable risk from, or being adversely affected by, unacceptable levels of soil, air, water or noise pollution or land instability; and remediating and mitigating despoiled, degraded, derelict, contaminated and unstable land, where appropriate. (Paragraph 174 (e) and (f)).
- Planning policies and decisions should also ensure that: a) a site is suitable for its proposed use taking account of ground conditions and any risks arising from land instability and contamination. This includes risks arising from natural hazards or former activities such as mining, and any proposals for mitigation including land remediation (as well as potential impacts on the natural environment arising from that remediation); b) after remediation, as a minimum, land should not be capable of being determined as contaminated land under Part IIA of the EPA 1990; c) adequate site investigation information, prepared by a competent person, is available to inform these assessments. (Paragraph 183).
- Where a site is affected by contamination or land stability issues, responsibility for securing a safe development rests with the developer and/or landowner. (Paragraph 184).
- Planning policies and decisions should ensure that new development is appropriate for its location taking into account the likely effects (including cumulative effects) of pollution on health, living conditions and the natural environment, as well as the potential sensitivity of the site or the wider area to impacts that could arise from the development. (Paragraph 185).
- The focus of planning policies and decisions should be on whether proposed development is an acceptable use of land, rather than the control of processes or emissions (where these are subject to separate pollution control regimes). Planning decisions should assume that these regimes will operate effectively. Equally, where a planning decision has been made on a particular

development, the planning issues should not be revisited through the permitting regimes operated by pollution control authorities. (Paragraph 188).

11.3.14 The Sites are located within the jurisdiction of West Lindsey District Council. The West Lindsey Local Plan was replaced by the Central Lincolnshire Local Plan on 24th April 2017. Local Policy 16 - *Development on Land Affected by Contamination* is relevant to this chapter, which details;

- Development proposals must take into account the potential environmental impacts on people, biodiversity, buildings, land, air and water arising from the development itself and any former use of the site, including, in particular, adverse effects arising from pollution.
- Where development is proposed on a site which is known to be or has the potential to be affected by contamination, a preliminary risk assessment should be undertaken by the developer and submitted to the relevant Central Lincolnshire Authority as the first stage in assessing the risk of contamination.
- Proposals will only be permitted if it can be demonstrated that the site is suitable for its proposed use, with layout and drainage taking account of ground conditions, contamination and gas risks arising from previous uses and any proposals for land remediation, with no significant impacts on future users, neighbouring users, groundwater or surface waters.

11.3.15 The Cable Route Corridor is located within West Lindsey District Council and Bassetlaw District Council. Bassetlaw's Local Plan was published in July 2022 and Policy 49 – *Contaminated and Unstable Land is relevant to this chapter, which details;*

- Where development is considered to be on contaminated land and/or unstable land, through an appropriate contamination assessment and/or land instability risk assessment, proposals should:

a) ensure that all works, including investigation of the nature of any contamination or land instability, and removal of materials can be undertaken without causing unacceptable risk to health, waterways, or to the environment;

b) identify the nature and extent of existing unstable land and/or contaminated land and the level of risk that contaminants/instability could pose in relation to the proposed development and its users, and adjoining land;

c) ensure appropriate mitigation measures are identified and implemented which are suitable for the proposed use and that the occupiers and neighbouring uses are not exposed to an unacceptable level of risk; d) demonstrate that the developed site, will be suitable for the proposed use without risk from contaminants/instability to people, buildings, services or the environment including the apparatus of statutory undertakers.

11.4 Assessment Methodology and Significance Criteria

11.4.1 The site's baseline conditions have been established by way of reference to a variety of information sources including, though not limited to, the following:

- Records held by environmental data provider Envirocheck (including historical maps, hydrogeological maps, groundwater Source Protection / Vulnerability Zones, abstraction wells / boreholes, discharge consents and pollution incidents, registers of contaminated sites, former and current landfills etc.);
- Online information (British Geological Survey (BGS) online mapping and borehole records etc.); and
- Previous Delta-Simons Preliminary Risk Assessments(included within the Preliminary Environmental Information Report (PEIR), at the statutory consultation stage;
    - Preliminary Geo-Environmental Risk Assessment, Cottam Solar Project – Cottam 1, Delta-Simons Project Ref. 21-1088.02, dated November 2021;
    - Preliminary Geo-Environmental Risk Assessment, Cottam Solar Project – Cottam 2, Delta-Simons Project Ref. 21-1088.02, dated November 2021;
    - Preliminary Geo-Environmental Risk Assessment, Cottam Solar Project – Cottam 3, Delta-Simons Project Ref. 21-1088.02, dated November 2021; and
    - Preliminary Geo-Environmental Risk Assessment, Cottam Solar Project – Cable Corridor, Delta-Simons Project Ref. 21-1088.04, dated July 2022.

11.4.2 The Sites' baseline conditions are used to form a Conceptual Site Model (CSM) which considers the sources of contamination and potential pathways to determine the risk to a receptor and provide a qualitative risk assessment via the 'contaminant linkage' method described in Section 11.3. above.

11.4.3 This chapter utilises the Preliminary Risk Assessments, to define likely significant environmental effects by assessing the sensitivity and magnitude of impact by considering the nature of the change, its severity, the duration of an effect, the likelihood of an effect occurring, and the relative extent of the effects of contamination to the receptor. Therefore, the assessment has been based on a qualitative assessment and professional judgement. Potential effects in terms of ground conditions tend to be local, either within the Site boundary or adjacent to the Site, given the nature of potential sources of contamination also generally being localised with the exception of naturally occurring elevated contaminants. Therefore, the effects have not been considered in relation to different geographical contexts.

11.5 Baseline Conditions

11.5.1 The baseline conditions are summarised for the Sites and the Cable Route Corridor below. This description is provided given it forms the basis of the CSM, identifies potential sources, pathways and receptors. The information is summarised from the

PRAs included in **Appendices 11.1-11.4** of this ES Chapter, which provide further details in combination with up-to-date online data from sources such as the British Geological Survey and EA.

Cottam 1

Site and Surrounding Area

11.5.2 Cottam 1 consists of a series of agricultural fields (referred to as Fields A to G as shown on Drawing 1 within **Appendix 11.1**) separated by hedgerows, drains and occasional trees. The fields are accessed via existing farm tracks.

11.5.3 Cottam 1 is centered around the village of Coates.

11.5.4 Three concrete slabs are present in the southern and western areas of Field D and northern area of Field C.

11.5.5 A number of farmyards, residential dwellings and woodland areas are encompassed by Cottam 1 in the southern and northern areas.

11.5.6 Overhead electrical powerlines and associated pylons are present across Fields D and E in the southern and western areas.

11.5.7 The surrounding area is predominantly rural agricultural land with the villages of Willingham by Stow, Sturton by Stow and Normandy by Stow to the west, Ingham to the east and Scampton to the south east.

Geology

11.5.8 Published British Geological Survey (BGS) data indicates Cottam 1 to be underlain by superficial Till (Diamicton), Alluvium (Clay, Silt, Sand and Gravel), Glacio-fluvial Deposits (Sand and Gravel) and River Terrace Deposits (Sand and Gravel), as follows:

- Field A - Till across the majority of the area with Alluvium in the north west;
- Field B - Till across the majority of the area with Alluvium in the east and west;
- Field C - Till in the south and east with a band of Alluvium running through the central area in an east-west orientation. River Terrace Deposits may encroach along the south western boundary;
- Field D - Till in the south and east with a band of Alluvium in the north east and running through the western area in a north-south orientation. Glacio-fluvial deposits are mapped in the west. No superficial deposits are mapped in some western and eastern areas;
- Field E - No superficial deposits mapped across the majority of the area with a band of Alluvium along the east and northern boundaries;
- Field F - No superficial deposits are mapped across the majority of the area with a band of Alluvium running through the central area in a south east to north west orientation; and

- Field G - No superficial deposits are mapped across the majority of the area with River Terrace Deposits in the south east.

11.5.9 The bedrock is mapped as the Charmouth Mudstone Formation across the eastern areas (Field A, B, C and the majority of D and most eastern area of E) and the Scunthorpe Mudstone Formation (Mudstone and Limestone) across the western areas (Field F, G, most western area of D and majority of E).

11.5.10 Made Ground is anticipated in the three concrete storage areas, however, it is likely to be limited in thickness.

Hydrogeology

11.5.11 The EA classify the superficial Till as a Secondary Undifferentiated Aquifer and the Alluvium, Glacio-fluvial and River Terrace Deposits as Secondary A Aquifers.

11.5.12 Bedrock of the Charmouth Mudstone Formation is classified as a Secondary Undifferentiated Aquifer and the Scunthorpe Mudstone Formation is classified as a Secondary B Aquifer.

11.5.13 The EA also indicate that Cottam 1 is not located within a Groundwater Source Protection Zone (SPZ).

11.5.14 There are no licensed groundwater abstractions recorded within 500 m of Cottam 1.

Hydrology

11.5.15 There are a series of unnamed drains across Cottam 1 and along the boundary.

11.5.16 The River Till is present in the western area and dissects, or is present along the boundary of Fields D, E and F.

Mining

11.5.17 Coal Authority data indicates Cottam 1 is not within a Coal Mining Reporting Area. As such a Coal Mining Assessment is not required under the planning regime.

11.5.18 There are no BGS recorded mineral sites on or in the immediate area.

Historic Summary

11.5.19 Cottam 1 has remained largely undeveloped and comprises a series of agricultural fields with associated drains, ponds and sparse areas of development associated with concrete hardstanding for storage and development in the north western area of Field D.

11.5.20 Ponds in the central area of field A and B, the north western area of field D and northern and southern areas of Field G are all noted to have been potentially infilled.

11.5.21 Development in Field D was no longer mapped by the 1980's and assumed demolished.

Cottam 2

Site and Surrounding Area

11.5.22 Cottam 2 consists of a series of agricultural fields separated by hedgerows, drains and occasional trees. The fields are accessed via existing farm tracks.

11.5.23 A farmyard and residential house are present adjacent to the central area with associated vehicular access route.

11.5.24 Corringham Beck and Yewthorpe Beck are present along the northern and eastern boundaries, respectively.

11.5.25 The surrounding area predominantly comprises rural agricultural land with the village of Corringham to the west.

Geology

11.5.26 Published BGS data indicates Cottam 2 to be underlain by superficial Till (Diamicton) across the majority of the Site with superficial Alluvium (Clay, Silt, Sand and Gravel) along the eastern and north eastern area.

11.5.27 The bedrock is mapped as the Scunthorpe Mudstone Formation (Mudstone and Limestone).

Hydrogeology

11.5.28 The EA classify the superficial Till and Alluvium as Secondary Undifferentiated and Secondary A Aquifers, respectively.

11.5.29 Bedrock of the Scunthorpe Mudstone Formation is classified as a Secondary B Aquifer.

11.5.30 The EA also indicate that Cottam 2 is not located within a Groundwater Source Protection Zone (SPZ).

11.5.31 There are three licensed groundwater abstraction records within 500 m of Cottam 2. All of which are located approximately 480 m north east and relate to extraction for use in the petrochemical industry.

Hydrology

11.5.32 There are a series of unnamed drains across Cottam 2 and along the boundary.

11.5.33 Corringham Beck and Yewthorpe Beck are present along the western and eastern boundaries, respectively.

Mining

11.5.34 Coal Authority data indicates Cottam 2 is not within a Coal Mining Reporting Area. As such a Coal Mining Assessment is not required under the planning regime.

11.5.35 There are no BGS recorded mineral sites on or in the immediate area.

Historic Summary

11.5.36 Cottam 2 has remained undeveloped and comprises a series of agricultural fields with associated drains.

11.5.37 A pond was located in the northern area prior to 1999 and was potentially infilled.

Cottam 3a and 3b

Site and Surrounding Area

11.5.38 Cottam 3 consists of a series of agricultural fields (referred to as Fields J (Cottam 3b) and K (Cottam 3a) as shown in Drawing 1 of **Appendix 11.3** to this Chapter) separated by hedgerows, drains and occasional trees. The fields are accessed via existing farm tracks.

11.5.39 Field K historically formed Blyton Airfield, prior to reclamation as agricultural land in the 1990's.

11.5.40 An access road is present in the southern area of Field K which leads to a hay storage area.

11.5.41 The surrounding area is semi-rural with agricultural land to the east and south. Commercial properties are present to the north of Field K associated with distribution. The wider former airfield is in use as a motorsport track and driving centre. The village of Blyton is present to the south west.

Geology

11.5.42 Published BGS data indicates Cottam 3 to be underlain by superficial Till (Diamicton) across the majority of the Site with superficial Glacio-fluvial (Sand and Gravel) deposits along the western boundary.

11.5.43 The bedrock is mapped as the Scunthorpe Mudstone Formation (Mudstone and Limestone).

11.5.44 Made Ground is anticipated in developed areas, although is likely to be limited in thickness.

Hydrogeology

11.5.45 The EA classify the superficial Till as a Secondary Undifferentiated Aquifer and the Glacio-fluvial Deposits as a Secondary A Aquifer.

11.5.46 Bedrock of the Scunthorpe Mudstone Formation is classified as a Secondary B Aquifer.

11.5.47 The EA also indicate that Cottam 3 is not located within a Groundwater Source Protection Zone (SPZ).

11.5.48 There are no licensed groundwater abstractions recorded within 500 m of Cottam 3.

Hydrology

11.5.49 There are a series of unnamed drains across Cottam 3 and along the boundary.

Mining

11.5.50 Coal Authority data indicates Cottam 3 is not within a Coal Mining Reporting Area. As such a Coal Mining Assessment is not required under the planning regime.

11.5.51 There are no BGS recorded mineral sites on or in the immediate area.

Historic Summary

11.5.52 The southern Field J has remained undeveloped and comprises a series of agricultural fields with associated drains and ponds.

11.5.53 Ponds in the central and south western fields were noted prior to 1972 and were potentially infilled.

11.5.54 The northern Field K was largely undeveloped comprising agricultural fields and a residential dwelling in the southern area prior to forming part of Blyton Airfield between the 1940's and 1950's. Cottam 3 has since been reclaimed as agricultural land by the early 2000's.

Cable Route Corridor

11.5.55 The Cable Route Corridor has been reduced and altered from the version submitted at the scoping stage and the PEIR stage, as further environmental assessments have been completed and conversations with landowners have advanced since then.

11.5.56 The Cable Route Corridor links the Sites to the grid connection point as described in **Chapter 4** of the ES. The final Cable Route Corridor subject of the DCO application is shown on the **Location Plan** included at **Appendix 3.1** of the ES.

Site and Surroundings

11.5.57 The Cable Route Corridor mainly comprises agricultural land/fields and woodland. Discrete areas of development including railway lines, farmyards and an area of solar panels near Stow Park are present.

11.5.58 The Cable Route Corridor also includes an area within the operational land of Cottam Power Station, to enable the Scheme to connect to the grid via an existing sub-station.

11.5.59 A series of field drains are present across the Cable Route Corridor. The River Till is located in the southern and central areas.

11.5.60 The surrounding area is rural to semi-rural with mainly agricultural land. Residential properties associated with farms, villages and hamlets such as Stow, Willingham by Stow and Marton also bound the Cable Route. The wider Cottam Power Station (which has ceased power production) is located adjacent to the site in the western area. Discrete pockets of development comprising villages and farm buildings are present adjacent to the Cable Route Corridor. In addition, Sturgate Airfield is located adjacent to the Cable Route Corridor in the central area.

Geology

11.5.61 Published BGS data indicates that the Cable Route Corridor is underlain by superficial deposits including Till in the northern and central areas, Alluvium and the Holme Pierrepont Sand and Gravel Member in the southern areas and occasional discrete pockets of Glaciofluvial deposits in the south. The underlying bedrock is noted to comprise the Charmouth Mudstone Formation in the most eastern area, the Scunthorpe Mudstone Formation in the central and northern areas and the Penarth and Mercia Mudstone Group in the west.

Hydrogeology

11.5.62 The EA classify the superficial Alluvium, Holme Pierrepont Sand and Gravel Member and Glaciofluvial deposits as Secondary A Aquifers and the Till classifies as a Secondary (Undifferentiated) Aquifer.

11.5.63 The underlying Scunthorpe Mudstone Formation and Mercia Mudstone bedrock classify as Secondary B Aquifers and the Charmouth Mudstone Group and Penarth Group classify as Secondary (Undifferentiated) Aquifers.

11.5.64 The EA data also indicates that the Cable Route Corridor is not located within a Groundwater Source Protection Zone (SPZ).

11.5.65 There are no licensed groundwater abstractions within the Cable Route Corridor. Within the wider area abstractions relate to mineral washing (Rampton, now ceased operation) and industrial processing (Cottam Power Station).

Hydrology

11.5.66 A number of drainage ditches are present across the Cable Route Corridor.

11.5.67 The River Till is located in the southern and central area between Willingham by Stow and Stow and the River Trent is located in the west of the Cable Route Corridor adjacent to Cottam Power Station.

11.5.68 There are no licensed surface water abstractions located within the Cable Route Corridor. Within the wider area abstractions relate to spray irrigation.

Mining

11.5.69 Coal Authority data indicates that the Cable Route Corridor is not located within a Coal Mining Reporting Area and is not within a Development High Risk Area. A Coal Mining Assessment is not required under the planning regime.

11.5.70 There are two BGS Recorded Mineral Sites located within the Cable Route Corridor:

11.5.71 Rampton Quarry located south of Cottam Power Station for the opencast extraction of Alluvium. This operation is ceased, and the Site has undergone restoration; and

11.5.72 Brampton Grange Sand Pit located near Marton for the opencast extraction of material from the Holme Pierrepont Sand and Gravel Member. This operation is ceased.

Historical Summary

11.5.73 The Cable Route Corridor has largely been in use as agricultural land to present day. Discrete areas of development such as agricultural farms, private dwellings and three railway lines are present.

11.5.74 The Cable Route Corridor impacts on the Cottam Power Station operational area. Cottam Power Station first came in to operation in 1968, but ceased power generation in September 2019 and demolition began in early 2021. The sub-station and associated grid connection area that the Scheme will connect to, are to be retained.

11.6 Additional Ground Gas Assessment

11.6.1 During the preparation of the initial PRA's small and minor areas of potentially infilled ponds/Made Ground were identified across the Sites. In combination with the potential for low ground gas generation, no proposed buildings (e.g. Conversion Units and Battery Energy Storage System (BESS) as described in **Chapter 4** of the ES) are located in the vicinity of potentially infilled ponds/pits across all the Sites, reducing the risk from low (defined within the PRAs) to negligible. As such, no further assessment is required.

11.7 Identification and Evaluation of Likely Significant Effects

11.7.1 The following assessment is based on information held within the PRAs.

11.7.2 Based on the EIA Scoping Opinion issued by PINS Cottam 3a and 3b are scoped out of the assessment and not considered further.

11.7.3 A risk assessment of the identified plausible contaminated linkages has been undertaken for Cottam 1 and 2 and the Cable Route Corridor as part of the PRAs included in **Appendices 11.1 to 11.4**. The underlying principle is the evaluation of pollutant linkages via the Conceptual Site Model in order to assess whether the presence of a source of contamination could potentially lead to significant harm. A contaminant linkage consists of three elements:

- A "contaminant" is a substance which is in, on or under the land and which has the potential to cause significant harm to a relevant receptor, or to cause significant pollution of controlled waters.
- A "receptor" is something that could be adversely affected by a contaminant, for example a person, an organism, an ecosystem, property, or controlled waters. The various types of receptors that are relevant under the Part 2A regime are explained in later sections.
- A "pathway" is a route by which a receptor is or might be affected by a contaminant.

11.7.4 The baseline information has been used to identify relevant receptors and establish their sensitivity (i.e., their ability to absorb the effect without perceptible change). The receptor sensitivity criteria used in this assessment are defined in Table 11.2 below.

Table 11.2: Sensitivity Criteria

Sensitivity	Definition
High	Land to be used for human consumption (e/g agricultural, allotments), highly sensitive ecosystems (e.g. SPA, SAC, SSSI, NNR) and the receptor being a public drinking water supply.
Medium	Parks and open spaces, regional or locally sensitive ecosystems and water bodies of medium quality.
Low	Commercial or industrial land uses, low to non-sensitive ecosystems (e.g. derelict land, solar farms), water bodies of low quality and not a public water supply.

11.7.5 The magnitude of change (or impact) to ground conditions from the baseline conditions at the site as a result of the Scheme has been classified as either: high, medium, low or negligible.

11.7.6 The magnitude of impact on the receptor is detailed in Table 11.3.

Table 11.3 Magnitude of Impact

Magnitude	Definition
High	The proposal will cause the release of contamination which is significantly above guideline values (such as C4SLs, soil guidance values, SoBRA guidance values, etc. specific to the source, receptor and development) or release hazardous contamination for the operational timescale of the develop. Remediation will be required.
Medium	The proposal will cause the release of contamination close to the guidance values (such as C4SLs, soil guidance values, SoBRA guidance values, etc. specific to the source, receptor and development) during construction or operational timescale of the development. Remediation may be required.
Low	The proposals will cause the release of contamination which is below the guideline values (such as C4SLs, soil guidance values, SoBRA guidance values, etc. specific to the source, receptor and development) for short period of time. Remediation will be not required; however, mitigation measures may be used to reduce the potential impact.
Negligible	Contaminants found at very low concentrations. Remediation not required.

11.7.1 There is no published EIA guidance for transposing a risk-based contaminated land assessment into EIA.

11.7.2 In the absence of published guidance, the significance criteria in Table 11.4 have been developed with due cognisance of relevant guidance, in particular CIRIA Report

C552 'Contaminated Land Risk Assessment: A Guide to Good Practice' (Rudland et al., 2001)11, CLR11 ('Model Procedures for the Management of Land Contamination', Environment Agency, 2004)12, and professional judgement.

11.7.3 Generally, effects that are determined as being moderate or major are classed as **'significant' effects**. Where an effect has been anticipated to be negligible or minor, these are classed as 'not significant' effects.

11.7.4 The level of effect takes into account the sensitivity of the receptor and the magnitude of the change or impact. The incorporation of mitigation measures into the Scheme has the potential to alter the magnitude of impacts on 'receptors', including embedded mitigation, for example, where construction workers use appropriate Personal Protective Equipment (PPE) during the enabling works and construction activities.

Table 11.4: Criteria for assessing the significance of effects

Sensitivity Magnitude	High	Medium	Low
High	Major	Major/Moderate	Moderate
Medium	Major/Moderate	Moderate	Moderate/Minor
Low	Moderate	Moderate/Minor	Minor
Negligible	Moderate/Minor	Minor	Negligible
Neutral	Neutral	Neutral	Neutral

11.7.5 The Scheme comprises three phases, construction; operation and maintenance; and decommissioning. It is considered that the effects during construction and decommissioning are similar in both their sensitivity and magnitude. The ground conditions are unlikely to be disturbed during the operational phase, with the exception of minor maintenance works. Maintenance works would utilise the same mitigation measures for that of the construction and decommissioning. As such, the assessment below relates to all three phases of the Scheme.

Cottam 1 and 2

11.7.6 The following potential contaminant linkages identified within the PRAs indicate that the risk is generally classified as Moderate to Minor across Cottam 1 and 2 based on the absence of mitigation/control measures and site specific geo-environmental ground investigation data, as summarised in Table 11.5.

Table 11.5: Cottam 1 and 2 – Receptor Sensitivity, Magnitude and Significance

Receptor	Pathway	Magnitude	Sensitivity	Significance

Construction/ decommissioning /maintenance Workers	Direct contact/ingestion and inhalation of dust, vapours and asbestos fibres	Negligible	High	Moderate/Minor
Adjacent site users or residents	Direct contact/ingestion and inhalation of dust, vapours and asbestos fibres	Negligible	High	Moderate/Minor
Controlled waters (Underlying Aquifers and surface waters)	Leaching of contamination into groundwater and vertical/lateral migration through permeable deposits below the Site	Low	Medium	Moderate/Minor
Future site users	Direct contact/ingestion and inhalation of dust, vapours and asbestos fibres	Negligible	High	Moderate/Minor
Built Environment	Direct contact and accumulation of gas in enclosed spaces and sub-floor voids	Low	Low	Minor

11.7.1 Potential contaminant linkages from contaminated soils to human receptors (construction workers, future Site users and adjacent Site users) are considered to be **moderate/minor** as limited potential sources of contamination have been identified across the mainly agricultural land use.

11.7.2 Cottam 1 and 2 are not located within designated groundwater Source Protection Zones (SPZs), however, there are a number of surface water features both on and adjacent to the Sites. Significant sources of contamination have not been identified, as such the significance of contaminant mobilisation and migration to groundwater or surface waters is considered **moderate/minor** across Cottam 1 and 2.

11.7.3 Small and minor areas of potentially infilled ponds/Made Ground have been identified across the Sites, however, given the small scale of these features and the age of any infill material, the potential for gas generation is low. Furthermore, based on the proposed infrastructure (e.g. Conversion Units and BESS units as described in **Chapter 4**), the potential for hazardous ground gases to accumulate within confined spaces is considered very low. In addition, no buildings are proposed in the vicinity of potentially infilled ponds/pits across the Sites, breaking the contaminant linkage and no further assessment is required.

11.7.4 In overall terms, prior to mitigation, the potential impact for construction, operation (including maintenance) and decommissioning are **moderate/minor** or **minor**. Notwithstanding, these effects can be reduced via embedded mitigation measures, as discussed later in the Chapter.

Cable Route Corridor

11.7.5 Given the installation of the cable does not result in a change in land use the following key receptors have been identified: construction/decommissioning/maintenance workers; third parties during construction/decommissioning (adjacent site users and adjacent residents); controlled waters (including on and off-Site land drains, adjacent rivers and the underlying aquifers); and the built environment (new infrastructure/utilities). The contaminant linkages are considered to be of **minor** to **moderate/minor** significance as summarised in Table 11.6.

Table 11.6: Cable Route Corridor – Receptor Sensitivity, Magnitude and Significance

Receptor	Pathway	Magnitude	Sensitivity	Significance
Construction/ decommissioning /maintenance Workers	Direct contact/ingestion and inhalation of dust, vapours and asbestos fibres	Low-Negligible	High	Moderate/Minor
Adjacent site users or residents	Direct contact/ingestion and inhalation of dust, vapours and asbestos fibres	Negligible	High	Moderate/Minor
Controlled waters (Underlying	Leaching of contamination into groundwater and	Low	Medium	Moderate/Minor

Aquifers and surface waters)	vertical/lateral migration through permeable deposits below the Site			
Built Environment	Direct contact between the ground and new infrastructure.	Low	Low	Minor

11.7.6 Prior to mitigation, the potential impact for construction, operation (including maintenance) and decommissioning of the Cable Route Corridor are of a **moderate/minor** or **moderate** significance. Given the Cable Route Corridor will pass through Cottam Power Station, the potential for contamination in this area is elevated and as such the risk to workers during construction/maintenance/decommissioning is considered elevated. The significance of effects will be reduced to **minor** via adoption of the embedded mitigation measures, detailed below.

11.8 Embedded Mitigation Measures

11.8.1 This section details the embedded mitigation measures that will be implemented for the Scheme (Sites and Cable Route Corridor) to reduce the significance of the above effects. During construction, operation and decommissioning, standard industry best practice measures would be adopted to avoid and reduce the risk to ground conditions.

11.8.2 Limited potential sources of contamination have been identified across the Sites and the Cable Route Corridor which are detailed within the PRAs included in **Appendix 11.1 to 11.4**. An Outline Construction Environmental Management Plan (CEMP) **[EN010133/APP/C7.16]** forms part of the application. The Outline CEMP provides a framework for a final and detailed CEMP to be provided for approval through one of the Requirements of the DCO. The plan will clearly set out best practice to ensure any environmental impacts during construction and in terms of land contamination, are as limited as possible. This will include the construction related mitigation measures outlined below:

- Site workers will be made aware of the possibility of encountering localised contamination through toolbox talks and good standards of personal hygiene, including welfare facilities on-site and the use of appropriate levels of personal protective equipment (PPE), will be enforced.
- Site workers will adhere to health, safety and environmental precautions such as appropriate PPE, provision of suitable welfare facilities and traffic management plans in order to reduce the potential for any accidents and incidents.

- Additional protective measures such as a watching brief from an environmental consultant may be required in the area of Cottam Power Station. An investigation of the ground conditions at the power station at the time of any geotechnical investigation would assist in developing the mitigation requirements (if required).
- A 'Discovery Strategy' protocol should be drawn upon to ensure that any contamination identified during construction is assessed by a specialist in land contamination. This will include but not be limited to stopping works in the area and ensuring the identified contamination does not pose a risk until an environmental specialist undertakes an assessment and a method is agreed to deal with the identified contamination. If required, the Local Planning Authority will be notified.
- Methods will be used to reduce the amount of dust, e.g. washing down of vehicle's wheels, dampening down, etc.
- Any bulk fuels or chemical used on the construction site should be stored appropriately, within an impervious bund of 110% of the volume of the container in order to reduce the potential for any contamination source in the event of a container failure/ leak of battery fire and associate fire waters. Also, any spillages will be promptly addressed by appropriate measures, such as spill kits.
- The implementation of measures included within a Battery Storage Safety Management Plan, which will be in accordance with the Outline Battery Storage Safety Management Plan accompanying this DCO application **[EN010133/APP/C7.9].**
- The implementation of measures included within the Outline Soils Management Plan included with the DCO application **[EN010133/APP/C7.18].**

11.9 Residual Effects

11.9.1 With embedded mitigation outlined above throughout the Scheme and the implementation of well-established good industry practices in construction for managing contaminated land which will be incorporated into the CEMP, it is considered that the potential effects of contamination or risk of contamination will, overall, be reduced to **moderate/minor** and would not be significant, as summarised in Tables 11.7 and 11.8 below.

Table 11.7: Sites – Receptor Sensitivity, Magnitude and Significance Post Embedded Mitigation

Receptor	Pathway	Magnitude	Sensitivity	Significance
Construction/ decommissioning	Direct contact/ingestion and inhalation of	Negligible	High	Moderate/Minor

/maintenance Workers	dust, vapours and asbestos fibres			
Adjacent site users or residents	Direct contact/ingestion and inhalation of dust, vapours and asbestos fibres	Negligible	High	Moderate/Minor
Controlled waters (Underlying Aquifers and surface waters)	Leaching of contamination into groundwater and vertical/lateral migration through permeable deposits below the Site	Negligible	Medium	Minor
Future site users	Direct contact/ingestion and inhalation of dust, vapours and asbestos fibres	Negligible	High	Moderate/Minor
Built Environment	Direct contact and accumulation of gas in enclosed spaces and sub-floor voids	Negligible	Low	Negligible

Table 11.8: Cable Route Corridor – Receptor Sensitivity, Magnitude and Significance Post Embedded Mitigation

Receptor	Pathway	Magnitude	Sensitivity	Significance
Construction/ decommissioning /maintenance Workers	Direct contact/ingestion and inhalation of dust, vapours and asbestos fibres	Negligible	High	Moderate/Minor

Adjacent site users or residents	Direct contact/ingestion and inhalation of dust, vapours and asbestos fibres	Negligible	High	Moderate/Minor
Controlled waters (Underlying Aquifers and surface waters)	Leaching of contamination into groundwater and vertical/lateral migration through permeable deposits below the Site	Negligible	Medium	Minor
Built Environment	Direct contact between the ground and new infrastructure.	Negligible	Low	Negligible

11.10 In-Combination Effects

11.10.1 The following in-combination effects have been considered;

a) The combination of individual effects, for example, the combined effects of noise, dust and visual effects on a particular receptor;

b) The combination of individual topics, for example, the combined effects of climate change on ground conditions;

c) The combination of different works of the Scheme on a particular receptor for example, the in-combination effects of the construction works within the Cable Route Corridor and the energy storage at the same time; and

d) The combined effects of the three generating stations (i.e. Cottam 1, 2, 3a and 3b).

11.10.2 With respect to ground conditions, there Is limited potential for in-combination effects with other environmental aspects following the implementation of embedded mitigation. In addition, given the localised nature of contamination there is no additional effect from multiple construction areas proceeding simultaneously.

11.10.3 It is necessary to consider whether the effects of the Scheme on ground conditions will alter due to the predicted effects of climate change.

11.10.4 When assessing the effect of climate change on ground conditions, the key variable is the future effect and change in rainfall levels. For example, an increase in rainfall

levels is likely to create an increase in pollution pathways for contaminants to reach controlled waters, thus leading to adverse effects on sensitive receptors.

11.10.5 The receptors that have been identified within this assessment need to be considered in terms of their vulnerability (i.e., susceptibility or resilience to change) to the changes in the future climate. Table 11.9 below, gives a summary of the receptors, including their sensitivity classification and their vulnerability under these future climate conditions.

11.10.6 The vulnerability of a receptor is defined by the following classifications:

- **High Vulnerability** – the receptors directly dependent on existing and/or prevailing climatic factors and reliant on these specific existing climate conditions continuing in the future; or only able to tolerate a very limited variation in climate conditions;
- **Moderate Vulnerability** – the receptor is dependent on some climatic factors, but able to tolerate a range of conditions; and
- **Low Vulnerability** – climatic factors have little influence in receptors.

Table 11.9 Summary of Receptor Sensitivity and Vulnerability For Assessment

Existing Receptor	Sensitivity	Vulnerability
Human Health – future site users	High	Low
Human Health – adjacent residents and land users	High	Low
Human Health – construction workers and maintenance workers	High	Low
Controlled Waters – surface water streams, drainage ditches on-site and the River Till and Trent	Moderate	Moderate
Controlled Waters – groundwater	Moderate	Moderate

11.10.7 Given the likely absence of contaminated soil or groundwater across the Sites and Cable Route Corridor there is unlikely to be migration of contaminants which could be exacerbated by climate change and the associated creation of additional pathways for migration of contaminants towards the relevant receptors listed in Table 11.9.

11.10.8 The Scheme will be required to consider a sustainable drainage solution to effectively manage increased rainfall as a result of climate change. As such, the sustainable drainage solution is considered to mitigate the future effects of climate change and, therefore, once these measures are implemented, the Scheme will be considered safe in terms of future climate effects by mitigating the impact to the

vulnerable controlled waters receptors. Chapter 10 of the ES: Hydrology, Flood Risk and Drainage **[EN010133/APP/C6.2.10]** should be read for further details.

11.11 Cumulative Effects

11.11.1 Notable substantial projects in close proximity to the Scheme are:

a) West Burton Solar Project (currently the same timescales as the Scheme);

b) Gate Burton Energy Park (EIA scoping opinion issued December 2021 and PEIR issued Summer 2022);

c) Tillbridge Solar (EIA Scoping opinion issued by PINS November 2022).

11.11.2 These projects and other potentially substantial cumulative developments are shown on the cumulative sites plan at Figure 2.1 of the ES **[EN010133/APP/C6.4.2.1].**

11.11.3 Given modern methods of construction and the low sensitivity end use, the cumulative effects to human health or controlled waters are considered to be negligible with the implementation of embedded mitigation measures such as the CEMP which would be appropriate for all development projects.

11.11.4 There are currently two scenarios for the construction of the Shared Cable Corridor between the proposed solar farm Schemes as described in **Chapter 4** of the ES, however, the effect on ground conditions for both scenarios is considered a negligible alteration from the baseline.

11.12 Conclusion

11.12.1 In conclusion, no potential significant effects have been identified after the implementation of embedded well-established good industry practices in construction for managing contaminated land which will be incorporated into the CEMP and Decommissioning Plan and utilised in those phases of the Scheme. It is considered that the potential effects of contamination or risk of contamination will not be significant.