Mallard Pass
Solar Farm

Mallard Pass Solar Farm

Preliminary Environmental Information Report

Volume 3: Appendices

Appendix 2.3: EIA Scoping Opinion Response Matrix

May 2022

Appendix 2.3: EIA Scoping Opinion Response

1.1.1. The table below provides a summary of the comment raised by PINS within the EIA Scoping Opinion. The purpose of the table is to demonstrate how the EIA consultant team have addressed the points raised within the Scoping Opinion as the baseline surveys, design and environmental assessments are progressed. The table provides a clarification of where the information has been provided within the Preliminary Environmental Information Report (PEIR) or will be provided within the Environmental Statement (ES) and other documents which will be submitted in support of the DCO Application.

Table 1: EIA Team Responses to the Scoping Opinion

ID	Ref	Description	PINS Comment	How has this been addressed within the PEIR?	How will this be addressed within the ES?
Overarching Comments					
2.1.1	Figure 2.1	Site Location Plan	The site location plan depicts the site boundary, which includes the whole of the Proposed Development and the Solar Photovoltaic (PV) site boundary (the area for the panels). The boundary lines overlap in places and the same or similar key colours are used, which prevents a full understanding of how the boundary of the Proposed Development relates to the solar PV site. In addition, certain fields or sections of fields within the site appear to be excluded. The ES should include a figure or figures that clearly set out the Proposed Development boundary and the land included therein.	Figure 3.1 presents the extent of the Site, Solar PV Site, Mitigation and Enhancement Areas, Potential Highways Works Site and Grid Connection Route. A hatch has been added to the Figure to identify which areas are excluded from the Site.	As per the PEIR.

ID	Ref	Description	PINS Comment	How has this been addressed within the PEIR?	How will this be addressed within the ES?
2.1.1	Figure 2.3	Topography	The topographical plan included in the Scoping Report lacks clarity regarding the land that is included in the redline boundary. It appears that certain field areas have been excluded from the red line boundary. The ES needs to include plans which clearly show the land required for the Proposed Development.	Figure 6.1 presents the topography across the Site. Figure 3.1 of the PEIR include a hatch to identify which areas are excluded from the Site.	As per the PEIR
2.1.3	3.4.9	Construction compounds	The ES should provide details regarding the location, construction, operation, decommissioning and proposed duration of construction compounds required and assess where significant effects are likely to occur. This should include details of any measures proposed to enhance the sustainability of construction compound set up (e.g. use of renewable energy, rainwater harvesting etc).	Figure 5.12 presents the indicative locations of primary and secondary temporary construction compounds. The Project Description chapter (Chapter 5) of the PEIR provides indicative parameters for the primary and	Further details regarding the duration and sustainability measures of the primary and secondary temporary construction compounds will be set out and

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				secondary construction compounds.	described within the ES.
2.1.4	N/A	Temporary roadways	The ES should provide details regarding the location, construction, operation, decommissioning and proposed duration of temporary roadways required and assess where significant effects are likely to occur.	The Project Description chapter (Chapter 5) of the PEIR provides details of the internal access strategy for the Proposed Development.	Further details of the internal access strategy will be detailed and described within the ES.
2.1.5	3.5.1 and 3.6.1	Operational lifespan/Decommissioning	The Scoping Report states at paragraph 3.5.1 that an operational lifespan will not be specified in the application and the EIA will be carried out on the basis that the development is permanent. However, paragraph 3.6.1 states that a decommissioning statement will be based on 40-year operational life span for the solar infrastructure. Paragraph 3.6.2 states that the site will be	The Overview of the EIA Process chapter (Chapter 2) of the PEIR explains that the Applicant is not seeking a time limited consent. Further details regarding the operation and maintenance (including replacement of panels) of	The Environmental Statement will provide further details on the operational and maintenance of the Proposed Development.

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			returned to its original use after decommissioning, further suggesting that there is a limited lifespan for the Proposed Development. The ES needs to be clear as to whether decommissioning is to take place after 40 years or whether components are likely to be replaced to extend the lifespan of the development. Should components be replaced to extend the lifespan of the Proposed Development, the scale of this (particularly in the case of a comprehensive refurbishment of panels) and the likely significant effects should be assessed. The ES should clearly set out if and how decommissioning is to be assessed and any components which may remain following decommissioning. The Inspectorate would expect to see decommissioning secured through the	the Proposed Development are set out in Chapter 5 of the PEIR.	

ID	Ref	Description	PINS Comment	How has this been addressed within the PEIR?	How will this be addressed within the ES?
			inclusion of an Outline Decommissioning Plan or similar submitted with the Application.		
2.1.6	3.5.3	Grazing	Where the ES relies upon grazing as mitigation for loss of Best and Most Versatile (BMV) land, it should be demonstrated that the land is not subject to restrictive covenants that would prevent such use and that such mitigation is secured in respect of the operation of the Proposed Development.	Discussions with the landowners have been undertaken regarding sheep grazing underneath the Solar PV Panels	Further information will be presented within the ES.
2.1.7	10.1.3	Summary	The Summary of the Scoping Report is not consistent with the rest of the document. The Inspectorate has therefore disregarded the summary and relied upon the information in the aspect chapters to inform this Scoping Opinion.	N/A	N/A
EIA Methodology and Scope of Assessment					

ID	Ref	Description	PINS Comment	How has this been addressed within the PEIR?	How will this be addressed within the ES?
2.2.1	N/A	Scoping table	The Inspectorate advises the use of a table to set out the key changes in parameters/options of the Proposed Development presented in the Scoping Report to that presented in the ES. It is also advised that a table demonstrating how the matters raised in the Scoping Opinion have been addressed in the ES and/or associated documents is provided.	This Scoping Opining Responses Table presents how matters raised in the Scoping Opinion have been addressed within the PEIR and will be addressed within the ES.	The final project parameters will be presented in the Project Description chapter of the ES. The ES will include a table setting out any key changes to the Proposed Development that have occurred between the EIA Scoping Stage and the submission of the DCO Application. This table will be updated and included within the

ID	Ref	Description	PINS Comment	How has this been addressed within the PEIR?	How will this be addressed within the ES?
					ES to demonstrate how matters raised in the Scoping Opinion have been addressed in the ES and DCO Application.
2.2.2	6.5.14	Significance of effect	The Scoping Report outlines the approach to assigning significance but does not clearly explain what level of effect is determined to be significant in EIA terms. Typically, moderate and major effects are deemed to be significant, whereas the Scoping Report suggests that only effects that are major are likely to be key to decision making. The ES should clearly identify the likely significant effects of the Proposed Development.	Each topic chapter of the PEIR provides the assessment methodology as an appendix which describes how the level of significance has been derived. As acknowledged in the Environmental Impact	The assessment methodology for determining the significance of effects will be set out in full within the individual topic chapters of the ES.

ID	Ref	Description	PINS Comment	How has this been addressed within the PEIR?	How will this be addressed within the ES?
				Assessment Handbook, A practical guide for planners, developers and communities (ICE, 2020), the phrase 'significant in EIA terms' should be avoided.	
Landscape and Visual					
3.1.1	7.3.30	National Designated Landscapes	The Applicant proposes to scope out Designated Landscapes as there are no national landscape designations located within or in close proximity to the site, the nearest being over 50km away. The Inspectorate agrees that, in the absence of any nationally designated landscapes, namely National Parks or Areas of Outstanding Natural Beauty, within the vicinity	No further action required.	The Inspector's comment is noted. No further action on this required.

ID	Ref	Description	PINS Comment	How has this been addressed within the PEIR?	How will this be addressed within the ES?
			of the Proposed Development this matter can be scoped out.		
3.1.2	7.3.31 and 7.3.32	Local Landscape Designations	The Applicant proposes to scope out Local Landscape Designations (namely an 'Area of Particularly Attractive Countryside' and an 'Area of Local Landscape Value') as there will be very limited visibility of the Proposed Development from these sites and as such their character will not be affected. In the absence of a plan showing the location and elevation of these areas in relation to the Proposed Development site, the Inspectorate is not in a position to agree to scope this matter out at this stage.	Local Landscape Designations (Area of Particularly Attractive Countryside' and an 'Area of Local Landscape Value') have been considered within the Landscape and Visual chapter (Chapter 6) of the PEIR, the location of these sites are presented at Figure 6.2. These designations are not retained in the adopted Local Development Framework planning policy; however,	As per the PEIR

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				reference to these local designations is made within current evidence base documents including the 2012 Landscape Sensitivity and Capacity Studies (for Service Centres and Wind Turbines). Therefore, these documents have been used to aid preliminary judgements and inform design development but are not assessed directly. Review of these local designations has informed the approach to the LVIA. The approach	

ID	Ref	Description	PINS Comment	How has this been addressed within the PEIR?	How will this be addressed within the ES?
				to the LVIA has been discussed with the LPAs will be formally agreed with the relevant local planning authorities and reported within the ES.	
3.1.3	7.3.33	LCAs	The Scoping Report states that LCAs over 1km from the site will be scoped out of the assessment as there is limited visibility of the Proposed Development from these areas. However, Table 10.1 suggests that Welland Valley LCA is scoped out despite it being "approximately 1km away". In the absence of information, such as a plan demonstrating the location of the LCAs in relation to the site boundary, the Inspectorate is not in a position to agree to scope these	The Landscape and Visual chapter (Chapter 6) of the PEIR provides an explanation that due to the distance (approximately 2.1km) from the Solar PV Site as shown on Figure 6.4, and intervening landscape features limiting potential intervisibility, potential landscape effects on the Welland Valley	As per the PEIR.

ID	Ref	Description	PINS Comment	How has this been addressed within the PEIR?	How will this be addressed within the ES?
			matters from the assessment at present without further explanation and justification.	Landscape Character Area (LCA) are unlikely to be significant.	
3.1.4	7.3.34	Registered Parks and Gardens – Greatford Hall and Uffington Park	The Applicant proposes to scope out the Grade II listed Greatford Hall and Uffington Park Registered Parks and Gardens (RPG) receptors, as there is a lack of intervisibility between the two. In the absence of more detailed information such as topography and the sensitivity of views from these receptors, the Inspectorate is not in a position to agree to scope these matters from the assessment. Therefore, the ES should include an assessment of this matter or provide information to demonstrate the absence of a likely significant effect.	Due to the location of landscape receptors within or in close proximity to the Proposed Development, Greatford Hall and Uffington Park Registered Parks and Gardens (RPG) amongst other RPGs have been considered in the PEIR. In accordance with the methodology, RPGs are not assessed as part of the LVIA but are used to	In accordance with the methodology, RPGs are not assessed as part of the LVIA but are used to inform the consideration of the value of character areas in which they lie. The approach to the LVIA will be formally agreed with the relevant local planning authorities

ID	Ref	Description	PINS Comment	How has this been addressed within the PEIR?	How will this be addressed within the ES?
				inform the consideration of the value of character areas in which they lie	and reported within the ES.
3.1.5	7.3.35	Registered Parks and Gardens – Burghley House and Holywell Hall Park	The Applicant proposes to scope out Burghley House (Grade II*) and Holywell Hall Park (Grade II) RPGs on the basis that there is limited visibility of the Proposed Development from these receptors. The Scoping Report notes that although Burghley House is located within the 2km study area (approximately 1.5km at its closest point), it is over 2.3km from the "built elements (solar arrays)" of the Proposed Development and a landscape buffer is also proposed which will reduce the visibility. However, paragraph 7.3.17 and Table 10.1 state that Burghley House RPG will be included within the Landscape and Visual Impact Assessment (LVIA) as a landscape receptor. As such, the	Due to the location of landscape receptors within or in close proximity to the Proposed Development, Burghley House RPG amongst other RPGs have been considered in the Landscape and Visual Chapter (Chapter 6 of the PEIR). In accordance with the methodology, RPGs are not assessed as part of the LVIA but are used to inform the consideration	In accordance with the methodology, RPGs are not assessed as part of the LVIA but are used to inform the consideration of the value of character areas in which they lie. The approach to the LVIA will be formally agreed with the relevant local planning authorities

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			Scoping Report is ambiguous regarding the need to assess effects on Burghley House RPG. The Inspectorate considers that as some potential for views of the Proposed Development is acknowledged to exist between it and the two RPGs; the Scoping Report places reliance upon as yet undeveloped landscape buffers; and the layout of the scheme has not yet been confirmed; the ES should include an assessment of effects on these receptors or provide detailed justification for scoping out further assessment. The Applicant should seek to agree such approaches with relevant consultation bodies, where possible.	of the value of character areas in which they lie	and reported within the ES.
3.1.6	7.3.37	Residential amenity	The Applicant proposes to scope out residential receptors as the Proposed Development will be set back from settlement	Visual receptor groups have been identified following desk-based	The impact of the Proposed Development upon

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			fringes and residential properties. As this matter depends upon undeveloped areas as a landscape buffer and the layout of the scheme has not yet been confirmed, the Inspectorate is not yet in a position to agree to scope this matter out. The ES should assess any potential likely significant effect and/or describe any proposed mitigation measures, as well as methods by which to secure these. Where such measures are locationally specific, a plan would assist understanding.	studies and Site visits. Effects on private residential amenity are considered in a separate Residential Visual Amenity Assessment (Appendix 6.4).	Visual receptor groups will be assessed and presented within the ES. The potential effects on residential properties will be considered in a separate Residential Visual Amenity Assessment that will be appended to the ES.
3.1.7	Table 10.1	Recreation and Amenity	It is noted in the Summary chapter of the Scoping Report that Recreation and Amenity is proposed to be scoped out of the LVIA for all stages of the Proposed Development.	The Landscape and Visual chapter (Chapter 6) of the PEIR provides the assessment of	An Amenity and Recreation Assessment, forming a standalone report,

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			However, no justification is provided within the Scoping Report. In the absence of evidence, and in light of the potential for the Proposed Development to impact existing recreation and amenity including existing rights of way, the Inspectorate cannot agree to scope this matter out and an assessment of significant effects should be presented where they are likely to occur.	impacts of the Proposed Development upon Visual receptor groups, including Public Rights of Way (PRoW), permissive footpaths and permitted access land, cycle routes, outside recreational facilities, open access land, common land, nature reserves, public open space and water bodies used for recreation. Assessment of amenity and recreational effects on users of these routes area considered in a separate Amenity and	will be appended to the Landscape and Visual Impact (LVIA) Assessment Chapter.

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				Recreation Assessment (Appendix 6.4)	
3.1.8	7.3.1	Mitigation	The Scoping Report states that likely significant effects will be avoided through mitigation measures embedded in the Proposed Development design, namely "*layout optioneering, setting back the development footprint from sensitive receptors, and/or implementation of screening planting to limit effects on sensitive receptors*". Where the avoidance of a likely significant effect is reliant upon mitigation measures, these should be described within the ES along with the proposed methods by which they will be secured through the Development Consent Order (DCO). Where a measure is locationally specific, a plan may assist understanding.	The embedded mitigation measures are provided within the Project Description chapter (Chapter 5) of the PEIR. A preliminary Green Infrastructure Strategy has been provided in Figure 6.10. The management of the landscape and ecological features will be undertaken in accordance with a detailed Landscape and Ecological Management	The embedded mitigation measures will be provided within the Project Description chapter of the ES. The Green Infrastructure Strategy, will be reviewed in light of Statutory Consultation feedback and will be secured through a combination of design parameters,

ID	Ref	Description	PINS Comment	How has this been addressed within the PEIR?	How will this be addressed within the ES?
				Plan (LEMP) that will be secured via a requirement of the DCO. A draft outline Landscape and Ecological Management Plan (oLEMP), setting out the framework, and proposed content of a detailed LEMP has been prepared and included at Appendix 5.2.	works plan and design principles within the DCO. The management of the landscape and ecological features will be undertaken in accordance with a detailed Landscape and Ecological Management Plan (LEMP) that will be secured via a requirement of the DCO. An outline Landscape and Ecological Management Plan (oLEMP), setting out

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					the framework, principles and content of a detailed LEMP will be submitted to support the DCO Application.
3.1.9	7.3.13 and 7.3.14	Study Area	The Scoping Opinion notes that a Zone of Theoretical Visibility (ZTV) used for the computer modelling was 3km and that this did not take into account localised features. The Scoping Report goes on to state that the study area will be 2km although the reasons for this reduced study area are not explained. Paragraph 7.3.22 notes that the assessment may include viewpoints outside of the study area. The Inspectorate considers that the study area should be informed by the extent of likely effects rather than an arbitrary study area boundary. The ES should evidence how	The Landscape and Visual chapter (Chapter 6) of the PEIR defines a 2km radius from the Solar PV Site and Mitigation and Enhancement Areas as the study area for the LVIA. The Preliminary ZTV study indicated limited and fragmented potential visibility of the Proposed Development	As per the PEIR

ID	Ref	Description	PINS Comment	How has this been addressed within the PEIR?	How will this be addressed within the ES?
			the study area has been derived to ensure it is representative and should be agreed with relevant consultation bodies where possible.	beyond 2km due to landscape topography in combination with intervening built form and/or vegetation where upon any landscape and visual effects resulting from the Proposed Development are unlikely to be potentially significant. Based on this analysis, it is judged that a 2km study area would cover all potential significant landscape and visual effects arising from the Proposed Development.	

ID	Ref	Description	PINS Comment	How has this been addressed within the PEIR?	How will this be addressed within the ES?
3.1.10	7.3.9	LVIA	The Scoping Report states that the ZTV has been modelled on solar panel infrastructure heights of 3.5m and substation building heights of 13m. However, the Proposed Development includes other built infrastructure, including security fencing and CCTV poles, as well as lighting masts up to 6m in height. Furthermore, the Scoping Report notes the requirement to raise infrastructure 600mm in certain areas of the site (1-in-100 flood risk areas), the assessment should clarify the assumptions used to underpin the development of the ZTV.	The ZTV (Figure 6.6) has modelled the PV Array heights and other built form infrastructure such as inverters at 3.5m (maximum), and the onsite primary substation area adjacent to the existing National Grid Ryhall Substation at a height of 13m. The ZTV was prepared at the EIA Scoping Stage and the heights represent a worst-case scenario in terms of helping to define the study area and potential visibility of the Proposed Development.	The ZTV, to be presented within the ES, will be updated to reflect the maximum parameter heights within the ES upon undertaking the LVIA.

ID	Ref	Description	PINS Comment	How has this been addressed within the PEIR?	How will this be addressed within the ES?
				The heights within the PEIR have reduced slightly but the ZTV has not been updated at this stage. The CCTV poles have a maximum height of 3.5m and are of such small scale (in terms of numbers and size) that they wouldn't be discernible from the PV Arrays so not to materially affect the ZTV. The PV Arrays have been removed from areas of flood that would require the height of the	

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				PV Modules to be increased.	
3.1.11	N/A	Lighting	There is no reference to lighting effects within the LVIA section of the Scoping Report, and effects resulting from lighting are not listed as a potential effect (in paragraph 7.3.26). Although lighting effects on ecological receptors are considered within the Ecology and Biodiversity chapter, the ES should assess the lighting effects on landscape and visual receptors or demonstrate that no likely significant effects will occur. This should also include consideration of effects relating to intermittent lighting sources such as motion activated security lighting.	Potential night-time lighting effects upon visual receptors are considered within the Landscape and Visual chapter (Chapter 6) of the PEIR. The Project Description chapter (Chapter 5) of the PEIR sets out the lighting requirements of the Proposed Development.	Potential night-time lighting effects upon visual receptors will be considered within the Landscape and Visual chapter of the ES. Lighting will be in accordance with the Institute of Lighting Professionals Guidance Note for the reduction of obtrusive light to minimise light intrusion.
Ecology and Biodiversity					

ID	Ref	Description	PINS Comment	How has this been addressed within the PEIR?	How will this be addressed within the ES?
3.2.1	7.4.113 to 7.4.114	International Statutory Designated Sites	The Applicant proposes to scope out the construction, operational and decommissioning effects of the Proposed Development on internationally important statutory designated sites. The Scoping Report states that the nearest sites, Rutland Water Special Protection Area (SPA) and Ramsar, are located approximately 8.65km away from the Proposed Development site and no adverse effects are likely to occur. Scoping Report paragraph 7.4.54 states that 'ducks', which are a qualifying feature of the Rutland Water SPA, are present on site. However, no specific duck species are referenced within the Scoping Report. The ES should provide information relating to the presence of specific species, identifying those listed as qualifying features of the Rutland Water SPA within the site and provide an	Since the submission of the EIA Scoping Request, the wintering bird surveys have been completed and detailed information on the results of these surveys is presented in the Ecology and Biodiversity chapter (Chapter 7) and the Ecology Baseline Report (Appendix 7.1) of the PEIR to assess the results in relation to designated sites. None of the species for which the Rutland SPA is notified occur within the Site on a sufficiently	Information on the results of the wintering bird surveys will be presented in the Ecological Baseline Report Appended to the ES.

ID	Ref	Description	PINS Comment	How has this been addressed within the PEIR?	How will this be addressed within the ES?
			assessment accordingly. The ES should provide an assessment of likely significant effects on international statutory designated sites, including the potential for the Proposed Development site to provide functionally linked land for bird species associated with the Rutland Water SPA and Ramsar site, or provide evidence to demonstrate the absence of a likely significant effect.	regular basis or in significant enough numbers for the Site to be considered functionally linked to the SPA and Ramsar sites.	
3.2.2	7.4.11 and 7.4.76 to 7.4.77	National Statutory Designated Sites during operation	The Applicant proposes to scope out operational effects on nationally important statutory designated sites. The Scoping Report states that the potential effects during construction and decommissioning of the Proposed Development, such as habitat loss and accidental damage, are unlikely to occur during operation. The Scoping Report states that seven national	As acknowledged in Chapter 7 of the PEIR, there is potential for some localised cabling and highways work which may impact nationally designated sites. The extent of these works is currently	The Ecology and Biodiversity chapter of the ES will include an assessment of direct or indirect impacts on nationally designated sites as result of the final design parameters

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			statutory designated sites are present within two kilometres of the site, including Ryhall Pasture and Little Warren Verges Site of Special Scientific Interest (SSSI) and Tolethorpe Road Verges SSSI, which are located directly adjacent to the north-west of the site. The Inspectorate is of the opinion that this matter can be scoped out at this stage. However, the ES should ensure that the construction assessment of likely significant effects on national statutory designated sites clearly identifies whether any loss or impact on habitat is temporary or permanent in nature.	unknown and the design work is ongoing. Accidental damage will be avoided through actions set out in the draft outline Construction Environmental Management Plan (oCEMP) (Appendix 5.1).	for cabling and/or highway works. Accidental damage will be avoided through actions set out in the CEMP which will be submitted as part of the DCO Application.
3.2.3	7.4.12 to 7.4.13 and	Non-Statutory Designated Sites during operation	The Applicant proposes to scope out the operational effects of the Proposed Development on non-statutory designated sites. The Scoping Report states that 98 national	The Ecology and Biodiversity chapter (Chapter 7) of the PEIR considers the potential	The Ecology and Biodiversity chapter of the ES will present the assessment and measures for

ID	Ref	Description	PINS Comment	How has this been addressed within the PEIR?	How will this be addressed within the ES?
	7.4.78 to 7.4.79		statutory Local Wildlife Sites (LWSs) are present within two kilometres of the site, and nine are located wholly or in part within the site. In the absence of information demonstrating no likely significant effects and the location of the Proposed Development site in relation to non-statutory designated sites surrounding and within the red line boundary, the Inspectorate is of the opinion that this matter cannot be scoped out at this stage. The ES should include an assessment of likely significant effects on non-statutory designated sites or provide evidence to demonstrate the absence of a likely significant effect.	impacts on non-statutory designated sites.	avoidance of damage to non-designated designated sites. The ES will present the primary (embedded) mitigation measures employed to avoid direct effects of the Proposed Development to non-statutory designated sites.
3.2.4	7.4.115	Protected Species during operation,	The Applicant proposes to scope out the operational effects of the Proposed Development on all protected species, excluding wintering birds. The Scoping Report has proposed a number of mitigation	The habitat losses would occur at the construction stage, and the impacts to breeding birds and protected species are	The habitat losses would occur at the construction stage, and the impacts to breeding birds and

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		excluding wintering birds	measures to enable scoping out effects on protected species during operation. The mitigation measures include a lighting strategy to avoid artificial lighting on linear features, woodland and other retained or created habitats, a limitation on operational traffic and no regular presence or work on site that may lead to disturbance of habitats. However, considering the change in landscape character and extent of land take required for the Proposed Development there is potential for likely significant effects on all protected species during operation, including ground nesting birds. The ES should assess the impacts of all stages of the Proposed Development on all breeding birds. The ES should also provide a clear description of mitigation measures for the enhancement and creation of habitats that will deliver a	considered fully within the Ecology and Biodiversity chapter (Chapter 7) of the PEIR. At the operational phase, where arable land is replaced with other habitats such as grassland (even in the case of grazed permanent grassland) the effect is likely to be an overall beneficial effect of significance at a District level. Onsite habitats would be managed in accordance with the LEMP. Mitigation	impacts to protected species will be considered fully within the Ecology and Biodiversity chapter of the ES. As identified within the PEIR, the operational phase, itself, would not add to these losses. Mitigation is proposed in the form of skylark plots for skylark. The management of ecological features will be undertaken in accordance with a detailed LEMP that

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			range of benefits for protected species and set out methods by which all mitigation measures for protected species will be secured.	is proposed in the form of skylark plots for skylark. Fields within the Mitigation and Enhancement Areas will continue to be farmed under arable rotation with additional measures to support skylarks.	will be secured via a requirement of the DCO. The outline Landscape and Biodiversity Plan will be developed and contain more detail on the landscape strategy to described the gains to other protected and notable species.
3.2.5	7.4.105	Effects on wintering birds during decommissioning	The Applicant proposes to scope out the decommissioning effects of the Proposed Development on wintering birds, however no justification has been provided to support this. Given the potential effects during decommissioning are likely to be similar to those experienced during construction,	More detailed surveys have been carried out and details are provided in the Ecology and Biodiversity chapter (Chapter 7) and Ecology Baseline Report	The Ecology and Biodiversity chapter (Chapter 7) of the ES will assess the potential of the decommissioning of the Proposed

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			including disturbance and damage to habitat, the Inspectorate is of the opinion that this matter cannot be scoped out at this stage.	(Appendix 7.1) of the PEIR. The Ecology and Biodiversity chapter (Chapter 7) of the PEIR identifies that none of the species for which the Rutland SPA is notified occur within the Site on a sufficiently regular basis or in significant enough numbers for the Site to be considered functionally linked to the SPA and Ramsar sites. The Proposed Development includes the retention of large sections of arable land	Development on certain wintering species (i.e. those which use hedgerows and woodland).

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				within the Mitigation and Enhancement Areas, including where golden plover were recorded. As such likely significant adverse effect to wintering birds are not anticipated.	
3.2.6	7.4.69	Study Area	The Scoping Report notes that a wider study area was used (2km) for the gathering of data for contextual purposes but it is not explained how this 'wider' study area will be used in the assessment. The ES should explain and justify the study area. The ES should consider the potential for impacts on international sites designated for bats within a 30km study area.	Given the nature of the Proposed Development, 2km is a proportionate study area as it cannot result in effects further afield, such as additional visitor pressure. The Ecology and Biodiversity chapter (Chapter 7) confirms that there are no	The study area will be the same as presented in the PEIR along with an explanation of how the wider study area has been used to inform the assessment.

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				internationally important sites designated for bats present within 30 km of the Site.	
3.2.7	7.4.25	Fish and Aquatic Invertebrates	The West Glen River flows through the site, however, no fish or aquatic invertebrate surveys have been or are noted as being undertaken for the river. Details of the surveys should be provided within the ES, or it should be demonstrated why fish and aquatic invertebrate surveys are not required and potential likely significant effects on these species can be ruled out.	Fish and aquatic invertebrate surveys were not carried out as the Proposed Development will not result in hydrological changes or direct works to the West Glen River and therefore likely significant effects to fish and aquatic invertebrate species are not anticipated.	The Ecology and Biodiversity chapter of the ES will include justification as to why fish and aquatic invertebrate surveys were not carried out to explain that the Proposed Development will not result in hydrological changes

ID	Ref	Description	PINS Comment	How has this been addressed within the PEIR?	How will this be addressed within the ES?
					or direct works to the West Glen River.
3.2.8	N/A	Plants	The Scoping Report provides a description of the baseline for plant species. However, the potential effects on plants are not described and it is not determined as to whether there is a potential for likely significant effects and therefore if this matter is scoped in or out of the assessment. The ES should be clear which matters are scoped in or out and provide a robust justification for matters scoped out.	Impacts to plants are considered in the habitats assessment within the Ecology and Biodiversity chapter of the PEIR.	Impacts to plants will be considered in the habitats assessment within the Ecology and Biodiversity chapter of the ES.
3.2.9	N/A	Panel configuration	The ES should explain the relationship between panel configuration and vegetation growth on site and how panel configuration will be designed to avoid shading of vegetation and effects on LWSs that are located within the site.	The Ecology and Biodiversity chapter of the PEIR explains that the structure of the vegetation within the Solar PV Site will be	The Ecology and Biodiversity chapter of the ES will explain that the structure of the vegetation within the Solar PV Site will

ID	Ref	Description	PINS Comment	How has this been addressed within the PEIR?	How will this be addressed within the ES?
				assessed against likely successful establishment and shading will be considered. No PV Arrays will be placed within at least 15m or over Local Wildlife Sites (LWS), therefore, no shading will occur which would affect these features.	be assessed against likely successful establishment and shading will be considered. No PV Arrays will be placed within at least 15m or over Local Wildlife Sites (LWS), therefore, no shading will occur which would affect these features.
3.2.10	7.4.2	Hedgerows	The ES should also include an explanation of how the hedgerow boundaries of the site will be retained and enhanced to deliver a range of benefits to protected species.	The draft outline Landscape and Ecological Management Plan (Appendix 5.2) sets out the framework of outline LEMP to	An outline Landscape and Ecological Management Plan will be submitted with the DCO Application.

ID	Ref	Description	PINS Comment	How has this been addressed within the PEIR?	How will this be addressed within the ES?
				submitted with the DCO Application. The purpose of this is to ensure that the landscape and ecological measures are managed appropriately during the operational phase to achieve the desired outcome. All planting associated with the Proposed Development will be retained for the duration of the Proposed Development.	This document will set out the management regimes for habitats across the Site. The measures set out within the oLEMP will inform the Ecology and Biodiversity chapter of the ES.
3.2.11	N/A	Ancient Woodland and Veteran Trees	The ES should also assess any likely significant effects on veteran trees and ancient woodland. Veteran trees are not referenced in the Scoping Report, and ancient woodland is	There is no ancient woodland located within the Site or immediately adjacent to the Solar PV	A tree survey of the Solar PV Site and Mitigation and Enhancement Areas

ID	Ref	Description	PINS Comment	How has this been addressed within the PEIR?	How will this be addressed within the ES?
			identified as being present immediately adjacent to the north-east site boundary. The ES should identify any veteran trees outside these ancient woodland areas.	Site. The ancient woodlands within proximity to the Site are largely located within Sites of Special Scientific Interest (SSSIs) or other designated sites, and are therefore considered in the assessment presented within the PEIR.	is currently being undertaken to ensure ancient and veteran trees are identified and protected in the design. The results of the Tree Survey will be reported in a standalone Aboricultural Impact Assessment report.
3.2.12	N/A	Confidential annexes	Public bodies have a responsibility to avoid releasing environmental information that could bring about harm to sensitive or vulnerable ecological features. Specific survey and assessment data relating to the presence and	Confidential survey data and results for sensitive or vulnerable ecological features (i.e. badgers, schedule 1 bird species	Confidential survey data and results for sensitive or vulnerable ecological features (i.e.

ID	Ref	Description	PINS Comment	How has this been addressed within the PEIR?	How will this be addressed within the ES?
			locations of species such as badgers, rare birds and plants that could be subject to disturbance, damage, persecution, or commercial exploitation resulting from publication of the information, should be provided in the ES as a confidential annex. All other assessment information should be included in an ES chapter, as normal, with a placeholder explaining that a confidential annex has been submitted to the Inspectorate and may be made available subject to request.	nests) have been separated and marked confidential from the rest of the PEIR submission documents.	badgers, schedule 1 bird species nests) will be separated and marked as confidential within DCO Application material.
Access and Highways					
3.3.1	7.5.55	Alternative modes of construction access	The Inspectorate is content that modes of transport (such as rail) that will not be utilised for construction material delivery can be scoped out of the assessment.	No further action required.	The Inspector's comment is noted. No further action on this required.

ID	Ref	Description	PINS Comment	How has this been addressed within the PEIR?	How will this be addressed within the ES?
3.3.2	7.5.56	Hazardous or dangerous loads	The Inspectorate is content that this matter may be scoped out subject to the inclusion of appropriate measures to ensure safe transportation within the outline Construction Environmental Management Plan and/or outline Construction Transport Management Plan.	A draft outline Construction Environmental Management Plan (oCEMP) and draft outline Construction Traffic Management Plan (oCTMP) have been provided as part of the PEIR at Appendix 5.1 and Appendix 9.4, respectively, which consider abnormal loads. Ongoing engagement with the relevant key stakeholders has indicated mitigation for hazardous loads is unlikely to be required.	The oCEMP and oCTMP will be updated as further information becomes available and will be provided in support of the ES.

ID	Ref	Description	PINS Comment	How has this been addressed within the PEIR?	How will this be addressed within the ES?
3.3.3	7.5.57 - 59	Operational Traffic	The Inspectorate is content that the information provided in the Scoping Report in relation to staff required on site during operation demonstrates that transportation to and from site is unlikely to result in significant effects. The Inspectorate is content for this matter to be scoped out of the assessment based on the figures provided. The ES description of development should confirm the anticipated trip generation during operation to justify this.	Information on expected staffing levels and operational activity is provided within the Project Description chapter (Chapter 5) of the PEIR. The numbers are considered sufficiently low that no further assessment has been carried out.	The Project Description chapter of the ES will provide details on trip generation for staff during the operational phase of the Proposed Development.
3.3.4	7.5.8	Baseline data	Traffic movement baselines have shifted as a result of the Covid-19 pandemic. The Applicant should seek agreement with the relevant consultation bodies regarding the degree to which data collected in 2021 is representative and/or whether historic data	The scope of traffic surveys has been agreed with National Highways, LCC and SKDC, as set out in the Access and Highways chapter (Chapter 9) of the PEIR,	Confirmation on suitability of traffic data will be agreed with all relevant authorities prior to submission of the ES. A record of

ID	Ref	Description	PINS Comment	How has this been addressed within the PEIR?	How will this be addressed within the ES?
			should be used to validate, supplement, or replace such data.	prior to the assessment being undertaken and reported in the PEIR. Consultation with RCC is ongoing at the time of drafting the PEIR.	agreement will be provided as part of the ES.
Noise and Vibration					
3.4.1	N/A	Noise and vibration from traffic movements during construction and decommissionin g	The Inspectorate notes that 60 two-way HGV movements per day and transportation for 100-150 workers is predicted during the peak construction period. In the absence of information to demonstrate that traffic movements will not exceed relevant thresholds for further assessment (e.g. 30% increase in traffic or HGV numbers or 10% increase in sensitive areas as suggested in the Guidelines for the Environmental Assessment of Road Traffic, 1993), the Inspectorate is not content	The potential noise effects of construction traffic are assessed in Chapter 10 of the PEIR, based on estimated construction traffic levels as set out in the Access and Highways chapter (Chapter 9).	The ES will include final details of Trip Generation and Traffic Routing along with the % change in flows along the identified construction access routes.

ID	Ref	Description	PINS Comment	How has this been addressed within the PEIR?	How will this be addressed within the ES?
			to scope out traffic movements during construction at present. The ES should provide information on trip generation, traffic routing, noise emissions and distances from receptors including any measures that are to be secured to avoid or reduce likely significant effects.		The assessment of noise from construction traffic will be updated based on the traffic assessment which will be set out in the Access and Highways chapter of the ES.
3.4.2	7.6.40	Noise and vibration from operational traffic movements	The Scoping Report notes that vehicle trip generation during operation is unlikely to be significant. The Inspectorate agrees that this matter can be scoped out, based on the figures provided however the ES description of development should confirm the anticipated trip generation (including number and type of vehicles) during operation to justify this.	Estimates of operational traffic are set out within the Access and Highways chapter (Chapter 9) of the PEIR.	Estimates of operational traffic will be set out within the ES.

ID	Ref	Description	PINS Comment	How has this been addressed within the PEIR?	How will this be addressed within the ES?
3.4.3	7.6.6	Baseline	Traffic movement baselines have shifted as a result of the Covid-19 pandemic. The Applicant should seek agreement with the relevant consultation bodies regarding the degree to which data collected in 2021 is representative and/or whether historic data should be used to validate, supplement, or replace such data.	This was discussed as part of consultation with the relevant local authorities, and no concern was raised in this regard. The baseline noise survey was undertaken in January and late February/early March 2022, when road traffic levels had increased almost back to pre-pandemic levels. If traffic levels are marginally lower than pre-pandemic or longer-term trends, this will have resulted in marginally lower baseline noise	The same baseline data as presented within the PEIR will be referenced in Noise and Vibration chapter of the ES. Confirmation on suitability of traffic data will be agreed with relevant authorities prior to submission of the ES. A record of consultation will be provided as part of the ES.

ID	Ref	Description	PINS Comment	How has this been addressed within the PEIR?	How will this be addressed within the ES?
				levels which represents a more precautionary basis for the assessment in any case. The scope of traffic surveys agreed with relevant authorities, as set out in the Access and Highways chapter (Chapter 9) of the PEIR, prior to the assessment being undertaken and reported in the PEIR.	
3.4.4	7.6.2	Assessment of tracker panels	The Scoping Report states that tracker panels may be used on the site however paragraph 7.6.2 does not specify whether noise from this panel type could constitute a likely significant effect during operation. The noise assessment	Noise from tracker panel movements has been assessed in the Noise and Vibration chapter (Chapter 10) of the PEIR	Noise from tracker panel movements will be assessed in the Noise and

ID	Ref	Description	PINS Comment	How has this been addressed within the PEIR?	How will this be addressed within the ES?
			should explain the noise emissions from such panels and provide an assessment of operational noise effects.	based on manufacturer information.	Vibration chapter of the ES.
Water Resources and Ground Conditions					
3.5.1	7.7.39	Potential transfer of sediment and chemicals to surface water resources during operation	The Inspectorate agrees that the presence of chemicals and soil disturbance during operation, including maintenance procedures is unlikely to give rise to significant effects. The Inspectorate expects that the ES will explain why the operational development will not give rise to routine emissions of chemicals (i.e. that panels are effectively inert) or sediment and how emergency releases would be managed within an Operation Environment Management Plan and/or Soil Management Plan and Battery Safety Management Plan. Therefore, the Inspectorate is content to scope this matter out.	The Water Resources and Ground Conditions chapter (Chapter 12) of the PEIR explains why the operational development will not give rise to routine emissions of chemicals. The Draft Water Construction Management Plan (WCMP) (Appendix 12.3) sets out that water management measures	The Water Construction Management Plan (WCMP), to be submitted as part of the DCO Application, will set out water management measures to control surface water runoff and drain hardstanding and other structures during the

ID	Ref	Description	PINS Comment	How has this been addressed within the PEIR?	How will this be addressed within the ES?
				to be adopted to control surface water runoff and drain hardstanding and other structures during the construction, operation and decommissioning of the Proposed Development. The Draft Water Construction Management Plan (WCMP) (Appendix 12.3) sets out how emergency procedures will be implemented for a spillage incident.	construction, operation and decommissioning of the Proposed Development. An Outline Surface Water Management Strategy will be provided as an Appendix to the ES and will outline the required surface water drainage design parameters.
3.5.2	N/A	Cumulative effects	Paragraph 3.1.12 states that solar PV panels will be pile driven or screw mounted into the ground. The Scoping Report does not indicate	The Water Resources and Ground Conditions chapter (Chapter 12) of	The Water Resources and Ground Conditions

ID	Ref	Description	PINS Comment	How has this been addressed within the PEIR?	How will this be addressed within the ES?
			the number of modules, however given the size of the 'solar development area' in Figure 3.1, it is likely that a large number of steel poles will be required. Paragraph 7.7.4 states that the site is at risk of flooding and paragraph 7.7.5 states that the elements of the project lie within groundwater Source Protection Zones 1 and 2 and the River Welland catchment Surface Water Safeguard Zone. This aspect chapter should consider the cumulative effects of these steel poles being driven into the ground across the entirety of the developable area in addition to any impacts from changes in surface run off from the panel and impermeable ground coverings on the drainage patterns within the site and the study area.	the PEIR sets out that the Mounting Structure posts will have a negligible effect on the displacement or change in sub-surface water flow, due to the thin nature of the supporting frame, and provides details of how land will be managed to prevent runoff.	chapter will assess effect on the displacement or change in sub-surface water flow as a result of the Mounting Structure posts. Details of the SuDS strategy will be included in the Water Resources and Ground Conditions chapter of the ES.

ID	Ref	Description	PINS Comment	How has this been addressed within the PEIR?	How will this be addressed within the ES?
3.5.3	N/A	Piling and irrigation	The ES should consider if there is potential for piling for the solar panels to interrupt any drainage/irrigation systems that may be present below ground and any field drains present.	The Water Resources and Ground Conditions chapter (Chapter 12) of the PEIR sets out that Mounting Structure posts will have a negligible effect on the displacement or change in sub-surface water flow, due to the thin nature of the supporting frame.	The Water Resources and Ground Conditions chapter will assess effect on the displacement or change in sub-surface water flow as a result of the Mounting Structure posts.
3.5.4	7.7.10	Representative baseline	The Scoping Report relies on information contained in a previous contaminated land survey undertaken at Wood Farm. The farm is located 250m west of the Proposed Development site and the historic mapping study area for the Wood Farm assessment is a	Since the submission of the EIA Scoping Report, further environmental data has been gathered and the Water Resources and Ground	A full Phase 1 Desk Study Contaminated Land report and if required subsequent Phase 2 Intrusive Investigation will be

ID	Ref	Description	PINS Comment	How has this been addressed within the PEIR?	How will this be addressed within the ES?
			100m buffer around the site. As such, the study area does not overlap with the Mallard Pass Solar Project site. The ES should justify the use of any historic datasets and justify how these are representative of the Proposed Development site.	Conditions chapter (Chapter 12) of the PEIR provides the Envirocheck dataset that has been used to inform the baseline conditions at the Site and the assessment (provided at Appendix 12.4).	undertaken for the Site and reported within the ES to identify and characterise any contamination.
Agricultural Land Use					
3.6.2	7.8.5	Agricultural Land Classification Survey	The Applicant has stated that they will conduct a 'semi-detailed' Agricultural Land Classification survey at the site based on 210 auger surveys located on a 200m grid. The Applicant should ensure that a sufficient number of auger locations are used across the site to accurately inform the assessment in line with relevant guidance and/or standards (e.g.	The description of the soil survey is provided in the Agricultural Land Use chapter (Chapter 13) of this PEIR. The assessment within the Agricultural Land Use chapter (Chapter 13) of	Continued consultation will be undertaken with Natural England to discuss survey findings and to consult on the draft Soil Management

ID	Ref	Description	PINS Comment	How has this been addressed within the PEIR?	How will this be addressed within the ES?
			Natural England Technical Information Note TIN049, 2012), or justify why this surveying methodology approach is sufficient.	this PEIR is based on guidance from DMRB, Natural England and Environment Agency. Close regard has been given to the 2022 IEMA Guidance 'A New Perspective on Land and Soil in Environmental Impact Assessments'. Consultation with Natural England is ongoing regarding the survey methodology.	Plans.. A summary of the consultation and the methodology and results will be set out in the Agricultural land use chapter of the ES.
3.6.3	7.8.17	Magnitude of impacts	The Scoping Report states that the loss of more than 50ha of BMV land is considered to be large/major in magnitude, losses of 20-50ha are of moderate/medium and losses of	The PEIR assessment considers the recently published IEMA Guide 'A New Perspective on	The assessment methodology will be set out in the Agricultural Land

ID	Ref	Description	PINS Comment	How has this been addressed within the PEIR?	How will this be addressed within the ES?
			less than 20ha are of low magnitude. This is stated to be based on 'established practice.' The ES should provide specific reference any guidance or practice that is used.	Land and Soil in Environmental Impact Assessment', which sets different thresholds, as set out in Agricultural Land Use chapter (Chapter 13) of this PEIR.	Use chapter of the ES.
3.6.4	N/A	Cumulative effects	The ES should consider the potential for cumulative impacts at a regional scale with other plans and projects that result in a reduction of available BMV land.	The potential cumulative impacts at a regional scale with other plans and projects in relation to the reduction of BMV land is provided with the Cumulative Effects Chapter (Chapter 19) of this PEIR.	The ES will consider the potential cumulative effects based on the other developments agreed for cumulative assessments. The assessment will consider the loss of BMV agricultural land

ID	Ref	Description	PINS Comment	How has this been addressed within the PEIR?	How will this be addressed within the ES?
					rather than its availability.
Glint and Glare					
3.7.1	7.9.20	Effects during decommissioning phase	The Applicant proposes to scope out effects during the decommissioning phase, stating that these effects will be of lesser significance than during operation as fewer of the solar panels will be in place. The Inspectorate agrees that, on the basis that the decommissioning phase is unlikely to result in glint and glare effects greater than those of the operational phase, this matter can be scoped out of the assessment.	No further action required.	The Inspector's comment is noted. No further action on this required.
3.7.2	3.1.7	Worst case scenario	Paragraph 3.1.7 of the Scoping Report notes that either fixed or tracker mounting structures could be used for the solar arrays. Given that the two different mounting structures are likely to lead to different glint and glare effects, the	The Solar Photovoltaic Glint and Glare Study (Appendix 14.1) assesses both fixed and tracker mounting	Both fixed and tracker mounting structures for the PV Arrays will be considered in the ES.

ID	Ref	Description	PINS Comment	How has this been addressed within the PEIR?	How will this be addressed within the ES?
			ES should present the worst-case assessment for both options.	structures for the PV Arrays. The Glint and Glare chapter (Chapter 14) of the PEIR describes the potential glint and glare effects during the operation of the Proposed Development as this is considered to be the worst case scenario.	The Glint and Glare technical report and chapter of the ES will be updated to reflect any changes to the extent of PV Arrays and take account of landscape screening. The ES will describe the potential glint and glare effects during the operation of the Proposed Development as this is considered to be the worst-case scenario.
3.7.3	7.9.10	Study area	The Scoping Report highlights that only railway receptors within 500m of the solar	The study area and justification of the	The study areas used within the

ID	Ref	Description	PINS Comment	How has this been addressed within the PEIR?	How will this be addressed within the ES?
			panel area will be included within the assessment. The ES should justify this as an appropriate study area, explaining why no significant effects from glint and glare would occur beyond 500m on railway users.	distances used within the assessment of glint and glare impacts, as a result of the Proposed Development, are set out in the Glint and Glare chapter (Chapter 14) of the PEIR.	assessment of glint and glare impacts will be set out in the Glint and Glare chapter of the ES.
Climate Change					
3.8.1	7.10.19	Climate change effects on decommissioning and construction	The Inspectorate agrees that temperature change, sea level rise, changes in precipitation, storm surges and wind speed as a result of climate change are unlikely to give rise to significant effects on the construction and decommissioning phases of the Proposed Development. Therefore, the Inspectorate is content to scope this matter out, however the ES project description should explain how the	The Water Resources and Ground Conditions (Chapter 12) of the PEIR outlines how the elements of the Proposed Development are proposed to be located entirely out with of the modelled 1:100-year (with an allowance for climate	The elements of the Proposed Development are proposed to be located entirely out with of the modelled 1:100-year (with an allowance for climate

ID	Ref	Description	PINS Comment	How has this been addressed within the PEIR?	How will this be addressed within the ES?
			development has been designed to be resilient to such effects.	year (with an allowance for climate change) fluvial flood extents. The Proposed Development will not be impacted in up to and including the 1:100-year (20% climate change allowance) fluvial event as agreed in consultation with the Environment Agency.	change) fluvial flood extents. The Proposed Development will not be impacted in up to and including the 1:100-year (20% climate change allowance) fluvial event as agreed in consultation with the Environment Agency. If any other elements of the Proposed Development are located within these areas, the ES will explain how the Proposed

ID	Ref	Description	PINS Comment	How has this been addressed within the PEIR?	How will this be addressed within the ES?
					Development has been designed to be resilient to effects from flooding.
3.8.2	7.10.19	Indirect effects of climate change	The Inspectorate considers that the indirect effects of climate change, such as political conflicts caused or triggered by climate change leading to changes in the supply chain or changes in the energy market, are unlikely to give rise to significant effects and may be scoped out from further assessment.	No further action required.	The Inspector's comment is noted. No further action on this required.
3.8.3	7.10.15	Carbon emissions associated with decommissioning phase	The Scoping Report states that carbon emissions associated with the construction phase of the Proposed Development are to be scoped into the EIA. However, the Scoping Report does not include the same commitment for the decommissioning phase. The ES should include an assessment of Greenhouse	The GHG emissions for the development, as presented in Chapter 15 of the PEIR, considers all phases of the Proposed Development.	The GHG emissions for the development, presented in the ES, will consider all phases of the Proposed Development

ID	Ref	Description	PINS Comment	How has this been addressed within the PEIR?	How will this be addressed within the ES?
			Gas (GHG) emissions during the decommissioning phase of the Proposed Development.		
3.8.4	7.10.17	GHG emissions associated with operational phase	The Scoping Report states that GHG emissions emitted by the Proposed Development will be offset by the production of cleaner energy generated. The ES should include an assessment of the GHG emissions associated with the operational phase of the Proposed Development.	The Climate Change chapter (Chapter 15) of the PEIR, considers the greenhouse gas (GHG) emissions generated and displaced by the Proposed Development.	The emissions generated and displaced by the Proposed Development will be considered within the Climate Change chapter of the ES.
3.8.5	N/A	Carbon and economic impact of changing land use	The Inspectorate does not consider that impacts on the economy or to carbon emissions resulting from a proposed change from arable to low intensity farming and/or the transportation/import of food and crops are likely to result in significant effects. On this	No further action required.	The Inspector's comment is noted. No further action on this required.

ID	Ref	Description	PINS Comment	How has this been addressed within the PEIR?	How will this be addressed within the ES?
			basis, consideration of such effects in the EIA is not considered necessary.		
Socio-Economics					
3.9.1	7.11.24 to 7.11.25	Local Tourism Economy	The Applicant proposes to scope out effects of the Proposed Development on the local tourism economy as the main publicly accessible tourism assets are located approximately 2.3km from the site, including the Burghley House RPG. The Burghley House RPG is located within the ZTV, as noted in paragraph 7.11.25. Therefore, there is potential for adverse visual effects on a local tourism asset. In the absence of information to the contrary or evidence demonstrating clear agreement with relevant consultation bodies, the Inspectorate is not in a position to agree to scope these matters out of the assessment.	The effects on tourism as a result of the Proposed Development have been considered within the Socio-economics chapter (Chapter 16) of the PEIR.	The effects on tourism as a result of the Proposed Development will be considered within the Socio-economics chapter of the ES.

ID	Ref	Description	PINS Comment	How has this been addressed within the PEIR?	How will this be addressed within the ES?
3.9.2	7.11.26	Amenity and Recreation	The Applicant proposes to scope out effects on amenity and recreation, including effects on two Public Rights of Way (PRoWs) that traverse across the site. The Scoping Report states that the PRoWs will be retained within the 30m landscape buffer and only a temporary diversion may be required during the construction phase. The Inspectorate does not agree that this matter can be scoped out. The ES should explain what consideration has been given to mitigating the effect of the Proposed Development on the experience of footpath users. The Applicant should agree relevant mitigation measures with the Local Planning Authority, where possible.	The impacts to Public Right of Way (PRoW) users has been considered in the Amenity and Recreation Assessment (Appendix 6.5). The Amenity and Recreation Assessment sets out the mitigation measures in relation to reducing impacts to amenity and recreation resource. The implementation of the oCEMP (Appendix 5.1), oLEMP (Appendix 5.2), and oDEMP (Appendix 5.3) will ensure disturbance to the A&R	The Amenity and Recreation Assessment will be submitted as an Appendix to the ES. The project description within the ES will describe how the scheme has been designed to mitigate the effect of the Proposed Development on the experience of footpath users. The oCEMP, oLEMP and oDEMP will be prepared to support

ID	Ref	Description	PINS Comment	How has this been addressed within the PEIR?	How will this be addressed within the ES?
				resource for the construction, operation and decommissioning of the Proposed Development are reduced as far as is practically possible. Consultation with the LPAs is ongoing regarding the Green Infrastructure Design which includes a series of permissive paths.	the DCO Application and will form the framework for a detailed CEMP, LEMP and DEMP that will be agreed with the local planning authority prior to construction and decommissioning.
Topics to be Scoped Out					
3.10.1	8.1	Cultural Heritage – Archaeology	The Applicant proposes to scope out cultural heritage on the basis that the nature of the Proposed Development means that significant effects are unlikely to occur.	Chapter 8 of the PEIR assesses the potential for buried archaeological remains within the Solar	The Cultural Heritage chapter of the ES will present further analysis of the

ID	Ref	Description	PINS Comment	How has this been addressed within the PEIR?	How will this be addressed within the ES?
			The Scoping Report states that as the Proposed Development involves minimal ground-disturbing activity there is unlikely to be a significant effect on archaeological remains. However, the PV panel frames will be pile driven into the ground and grid connection cables will involve underground cabling, including digging trenches up to 1.3m deep (as noted in paragraph 3.1.23), as well as digging involved in installation of the perimeter fencing and security measures. Furthermore, it is noted in paragraph 8.1.11 that "*the potential extent and heritage significance of buried archaeological remains is being investigated by additional desk-based research…and geophysical survey*". As such, it is considered that the extent of archaeological remains is unknown at this	PV Site based on information gathered from the on-going desk-based assessment and the geophysical survey (Appendix 8.1).	results of the geophysical survey, alongside more detailed desk-based assessment to provide a robust model of the potential for archaeological remains within the Solar PV Site. The geophysical survey will be presented as part of the ES. This will be supported by targeted further field evaluation (trial trenching) to explore the extent and value

ID	Ref	Description	PINS Comment	How has this been addressed within the PEIR?	How will this be addressed within the ES?
			stage. Considering the Proposed Development does involve ground disturbing activity and the extent of archaeological assets is yet to be established, the Inspectorate is of the opinion that desk-based survey and geophysical survey should be undertaken as a minimum and the need for selective trial trenching should be established with the relevant local authority archaeologists.		(significance) of any surviving remains. These works will be designed in consultation with the relevant heritage stakeholders.
3.10.2	8.1	Cultural Heritage – Heritage Assets	Effects on heritage assets are proposed to be scoped out on the basis that any changes are "*not sufficient to cause significant effects to their heritage significance*". However, paragraph 8.1.18 states that a 'settings assessment' for designated heritage assets is yet to be conducted. Considering the proximity of some of the heritage assets to the Proposed Development site, and the absence of evidence to suggest that the Proposed	The Cultural heritage and Archaeology chapter (Chapter 8) of the PEIR sets out that the preliminary assessment of the form of the Proposed Development and its distance from any of these heritage assets suggests that no material	While the preliminary assessment of the potential effects on the built heritage (and historic landscape) has not identified any significant effects that would warrant mitigation, this matter

ID	Ref	Description	PINS Comment	How has this been addressed within the PEIR?	How will this be addressed within the ES?
			Development will not affect the heritage setting of such assets, the Inspectorate considers that this aspect cannot be scoped out at this stage. It is also noted (in Table 10.1) that construction and decommissioning effects for historic buildings and landscape are considered not applicable. However, as the Inspectorate does not agree that heritage assets can be scoped out, the ES should include an assessment for all phases of the Proposed Development unless justified within the ES and agreed with relevant consultation bodies.	views or experiences of them would be changed and not adversely affected. These matters will be further explored and robustly assessed to support the DCO Application.	will be further explored and robustly assessed to support the DCO Application. This detailed assessment may identify further opportunities for localised 'landscape screening' to ensure that the impact on the values (significance) of any effected heritage assets can avoided or minimised.
3.10.3	8.2	Air Quality	The Scoping Report does provide an indication of vehicle movements required; however, the Inspectorate does not agree to	Estimates of construction phase traffic is set out within the Access and	Construction traffic vehicle movements will continue to be

ID	Ref	Description	PINS Comment	How has this been addressed within the PEIR?	How will this be addressed within the ES?
			this aspect being scoped out during construction without full information on traffic baseline and traffic impacts and impacts from plant machinery being provided. The ES should consider the potential for likely significant effects on human and non-human receptors during construction.	Highways chapter (Chapter 9) of the PEIR which falls below the EPUK/ IAQM criteria (500 Light duty vehicles (LDVs) and 100 heavy duty vehicles (HDVs) outside of an Air Quality Management Area (AQMA)). On this basis, dispersion modelling of construction traffic impacts to air quality has not been undertaken as part of the assessment within the Air Quality chapter (Chapter 11) of the PEIR. Non-road mobile	considered as the details of the Proposed Development are finalised. If construction traffic vehicle numbers increase above EPUK/ IAQM criteria, detailed dispersion modelling of impacts to air quality may be assessed, as necessary. Non-road mobile machinery (NRMM) will adhere to European regulations (EU 2016/1628)

ID	Ref	Description	PINS Comment	How has this been addressed within the PEIR?	How will this be addressed within the ES?
				machinery (NRMM) will adhere to European regulations (EU 2016/1628) demonstrating compliance with emission limits as stated in the oCEMP (Appendix 5.1). Construction traffic movements will be controlled by the CTMP, and as such traffic movements will not be considerably higher than assessed at the planning stage and a sensitivity test is not necessary. The draft oCTMP is	demonstrating compliance with emission limits as stated in the oCEMP. Construction traffic movements will be controlled by the CTMP, and as such traffic movements will not be considerably higher than assessed at the planning stage and a sensitivity test is not necessary.

ID	Ref	Description	PINS Comment	How has this been addressed within the PEIR?	How will this be addressed within the ES?
				provided at Appendix 9.4.	
3.10.4	8.3	Arboriculture	The Applicant proposes to scope out arboriculture from the ES. Arboricultural effects would be considered within a standalone Arboricultural Impact Assessment. The Inspectorate agrees with this approach provided that any likely significant effects are reported in the ES.	An Arboricultural Impact Assessment, Arboricultural Method Statement and Tree Protection Plan will be produced as part of the ES. No further action required.	An Arboricultural Impact Assessment, Arboricultural Method Statement and Tree Protection Plan will be produced as part of the ES. No further action required.
3.10.5	8.4	Major Accidents and/or Disasters	A standalone chapter for Major Accidents and Disasters is not proposed on the basis that this aspect is addressed within other Chapters of the ES, namely Access and Highways, Glint and Glare, Water Resources and Ground Conditions. Additionally, paragraph 8.4.10 states that the ES will detail measures incorporated into the design to minimise	Chapter 18 of the PEIR provides a summary of how major accidents and disasters have been considered at this stage in the project. As set out in the Project Description, batteries no	Batteries no longer form a component of Proposed Development and as agreed by PINS the ES will not include a chapter on major

ID	Ref	Description	PINS Comment	How has this been addressed within the PEIR?	How will this be addressed within the ES?
			potential impacts relating to fire from the Proposed Development. The Inspectorate has considered the characteristics of the Proposed Development and agrees with this approach. The Inspectorate notes however that an outline Battery Safety Management Plan is also proposed to be submitted as part of the draft DCO application. The Inspectorate considers that the risk of battery fire/explosion should be addressed in the ES, including where any measures designed to minimise impacts on the environment in the event of such an occurrence are secured.	longer form part of the Proposed Development, therefore the risk of battery fire/explosion has not been considered and Battery Safety Management Plan is no longer required. The PEIR is not a draft ES and it was agreed that the PEIR would include a chapter on all topics at this stage.	accidents and disasters.
3.10.6	8.5	Human Health	A standalone chapter for Human Health is not proposed on the basis that the Proposed Development would be designed and maintained to operate safely and where there	No further action required.	The Inspector's comment is noted. No further action on this required.

ID	Ref	Description	PINS Comment	How has this been addressed within the PEIR?	How will this be addressed within the ES?
			are interactions with human health these will be considered within other aspect chapters of the ES as listed in paragraph 8.5.2. The Inspectorate agrees with this approach.		
3.10.7	8.5	Electromagnetic Fields (EMF)	The Applicant proposes to scope out EMF on the basis that the export cable and existing substation are the only elements of the Proposed Development that exceed 132kV and these are located approximately 500m from residential dwellings, therefore the potential for EMF effects are limited. In line with relevant guidance (DECC Power Lines: Demonstrating compliance with EMF public exposure guidelines, A Voluntary Code of Practice 2012), cables above 132kV have potential to cause EMF effects. The Inspectorate considers that the ES should demonstrate the design measures taken to avoid the potential for EMF effects on	The export cable and Primary Onsite Substation which form a part of the Proposed Development exceed 132kV and therefore have the potential to cause electromagnetic fields (EMF) with potential for adverse effects on human health. The export cable will be buried underground at a suitable depth and the primary onsite substation	As concluded at PEIR stage, electromagnetic fields are unlikely to have any adverse effects on residential receptors and therefore will not be assessed within the ES.

ID	Ref	Description	PINS Comment	How has this been addressed within the PEIR?	How will this be addressed within the ES?
			receptors from the cable and substation infrastructure.	will be set back from Uffington Lane and surrounded by a metal fence that will reduce electromagnetic fields so that they are in line with relevant guidance (DECC Power Lines: Demonstrating compliance with EMF public exposure guidelines, A Voluntary Code of Practice 2012). Therefore, electromagnetic fields are unlikely to have any adverse effects on residential receptors.	

ID	Ref	Description	PINS Comment	How has this been addressed within the PEIR?	How will this be addressed within the ES?
3.10.8	8.6	Waste	Solar developments are typically considered to be 30 to 40 year developments with panel degradation cited as a limiting factor on project lifespan. On this basis, the Inspectorate considers that some panels may need to be replaced during the operational life of the project. The Scoping Report states that waste during construction and decommissioning would be recycled in line with good practice and market conditions. However, it does not address the potential for component replacement during operation. The ES should include an assessment of the likely impact of component replacement (e.g. batteries and panels) and outline what measures, if any, are in place to ensure that these components are able to be diverted from the waste chain. The ES should assess the likely significant effects from waste at decommissioning to the	To ensure that the principles of recycling and/or reusing these materials are secured, a draft outline Decommissioning Environmental Management Plan (oDEMP) has been prepared to support the PEIR (Appendix 5.3). The Project Description chapter (Chapter 5) of the PEIR, provides further details on the operation and maintenance of the Proposed Development	The ES will include details of the operation and maintenance of the Proposed Development. To ensure that the principles of recycling and/or reusing these materials are secured, the draft oDEMP will be developed and submitted as part of the DCO Application.

ID	Ref	Description	PINS Comment	How has this been addressed within the PEIR?	How will this be addressed within the ES?
			extent possible at this time. The Scoping Report states that a Decommissioning Plan will be agreed with the Local Planning Authority. The Inspectorate would expect to see this secured through the inclusion of an Outline Decommissioning Plan, or similar, submitted with the Application. The ES should clearly set out how decommissioning is to be assessed and any components which may remain following decommissioning. The ES should also consider the requirement for cumulative impacts to be assessed at decommissioning due to a number of solar farms in the local area also likely to be decommissioning in a similar timescale.	including how any waste is to be managed. Chapter 5 also provides further information on the decommissioning phase of the Proposed Development.	

Mallard Pass
Solar Farm

Mallard Pass Solar Farm

Preliminary Environmental Information Report

Volume 3: Appendices

Appendix 5.1: Outline Construction Environmental Management Plan

May 2022

Outline Construction Environmental Management Plan

1.1. Introduction

1.1.1. This document provides a draft outline for the Construction Environmental Management Plan (oCEMP) for the Mallard Pass Solar Farm project (hereafter referred to as 'the Proposed Development'). This document will be updated at the next stage of the Proposed Development design prior to the Development Consent Order (DCO) Application and will be submitted with the suite of application documents but should be read as a draft version of that application document. A CEMP will be produced for the Proposed Development in accordance with a Requirement of the DCO, prior to commencing construction, which will be required to be in accordance with the outline CEMP submitted as part of the DCO Application.

1.1.2. This document does not address measures for the operational or decommissioning phase, which are provided in the separate draft Outline Landscape and Ecological Management Plan and the draft Outline Decommissioning Environmental Management Plan (oDEMP) which are submitted as part of the Preliminary Environmental Information Report (PEIR) (see Appendix 5.2 and 5.3).

1.1.3. The draft oCEMP demonstrates how the mitigation measures and necessary monitoring requirements identified in the EIA process, will be implemented. The measures proposed within the CEMP will be agreed prior to commencement of construction works with the relevant stakeholders. The detailed CEMP will be prepared following the appointment of a principal construction contractor, prior to the start of works and in accordance with this oCEMP.

1.1.4. The draft oCEMP has been prepared with the objective of compliance with the relevant legislation and mitigation measures identified through the EIA process. Any additional construction licences, permits or

approvals that are required for the construction phase of the Proposed Development and are not disapplied by the DCO, will be set out in the CEMP, including any environmental information submitted in respect of them.

1.1.5. This draft oCEMP covers the principal construction activities envisaged at the time of preparing the PEIR. The draft oCEMP is intended to be a live document, such that modifications and necessary interventions can be made following further information and advice from consultees.

1.1.6. The appointed construction contractor will be responsible for working in accordance with the environmental controls documented in this oCEMP, pursuant to the DCO. The overall responsibility for implementation of the CEMP will lie with the appointed contractor as a contractual responsibility to the Applicant, as the Applicant is ultimately responsible for compliance with the Requirements of the DCO.

1.1.7. Table 1.1 below sets out the other management plans that would be prepared in support of the CEMP.

Table 1.1 Additional Management Plans to Supplement the CEMP

Plan
Invasive Species Management Plan
Dust Management Plan
Construction Logistics Plan
Water and Construction Management Plan
Pollution Prevention Plan
Emergency Response Plan
Emergency Spillage Action Plan
Health and Safety Plan
Soil Management Plan

Plan
Construction Resource Management Plan

1.2. The Proposed Development

1.2.1. The project involves the installation of solar photovoltaic (PV) generating panels and associated infrastructure which would allow for the generation of an anticipated 350 megawatts (MW) (the 'Proposed Development') at land at Mallard Pass, Essendine (the 'Site').

1.2.2. The key components of the Proposed Development comprise the following:

- PV modules;
- Mounting Structures;
- Inverters;
- Transformers;
- Switchgear;
- Onsite Primary Substation and Ancillary Buildings;
- Low Voltage Distribution Cables;
- Grid Connection Cables;
- Fencing, security and ancillary infrastructure;
- Access tracks; and
- Green infrastructure (GI).

2.0 Construction

2.1. Construction Activities

2.1.1. Construction activities are provided in detail in Chapter 5 (Project Description) of the PEIR. The construction activities undertaken at the construction phase of the Proposed Development will involve:

- Solar PV Site preparation:
  - Delivery of construction materials, plant and equipment
  - The establishment of site fencing
  - The establishment of the primary and secondary temporary construction compound(s)
  - The upgrade of existing tracks and construction of new tracks required
  - The upgrade or construction of crossing points (bridges/culverts) over drainage ditches and below ground utility infrastructure
  - Marking out location of the infrastructure
- Solar Farm construction:
  - Delivery of Proposed Development components
  - Erection of Mounting Structures
  - Mounting of PV Modules
  - Installation of Distribution Cables
  - Installation of String Transformer and / or Central Container Inverters
  - Construction of Primary Onsite Substation compound
  - Construction of onsite electrical infrastructure to facilitate the export of generated electricity.

- Testing and commissioning
- Reinstatement and habitat creation

2.1.2. Temporary construction compounds will be established for the construction phase. A primary construction compound is expected to be located onsite with six temporary secondary construction compound(s) provided at different locations throughout the solar PV Site, as well as temporary roadways, to facilitate access to all parts of the solar PV Site.

2.1.3. A programme of construction reinstatement and habitat creation will commence during the construction phase. It is anticipated that areas under the solar arrays, areas within the landscape buffers will be planted with a combination of native grassland mix, wildflower mixes, hedgerows and woodland will be planted in strategic locations to provide visual screening, ecological habitats in order to achieve a minimum 10% biodiversity net gain (see Ecology and Biodiversity Chapter of the PEIR for details).

2.2. Construction Programme

2.2.1. The construction phase is anticipated to take 24 months and subject to being granted consent the earliest construction is anticipated to start is Summer 2026. The final programme will be dependent on the final layout design and potential environmental constraints on the timing of construction activities. The ES will provide further details of the construction activities, their anticipated duration and indicative programme of each phase of construction works.

2.3. Working Hours

2.3.1. Core construction hours will run from 07:00 to 19:00 Monday to Saturday, and no working on Sundays or Bank Holidays. HGV deliveries to the Site and works likely to generate substantial levels of noise, aside from HDD drilling, would be limited to daytime hours of 07:00 to 19:00

during weekdays or Saturday mornings (until 13:00 hours), unless otherwise agreed with the local authorities.

2.3.2. HDD drilling could be required outside of the assumed day-time construction hours (i.e. evening, Sundays, Bank Holidays or at night).

2.3.3. Working days will be one 12-hour shift, with employees travelling to and from Site an hour either side of these times (i.e. between 06:00 and 07:00, and 19:00 and 20:00). Where onsite works are to be conducted outside the core working hours, they will comply with the restrictions pursuant to the consenting process.

2.4. Control of Noise

2.4.1. A display board will be installed on-site. This will include contact details for the Site Manager or alternative public interface with whom complaints can be lodged. A log book of complaints and remedial actions taken will be prepared and managed by the Site Manager and made available to the local authority where requested.

2.5. Control of Light

2.5.1. Construction temporary site lighting, in the form of mobile lighting towers, will be required in areas where natural lighting is unable to reach (sheltered/confined areas), and during core working hours within winter months. Artificial lighting will be provided to maintain sufficient security and health and safety for the construction site, whilst adopting mitigation principles to avoid excessive glare, and minimise spill of light to nearby receptors (including ecology and residents) as far as reasonably practicable. All construction lighting will be deployed in accordance with the following recommendations to prevent or reduce the impact on human and ecological receptors:

1) The use of lighting will be minimised to that required for safe site operations;

2) Lighting will utilise directional fittings to minimise outward light spill and glare (e.g. via the use of light hoods/cowls which direct light below the horizontal plane, preferably at an angle greater than 20° from horizontal); and

3) Lighting will be directed towards the middle of the construction site rather than towards the boundaries.

2.6. Construction Traffic Management

2.6.1. During construction, the appointed contractor will ensure that the impacts from construction traffic on the local community are minimised, where reasonably practicable. A separate draft outline Construction Traffic Management Plan (oCTMP) has been prepared which considers the methods by which materials, equipment and construction workers will arrive at the Site. The draft oCTMP is available at Appendix 9.4 of the PEIR.

2.6.2. A detailed CTMP will be developed by the appointed contractor and approved by the appropriate local planning authorities and will be secured by a Requirement of the DCO. This will also encourage staff to utilise sustainable modes of transport for journeys to and from the site where possible.

2.7. Site Security

2.7.1. Site security during the construction phase will be managed by the appointed contractor. Site perimeter fencing will be established at the start of the construction phase. Storage of materials and chemicals will be kept secure to prevent theft or vandalism. The contractor will be responsible for establishing a safe system for accessing the material storage areas.

2.8. Waste Recycling and Disposal

2.8.1. The Waste (England and Wales) Regulations 2011 place a duty on all persons who produce, keep or manage waste to apply the 'Waste Hierarchy' in order to minimise waste production at every stage of the development.

2.8.2. The Waste Hierarchy is a European concept which requires anyone managing waste to consider first waste prevention, preparing for reuse and recycling, followed by waste recovery methods e.g. energy recovery and, lastly, waste disposal.

2.8.3. In order to control the waste generated onsite during the construction phase, the appointed contractor will separate the main waste streams onsite, prior to transport to an approved, licensed third party waste facility for recycling and disposal.

2.8.4. All reasonable actions will be taken by the contractor to minimise the volume of waste produced as a result of the construction of the Proposed Development. This can be through reducing consumption, reuse, using resources efficiently, and designing for longevity. Waste segregation will be undertaken where possible to maximise the opportunities for reuse and recycling.

2.8.5. A separate outline Excavated Materials Management Plan (oEMMP) will be prepared alongside the ES and submitted with the application setting out details of how excavated materials will be managed, how waste will be managed in accordance with the waste hierarchy, good practice measures for managing waste in construction and the roles and responsibilities of the construction contractor. The EMMP will be finalised with specific measures to be implemented prior to the start of construction and would be prepared and approved as part of the final CEMP.

2.8.6. All waste removed from the Site will be undertaken by fully licensed waste carriers and taken to licensed waste facilities for recycling or disposal.

2.9. Best Practice Measures

2.9.1. The Proposed Development will adopt the Considerate Constructors Scheme (CCS) to assist in reducing pollution and nuisance during the construction of the Proposed Development, by employing best practice measures.

3.0 Management and Mitigation Plan

3.1.1. This section of the oCEMP outlines the potential impacts, mitigation measures to be included as a minimum within the CEMP. It also provides the monitoring requirements for mitigation and/or enhancement measures where required. The measures identified in Table 3.1 below will be reviewed and updated following formal consultation and again following the consent of the DCO application as part of the preparation of the CEMP.

3.1.2. Nothing in this draft oCEMP would prevent the modification or omission of the control measures set out in Table 3.1 where the construction methodology means that the measures can be so modified or omitted. This will be confirmed (including confirming that the absence or change to such control measures would not lead to any materially new or materially different significant effects) at the time of submission of the detailed CEMP.

Table 3.1: Summary of Construction Management, Mitigation and Monitoring Measures

Potential Impact	Mitigation and/or Enhancement Measure	Requirement for Monitoring	Responsibility
Landscape and Visual			
Loss of existing landscape features, e.g. vegetation Visibility of construction activities	The oLEMP will set out the measures proposed to mitigate the potential impacts and effects on landscape (and biodiversity) features, and to enhance the landscape and biodiversity value of the Site (i.e. the green infrastructure). The LEMP, which takes into account and is prepared in accordance with the principles of the oLEMP which will be submitted with the DCO application. The CEMP will be required to take into account measures contained within the LEMP approved pursuant to it and will include measures such as construction exclusion zones in relation to retained vegetation, ensuring a tidy and neat working area, covering stockpiles, hoardings in a suitable colour to aid their integration in the landscape and storing topsoil in accordance with best practice measures.	A pre-construction arboricultural survey in line with BS5837:2012. Additional surveys may be required during the site clearance and construction phase as advised as necessary by the appointed contractors arboricultural specialist, based	The oLEMP and oCEMP will set out roles and responsibilities for implementation, which will be secured as a requirement of the DCO.

Potential Impact	Mitigation and/or Enhancement Measure	Requirement for Monitoring	Responsibility
	Landscape and biodiversity management and enhancement measures including replacement tree and hedgerow planting will be implemented during and/or following construction. The perimeter security fence around the Site will be implemented early in the construction phase to secure the Site to prevent construction activity in proximity to retained vegetation, in particular designated sites adjacent to the Site and, where required by arboricultural surveys, specific tree protection measures will be implemented, including solid hoarding fencing and construction exclusion zones. The design of the Proposed Development has ensured careful consideration of the access points to limit the loss of vegetation at access points and the number of field boundary crossings. Where access and crossings are necessary, they have been carefully aligned to pass through the field access points and hedgerows where it would have the minimal impact on mature trees. The width of the access points will be minimised as far as possible to retain the landscape structure and habitat connectivity.	on the findings of the tree survey and/or detailed design, or otherwise as identified as appropriate by the Applicant or their appointed main contractor. ECoW will carry out monitoring of the proposed protection measures such as fencing.	

Potential Impact	Mitigation and/or Enhancement Measure	Requirement for Monitoring	Responsibility
	Landscape, arborists and/or the ECoW will ensure that the landscape and ecology requirements of the final CEMP(s) are adhered to and that the construction works are monitored. Any compaction of soils that has occurred from the use of heavy machinery during construction will be aerated prior to landscape planting. **Screening** Existing vegetation along the boundary of the Site will be retained and managed where practicable to ensure its continued presence and to aid the screening of low-level views into the construction site.		
Ecology and Biodiversity			
Potential for spillages to enter watercourses and impact ecology. Accidental injury to protected species,	The oLEMP will set out the measures proposed to mitigate the potential impacts and effects on landscape (and biodiversity) features, and to enhance the landscape and biodiversity value of the Site (i.e. the green infrastructure).	A pre construction site walkover will be undertaken in advance of mobilisation/any	Specific responsibilities will be confirmed in the CEMP which will be

Potential Impact	Mitigation and/or Enhancement Measure	Requirement for Monitoring	Responsibility
active bird nests etc. during clearance of habitat to facilitate construction Dust deposition on sensitive ecological receptors. Accidental damage or temporary loss to retained ecological features such as trees, hedgerows, LWS and SSSIs.	The LEMP, which takes into account and is prepared in accordance with the principles of the Outline LEMP which will be submitted with the DCO application. The Proposed Development will avoid, as far as reasonably practicable, areas of high-quality habitat, such as veteran trees and woodland/grassland habitats associated with Local Wildlife Sites (LWS) surrounding the Site. Therefore, the final CEMP will include measures to protect retained features adjacent to construction working areas. Reasonable avoidance measures to avoid impact on badgers and bats will be employed, including buffers of 30m around any identified badger setts and 15m buffer around trees with bat roost potential. A 15m buffer zone will be applied to the adjacent Local Wildlife Sites and ancient woodland surrounding the Site. The perimeter security fence around the Proposed Development will be implemented early in the construction phase to secure the Site. This fence will also prevent accidental damage to retained vegetation, in particular designated sites (Local Wildlife Sites) within and adjacent the Order limits. Where this fence is not	potential advance works to reconfirm the ecological baseline conditions and to identify any new ecological risks. Updated species surveys, would be completed as appropriate to reconfirm the status of protected species identified, to inform mitigation requirements and support protected species licence	secured as a requirement of the DCO.

Potential Impact	Mitigation and/or Enhancement Measure	Requirement for Monitoring	Responsibility
	present, specific protection measures will be implemented, including fencing and construction exclusion zones. Toolbox talks will be delivered to all contractors to include the locations of retained features, the ecological risks present, legal requirements and working arrangements necessary to comply with legislation and the protection measures to be adhered to. Toolbox talks will be repeated as necessary over the duration of the construction phase. Update surveys for badgers will be carried out to ensure that any new setts are identified sufficiently early to allow these to be dealt with appropriately, either through protection zones or licensed sett closures. This will also cover existing setts to identify whether they remain active. More general walkover surveys may also be undertaken by an ecologist to confirm whether the risks remain as previously assessed and/or to confirm correct implementation of impact avoidance measures (e.g. protected species stand-offs). Measures to prevent and minimise dust creation and air pollution will be adopted throughout construction. Please refer to the Air	applications, if required by Natural England, the Council(s) and ECoW. This is proposed to be secured by a Requirement of the DCO. The ECoW will carry out monitoring of the proposed protection measures such as fencing. The condition of cleared areas will be monitored to ensure these	

Potential Impact	Mitigation and/or Enhancement Measure	Requirement for Monitoring	Responsibility
	Quality section of this table for the measures employed to minimise effects on air quality. Measures to prevent pollution incidents will be adopted throughout construction. Please refer to the Water Resources and Ground Conditions section of this table for the measures employed to avoid pollution events with respect to water quality. Measures to minimise effects on ecology from noise and vibration will be adopted throughout construction. Please refer to the Noise and Vibration section of this table for the measures employed to minimise noise and vibration. Vegetation clearance will be undertaken in advance of construction and at an appropriate time of year. To avoid damage to nests or injury to reptiles and other protected species, vegetation removal will involve a two-stage process with a first cut in winter (October to February) and the final removal during the active season for reptiles under the supervision of the ECoW (mid-April onwards). This would be implemented for any small scale hedgerow, scrub or rough grassland removal/clearance from mid-April. As a further precaution, prior to starting	remain unsuitable for reptiles, nesting birds etc.	

Potential Impact	Mitigation and/or Enhancement Measure	Requirement for Monitoring	Responsibility
	construction during the nesting season (mid-March to August) in any of the open fields cleared of vegetation, the ECoW will carry out a watch of the affected field(s) to determine whether lapwing (or other ground nesting birds) are nesting in the area. At other times the vegetation will be kept short to displace any protected species, which may be present, away from the construction works when they emerge in the early spring, and discourage them from moving into the Site from the surrounding habitat. It may be necessary to apply for European Protected Species Mitigation (EPSM) or protected species licences from Natural England in advance of the works. This will be overseen by the ECoW. Precautionary measures will be implemented to prevent trapping wildlife in construction excavations. All excavations deeper than 1m will be covered or fenced overnight, or where this is not practicable, a means of escape will be fitted (e.g. battened soil slope or scaffold plank) to provide an escape route should any		

Potential Impact	Mitigation and/or Enhancement Measure	Requirement for Monitoring	Responsibility
	animals stray into the construction site and fall into an excavation. A suitably experienced ECoW will be employed/contracted to advise on relevant environmental commitments, the findings of the updated surveys, protected species licencing requirements (if any). The CEMP will include detailed working method statements and will specify working requirements and other impact avoidance measures. Habitats to be temporarily lost or accidentally damaged during construction would be fully reinstated on a like for like basis at the same location on completion of construction works, where practical.		
Potential for obtrusive light and light spill impact on species and habitats	Controls on lighting/illumination to minimise visual intrusion and potential adverse effects on sensitive ecology, such as bats, will be considered as far as reasonably practicable. Temporary construction Site lighting will be designed as far as reasonably practicable so as to minimise artificial light spill from the site. Lighting will be kept to a minimum during construction	None	Specific responsibilities will be confirmed in the final CEMP which will be

Potential Impact	Mitigation and/or Enhancement Measure	Requirement for Monitoring	Responsibility
	works. Construction working hours will be 07:00 – 19:00 Monday to Saturday and during construction in the winter months, mobile lighting towers. Any lighting required during the construction phase will be directed away from retained habitats and include hoods or cowls to direct light forwards into the construction areas. Throughout the Site, motion detection security lighting will be used to avoid permanent lighting and the inward distribution of light will avoid light spill on to existing boundary features.		secured as a requirement of the DCO.
Potential to spread invasive non-native species within the Site.	**Biosecurity** An Invasive Species Management Plan which sets out procedures to ensure any imported building/landscaping materials are free from invasive non-native species (e.g. Schedule 9 species) will be prepared in support of the CEMP. This will ensure: • In the event that any future infestations of invasive non-native species are identified prior to and, or during the development	The ECoW will carry out monitoring.	Specific responsibilities will be confirmed in the final CEMP which will be secured as a requirement of the DCO.

Potential Impact	Mitigation and/or Enhancement Measure	Requirement for Monitoring	Responsibility
	process, exclusion zones will be established around them and the ECoW contacted for advice as detailed; and • In the instance where invasive non-native species are identified, works will be monitored by the ECoW to avoid the spread of invasive non-native species.		
Cultural Heritage and Archaeology			
Potential impact to archaeological deposits	Flexibility has been allowed for with options for alterations to the construction methodology to allow for the preservation in-situ of important buried archaeological remains. A Written Scheme of Investigation (WSI) will be prepared for all archaeological mitigation required and agreed in writing with the Local Planning Authority prior to construction. The CEMP will reflect the mitigation set out in the WSI and include measures such as ensuring a watching brief is in place where required. On-going archaeological evaluation and assessment under the WSI will allow for the identification of any areas where preservation in situ is the preferred strategy. The CEMP will	None	Specific responsibilities will be confirmed in the CEMP which will be secured as a requirement of the DCO.

Potential Impact	Mitigation and/or Enhancement Measure	Requirement for Monitoring	Responsibility
	detail where (in some locations) archaeological works in advance of and during construction will be employed to mitigate the potential effects of construction. Where non-intrusive trenching methods are required for cable routes, the CEMP will include a strategy which will detail the monitoring of this, and it will include an action plan detailing the required mitigation in the event that unplanned activities threaten the preservation of known buried archaeological remains.		
Temporary impacts upon settings of built heritage assets during construction.	Temporary impacts during construction are not anticipated.	None	
Access and Highways			
Increased traffic flows, including HGVs on the roads leading to the Site.	A separate draft outline Construction Traffic Management Plan (oCTMP) details the mitigation measures required to reduce the impacts of increased traffic flows including heavy goods vehicles (HGVs) on the roads and severance and intimidation associate with increased traffic. The CTMP and Travel Plan (a draft of	The appointed contractor will undertake such monitoring as is necessary.	Travel Plan Co-ordinator to oversee management, monitoring and

Potential Impact	Mitigation and/or Enhancement Measure	Requirement for Monitoring	Responsibility
Severance and intimidation associated with increased construction traffic and abnormal loads.	which is included at Appendix 9.5 of the PEIR) will be produced and approved prior to construction. The mitigation measures for Abnormal Indivisible Load (AIL) will be discussed with stakeholders in accordance with regulatory requirements as set out in the draft CTMP included Appendix 9.5 of the PEIR.	Further details to be confirmed in the CTMP.	implementation of the individual measures within the CTMP. Other responsibilities are to be confirmed in the final CEMP which will be secured as a requirement of the DCO.
Noise and Vibration			
Vibration due to construction activities potentially causing annoyance at noise	Best Practicable Means (BPM) will be applied, as far as reasonably practicable, during construction works to minimise noise and vibration at noise sensitive receptors, including neighbouring residential properties and other sensitive receptors	The final CEMP will also set out a scheme for the provision of	To be confirmed in the CEMP which will be

Potential Impact	Mitigation and/or Enhancement Measure	Requirement for Monitoring	Responsibility
sensitive receptors and damage to building structures. Construction traffic, plant and machinery noise at nearby noise sensitive receptors.	arising from construction activities. These include, as appropriate: • Ensuring that all appropriate processes, procedures and measures are in place to minimise noise before works begin and throughout the construction programme; • All contractors to be made familiar with current legislation and the guidance in BS 5228 (Parts 1 and 2) (2014) which should form a prerequisite of their appointment; • Ensuring that, where reasonably practicable, noise and vibration is controlled at source (e.g. the selection of inherently quiet plant and low vibration equipment), review of the construction programme and methodology to consider quieter methods, consideration of the location of equipment onsite and control of working hours;	monthly reporting of information to local residents to advise of potential noisy works that are due to take place. The CEMP will set out scheme for the monitoring of noise complaints and reporting to the Applicant for immediate investigation and action. Further details are to be	secured as a requirement of the DCO.

Potential Impact	Mitigation and/or Enhancement Measure	Requirement for Monitoring	Responsibility
	• Use of modern plant, complying with applicable UK noise emission requirements; • Hydraulic techniques for breaking to be used in preference to percussive techniques, where reasonably practicable; • Drop heights of materials will be minimised; • Unnecessary revving of engines will be avoided, and equipment will be switched off when not in use; • Plant and vehicles will be sequentially started up rather than all together; • Offsite pre-fabrication where reasonably practicable; • Use of screening locally around significant noise producing plant and activities. Screening would be designed to minimise landscape and visual impacts;	confirmed in the CEMP.	

Potential Impact	Mitigation and/or Enhancement Measure	Requirement for Monitoring	Responsibility
	• Regular and effective maintenance by trained personnel will be undertaken to keep plant and equipment working to manufacturer's specifications; • All construction plant and equipment to be properly maintained, silenced where appropriate, operated to prevent excessive noise and switched off when not in use; • Loading and unloading of vehicles, dismantling of Site equipment or moving equipment or materials around the Site to be conducted in such a manner as to minimise noise generation, as far as reasonably practicable; • All vehicles used onsite shall incorporate reversing warning devices as opposed to the typical tonal reversing alarms to minimise noise disturbance where reasonably practicable; • Appropriate routing of construction traffic on public roads and along access tracks pursuant to the CTMP;		

Potential Impact	Mitigation and/or Enhancement Measure	Requirement for Monitoring	Responsibility
	• Provision of information to local planning authorities and local residents to advise of potential noisy works that are due to take place; • Section 61 Consents would be obtained for the Proposed Development which would include agreed construction noise limits for nearby noise sensitive receptors; • Monitoring of noise complaints and reporting to the Applicant for immediate investigation and action. A display board will be installed onsite. These will include contact details for the Site Manager or alternative public interface with whom complaints can be lodged. A log book of complaints will be prepared and managed by the Site Manager; and • Consideration will also be given to traffic routing, timing and access points to the Site to minimise noise impacts at existing receptors following appointment of a principal contractor, and		

Potential Impact	Mitigation and/or Enhancement Measure	Requirement for Monitoring	Responsibility
	as construction working methods are developed. Contractors will issue a project route map and delivery schedule to control construction traffic. Management of heavy goods vehicles (HGVs) within the Site and being let onto the highway network will be managed through the CTMP developed pursuant to the Framework CTMP.		
	HGV deliveries to the Site and Works likely to generate substantial levels of noise, aside from HDD drilling, would not be undertaken on Saturday afternoons (13:00 to 19:00). Other construction activities unlikely to generate high noise levels (*e.g.* Site access and inductions, light vehicle movements etc.) may continue during these hours. If percussive piling is used for the support structures/foundations for the Mounting Structures, this should be further restricted to no more than two periods of four hours each with at least one hour of no piling between these four hour periods and restricted to the hours of 08:00 to 18:00 Monday to Friday and 08:00 to 12:00 on Saturdays.	Same as above.	To be confirmed in the final CEMP which will be secured as a requirement of the DCO.

Potential Impact	Mitigation and/or Enhancement Measure	Requirement for Monitoring	Responsibility
	Trenchless/HDD works will be completed in the shortest practical timescale and night-time noise generation minimised. If night-time operation is required, the closest residents to the works shall be notified of the start and completion of the works. The plant would be installed and operated such that noise levels do not exceed 45 dB L_{Aeq} at neighbouring noise-sensitive locations. Depending on the plant used, location, pit depth etc., this may require use acoustic screening using temporary solid barriers with a height of at least that of the drilling equipment, located in proximity (around 10m or less) of the trenchless drilling work.	Same as above.	To be confirmed in the final CEMP which will be secured as a requirement of the DCO.
Air Quality			
Increased nitrogen dioxide (NO_2) and particulate matter (PM_{10} and $PM_{2.5}$) from onsite and offsite construction	Appropriate standard and best practice control measures, included in Annex 1 of this oCEMP, will be included in the final CEMP, which may include, but not be limited to: **Communication**	Measures in the final CEMP will include the implementation of inspection procedures onsite to periodically	Responsibility of the Site Manager, to be confirmed in the final CEMP which will be secured as a

Potential Impact	Mitigation and/or Enhancement Measure	Requirement for Monitoring	Responsibility
vehicle/plant emissions. Increased particulates and deposited dust from Site activities, materials transportation, storage and handling, including use of haul roads.	• Develop and implement a stakeholder communications plan that includes community engagement before work commences onsite; • Display the name and contact details of person(s) accountable for air quality and dust issues on site. This may be the environment manager/engineer or the site manager. The head or regional office contact information will also be displayed; and • Develop and implement a Dust Management Plan (DMP) in support of the CEMP, which may include measures to control other emissions, approved by the local planning authorities. The level of detail will depend on the risk and should include as a minimum the highly recommended measures in this document. The desirable measures should be included as appropriate for the site. The DMP may include monitoring of	visually assess any dust and air pollution which may be generated. Additional monitoring measures will be provided in the CEMP.	requirement of the DCO.

Potential Impact	Mitigation and/or Enhancement Measure	Requirement for Monitoring	Responsibility
	dust deposition, dust flux, real-time continuous monitoring and/or visual inspections. **Site Management** • Record all dust and air quality complaints, identify cause(s), take appropriate measures to reduce emissions in a timely manner, and record the measures taken; • Make the complaints log available to the local planning authorities upon request; • Record any exceptional incidents that cause dust and/or air emissions, either on- or offsite, and the action taken to resolve the situation in the logbook; and • Hold regular liaison meetings with any other high-risk construction sites within 500m of the Site (if applicable), to ensure plans are co-ordinated and dust and particulate matter emissions are minimised. It is important to understand the		

Potential Impact	Mitigation and/or Enhancement Measure	Requirement for Monitoring	Responsibility
	interactions of the offsite transport/ deliveries which might be using the same strategic road network routes. **Monitoring** • Agree dust monitoring locations and frequency with the local planning authorities; • Undertake onsite and offsite inspection, where receptors (including roads) are nearby, where access is granted to monitor dust, record inspection results, and make the log available to the local authorities when asked. This should include dust soiling checks of surfaces within publicly available land within 100m of Site, with cleaning to be provided if necessary; • Carry out Site inspections to monitor compliance with the DMP, record inspection results, and make an inspection log available to the local planning authorities when asked;		

Potential Impact	Mitigation and/or Enhancement Measure	Requirement for Monitoring	Responsibility
	• Increase the frequency of Site inspections by the person accountable for air quality and dust issues onsite when activities with a high potential to produce dust are being carried out and during prolonged dry or windy conditions; and • Monitoring upwind and downwind of any dusty activities and close to sensitive receptors at the site boundary. If required and where possible commence baseline monitoring at least three months before work commences onsite or, if it a large site, before work on a phase commences. Further guidance is provided by Institute of Air Quality Management (IAQM) on monitoring during demolition, earthworks and construction. **Preparing the Site** • Plan Site layout so that machinery and dust causing activities are located away from receptors, as far as is possible;		

Potential Impact	Mitigation and/or Enhancement Measure	Requirement for Monitoring	Responsibility
	• Erect solid screens or barriers around dusty activities that are at least as high as any stockpiles onsite where stockpiles are within 100m of receptors; • Fully enclose Site or specific operations where there is a high potential for dust production and the Site is active for an extensive period where operations are within 100m of receptors; • Avoid Site runoff of water or mud; • Keep Site fencing, scaffolding and barriers clean using wet methods; • Remove materials that have a potential to produce dust from the construction Site as soon as possible, unless being re-used onsite. If they are being re-used onsite cover as described below; and		

Potential Impact	Mitigation and/or Enhancement Measure	Requirement for Monitoring	Responsibility
	• Cover, seed or fence stockpiles to prevent wind whipping. **Dust management** The contractor will need flexibility to determine which measures are most effective in a given situation, but the measures listed in IAQM guidance on assessment of dust from demolition and construction (2016) include: • Implement wetting of dust generating activities, which are usually incorporated into a DMP (where necessary) produced by the contractor. • Undertake daily onsite and offsite inspection, where receptors (including roads) are nearby, where access is granted, to monitor dust and record inspection results, on publicly accessible land.		

Potential Impact	Mitigation and/or Enhancement Measure	Requirement for Monitoring	Responsibility
	• Increase the frequency of inspections when activities with a high potential to produce dust are being carried out and during prolonged dry or windy conditions. • Locate dust causing activities away from receptors, as far as is possible. • Use intelligent screening where possible – e.g. locating Site offices between potentially dusty activities and the receptors. • Erect solid screens or barriers around the Site boundary if necessary. • Fully enclose Site or specific operations where there is a high potential for dust production and the Site is active for an extensive period where operations are within 100m of receptors.		

Potential Impact	Mitigation and/or Enhancement Measure	Requirement for Monitoring	Responsibility
	• Remove materials that have a potential to produce dust from Site as soon as possible, unless being re-used onsite. • Depending on the duration that stockpiles will be present and their size, cover, seed, fence or water to prevent wind whipping. • Sheet vehicles carrying dusty substrates. • Impose and signpost a maximum-speed-limit of 15mph on surfaced and 10mph on un-surfaced haul roads and work areas. • Use enclosed chutes, conveyors and covered skips, where practicable. • Minimise drop heights from conveyors, loading shovels, hoppers and other loading or handling equipment and use fine water sprays on such equipment wherever appropriate.		

Potential Impact	Mitigation and/or Enhancement Measure	Requirement for Monitoring	Responsibility
	• Ensure equipment is readily available onsite to clean any dry spillages, and clean up spillages as soon as reasonably practicable after the event using wet cleaning methods. **Operating vehicle/machinery and sustainable travel** • Ensure all vehicles switch off engines when stationary i.e. no idling vehicles; • Avoid the use of diesel- or petrol-powered generators and use mains electricity or battery powered equipment where practicable; • Ensure all non-road mobile machinery (NRMM) are regularly maintained and checked to minimise emissions; • Implement a Travel Plan that supports and encourages sustainable travel (public transport, cycling, walking, and car-sharing);		

Potential Impact	Mitigation and/or Enhancement Measure	Requirement for Monitoring	Responsibility
	• Impose and signpost a maximum-speed-limit of 15mph on surfaced and 10mph on unsurfaced haul roads and work areas (if long haul routes are required these speeds may be increased with suitable additional control measures provided, subject to the approval of the nominated undertaker and with the agreement of the local authority, where appropriate); and • Construction contractor to produce a Construction Logistics Plan as part of the CEMP to manage the sustainable delivery of goods and materials. **Operations** • Only use cutting, grinding or sawing equipment fitted or in conjunction with suitable dust suppression techniques such as water sprays or local extraction, e.g. suitable local exhaust ventilation systems;		

Potential Impact	Mitigation and/or Enhancement Measure	Requirement for Monitoring	Responsibility
	• Ensure an adequate water supply onsite for effective dust/particulate matter suppression/mitigation, using non-potable water where possible and appropriate; and • Ensure equipment is readily available onsite to clean any dry spillages and clean up spillages as soon as reasonably practicable after the event using wet cleaning methods. **Waste** • No bonfires and burning of waste materials will be carried out. In addition, activity specific mitigation measures include: **Earthworks** • Re-vegetate earthworks and exposed areas/soil stockpiles to stabilise surfaces as soon as practicable; • Use Hessian, mulches or tackifiers where it is not possible to re-vegetate or cover with topsoil, as soon as practicable; and		

Potential Impact	Mitigation and/or Enhancement Measure	Requirement for Monitoring	Responsibility
	• Only remove the cover in small areas during work and not all at once. **Construction** • Avoid scabbling (roughening of concrete surfaces) if possible; • Ensure sand and other aggregates are stored in bunded areas and are not allowed to dry out, unless this is required for a particular process, in which case ensure that appropriate additional control measures are in place; • Ensure bulk cement and other fine powder materials are delivered in enclosed tankers and stored in silos with suitable emission control systems to prevent escape of material and overfilling during delivery; and • For smaller supplies of fine powder materials ensure bags are sealed after use and stored appropriately to prevent dust.		

Potential Impact	Mitigation and/or Enhancement Measure	Requirement for Monitoring	Responsibility
	Track-out • Use water-assisted dust sweeper(s) on the access and local roads, to remove, as necessary, any material tracked out of the Site. This may require the sweeper being continuously in use; • Avoid dry sweeping of large areas; • Ensure vehicles entering and leaving the Site are covered to prevent escape of materials during transport; • Inspect onsite haul routes for integrity and instigate necessary repairs to the surface as soon as reasonably practicable; • Record all inspections of haul routes and any subsequent action in a Site logbook;		

Potential Impact	Mitigation and/or Enhancement Measure	Requirement for Monitoring	Responsibility
	• Install hard surfaced haul routes, which are regularly damped down with fixed or mobile sprinkler systems, or mobile water bowsers and regularly cleaned; • Implement a wheel washing system (with rumble grids to dislodge accumulated dust and mud prior to leaving the Site where reasonably practicable); • Ensure there is an adequate area of hard surfaced road between the wheel wash facility and the Site exit, wherever Site size and layout permits; and • Access gates to be located at least 10m from receptors where possible. The Construction Dust Risk Assessment which has been carried out to support the production of the oCEMP in support of the DCO Application is provided in Annex 1 of this report.		
Water Resources and Ground Conditions			

Potential Impact	Mitigation and/or Enhancement Measure	Requirement for Monitoring	Responsibility
Leakage or accidental spillage of construction materials and potential pollutants used onsite, migrating to nearby surface watercourses or infiltrating to groundwater. Any flooding during construction could flood construction equipment and/materials, causing release of pollutants to nearby surface watercourses	**General** The draft Water and Construction Management Plan (WCMP) (Appendix 12.2), which will be an annex to the oCEMP submitted with the DCO Application and secured by a DCO requirement, describes water management measures to control surface water runoff and drain hardstanding and other structures. This will form part of a Pollution Prevention Plan (PPP), which will be secured by a DCO requirement, to be implemented for the Proposed Development. The WCMP will comprise good practice construction methods and works that are established and effective measures to control surface water runoff and drain hardstanding to which the Applicant will be committed throughout the development process and will be secured by Requirements of the DCO. Watercourses will be buffered by set distances determined as part of the WCEMP, which infrastructure will not encroach on.	Temporary drainage will be monitored throughout construction. Specific details will be confirmed in the final CEMP.	Specific responsibilities to be confirmed in the CEMP which will be secured as a requirement of the DCO.

Potential Impact	Mitigation and/or Enhancement Measure	Requirement for Monitoring	Responsibility
or infiltrating to groundwater. Risks associated with the use of drilling fluids for non-intrusive techniques for cable route construction.	Buffer distances from drains will also be included as part of the WCMP. **Management of Construction Site Runoff** The measures outlined below will be required for the management of fine particulates in surface water runoff as a result of the construction activities: • All reasonably practicable measures will be taken to prevent the deposition of fine sediment or other material in, and the pollution by sediment of, any existing watercourse, arising from construction activities. The measures will accord with the principles set out in industry guidelines including the Construction Industry Research and Information Association (CIRIA) report '*C532: Control of water pollution from construction sites*' (2001) and CIRIA report '*C649: Control of water pollution from linear construction sites'* (2006).		

Potential Impact	Mitigation and/or Enhancement Measure	Requirement for Monitoring	Responsibility
	Measures may include use and maintenance of temporary lagoons, tanks, bunds and fabric silt fences or silt screens as well as consideration of the type of plant used (see WCMP for details); • A temporary drainage system will be developed to prevent runoff contaminated with fine particulates from entering surface water drains without treatment. This will include identifying all land drains and waterbodies within the Site and ensuring that they are adequately protected using drain covers, sandbags, earth bunds, geotextile silt fences, straw bales, or proprietary treatment (e.g. lamella clarifiers); • Construction drainage would provide appropriate pollution control measures. Holding or settling tanks, separators and other measures as may be required, would be provided and maintained;		

Potential Impact	Mitigation and/or Enhancement Measure	Requirement for Monitoring	Responsibility
	• The relevant sections of British Standard (BS) 6031: Code of Practice for Earthworks (2009) will be followed for the general control of Site drainage; • Where practical, earth works will be undertaken during the drier months of the year. When undertaking earth moving works periods of very wet weather will be avoided, where practical, to minimise the risk of generating runoff contaminated with fine particulates. However, it is likely that some working during wet weather periods will be unavoidable, in which case other mitigation measures (see below) will be implemented to control fine sediment laden runoff. Water may also be required to dampen earthworks during dry weather to reduce dust impacts, and any runoff generated will need to be appropriately managed by the		

Potential Impact	Mitigation and/or Enhancement Measure	Requirement for Monitoring	Responsibility
	contractor in accordance with the pollution prevention principles; • To protect watercourses from fine sediment runoff, topsoil/subsoil will be stored a minimum of 10m from watercourses on flat lying land. Where this is not practicable, and it is to be stockpiled for longer than a two-week period, the material will either be covered with geotextile mats, seeded to promote vegetation growth, or runoff prevented from draining to a watercourse without prior treatment; • Appropriately sized runoff storage areas for the settlement of excessive fine particulates in runoff will be provided. Construction site runoff will either be treated onsite and discharged under a water discharge activity permit from the Environment Agency to controlled waters (potentially also including infiltration to ground) or treated offsite;		

Potential Impact	Mitigation and/or Enhancement Measure	Requirement for Monitoring	Responsibility
	• Equipment and plant are to be washed out and cleaned in designated areas within the Site compound where runoff can be isolated for treatment before disposal as outlined above; • Mud deposits will be controlled at entry and exit points to the Site using wheel washing facilities and / or road sweepers operating during earthworks activities or other times as required; • Debris and other material will be prevented from entering surface water drainage, through maintenance of a clean and tidy site, provision of clearly labelled waste receptacles, grid covers and the presence of Site security fencing; and • The WCMP will include details of pre, during and post-construction water quality monitoring. This will be based on a combination of visual observations and reviews of the		

Potential Impact	Mitigation and/or Enhancement Measure	Requirement for Monitoring	Responsibility
	Environment Agency's automatic water quality monitoring network. **Management of Spillage Risk** The measures outlined below will be implemented to manage the risk of accidental spillages onsite and potential conveyance to nearby waterbodies via surface runoff or land drains during the construction phase: • Fuel will be stored and used in accordance with the prevailing regulations; currently the Control of Substances Hazardous to Health Regulations 2002, and the Control of Pollution (Oil Storage) (England) Regulations 2001. Particular care will be taken with the delivery and use of concrete and cement as it is highly corrosive and alkaline; • Fuel and other potentially polluting chemicals will either be in self bunded leak proof containers or stored in a secure		

Potential Impact	Mitigation and/or Enhancement Measure	Requirement for Monitoring	Responsibility
	impermeable and bunded area (minimum capacity of 110% of the capacity of the containers); • Any plant, machinery or vehicles will be regularly inspected and maintained to ensure they are in good working order and clean for use in a sensitive environment. This maintenance is to take place offsite if possible or only at designated areas within the Site compound. Only construction equipment and vehicles free of all oil/fuel leaks will be permitted onsite. Drip trays will be placed below static mechanical plant; • It is considered unlikely that the Proposed Development will require a high number of trips requiring the transportation of hazardous loafs; however, if vehicles carrying hazardous loads during construction are required then they will be required to follow the regulations set out in the Health and		

Potential Impact	Mitigation and/or Enhancement Measure	Requirement for Monitoring	Responsibility
	Safety Executive's (HSE) Carriage of Dangerous Goods (2009); • Drivers must ensure that hazardous loads are always accompanied by a transport document which sets out detailed information on the load being carried, including full classification of any substances carried and how to package them. The transport document much include: – Information for each dangerous substance, material or article being carried; – Emergency instructions in writing; and – Means of identification, including a photograph of each member of the transportation crew. • All drivers of vehicles carrying hazardous loads must be appropriately trained, so that they:		

Potential Impact	Mitigation and/or Enhancement Measure	Requirement for Monitoring	Responsibility
	– Are aware of the hazards in the carriage of hazardous loads; – Can take steps to reduce the likelihood of an accident taking place; – Can take all necessary measures for their own safety and that of the public and the environment to limit the effects of any incident that does occur; and – Have individual practical experience of the actions they will need to take. • All washing down of vehicles and equipment will take place in designated areas and untreated wash water will be prevented from entering watercourses; • All refuelling, oiling and greasing will take place above drip trays or on an impermeable surface which provides protection		

Potential Impact	Mitigation and/or Enhancement Measure	Requirement for Monitoring	Responsibility
	to underground strata and watercourses, and away from drains as far as reasonably practicable. Vehicles will not be left unattended during refuelling; • As far as reasonably practicable, only biodegradable hydraulic oils will be used in equipment working in or over watercourses; • All fixed plant use onsite will be self-bunded; • Mobile plant is to be in good working order, kept clean and fitted with plant 'nappies' at all times; • Spill kits and oil absorbent material will be carried by mobile plant and located at high risk locations across the Site and regularly topped up. All construction workers will receive spill response training and tool box talks;		

Potential Impact	Mitigation and/or Enhancement Measure	Requirement for Monitoring	Responsibility
	• The Site will be secured to prevent any vandalism that could lead to a pollution incident; • Construction waste / debris are to be prevented from entering any surface water drainage or water body; • Surface water drains on public roads trafficked by plant or within the construction compound will be identified and, where there is a risk that fine particulates or spillages could enter them, the drains will be protected (e.g. using covers or sand bags) or the road regularly cleaned by road sweeper; • Suitable facilities for concrete wash water (e.g. geotextile wrapped sealed skip, container or earth bunded area) will be adequately contained, prevented from entering any drain, and removed from the Site for appropriate disposal at a suitably licenced waste facility; and		

Potential Impact	Mitigation and/or Enhancement Measure	Requirement for Monitoring	Responsibility
	• Water quality monitoring of potentially impacted watercourses will be undertaken to ensure that pollution events can be detected against baseline conditions and can be dealt with effectively. In addition, any Site welfare facilities will be appropriately managed, and all foul waste disposed of by an appropriate contractor to a suitably licenced facility. **Watercourse Crossings with Non-Intrusive/Intrusive Techniques** The use of in-situ fresh concrete in the construction of watercourse crossings will be avoided where possible by the use of pre-cast elements. Existing culverts may be upgraded and anticipated to be replaced with suitable pre-cast culvert designs. Ready-made concrete 'box style' or plastic culverts will be used.		

Potential Impact	Mitigation and/or Enhancement Measure	Requirement for Monitoring	Responsibility
	Existing culverts requiring an upgrade will be replaced using ready-made culverts. **Management of Risk to Morphology of Waterbodies** Culverts will be designed based on pre-works morphology surveys and best practice in order to minimise effects of developments on the natural integrity and continuity of water courses. The design will incorporate the following criteria: • Culverts will be well bedded to avoid settlement and protected by an adequate cover of road material; • The substrate and side/ head walls will be reinforced in order to prevent erosion; • The culverts will be designed such that it does not cause a barrier to movement of fish or other aquatic fauna; • The culvert type will be predominantly box culverts;		

Potential Impact	Mitigation and/or Enhancement Measure	Requirement for Monitoring	Responsibility
	• Culvert floors will have the same gradient (not exceeding a slope of 3 %) and level, and carry similar bed material and flow, as the original steam; • There shall be no hydraulic drop at the culvert inlet or outlet; • The width of the culvert will be greater than the active channel width of the watercourse; • Culverts will be used to conduct water under the internal access tracks; and • Any fences or screens fitted on the inlet or outlet of the culvert will be designed to allow at least 230 mm of space between the bars of the screen of fence, up to the high water level. • There is a preference to avoid construction in watercourses altogether through the use box culverts or bridges structures appropriately designed not to impede the flow of water and		

Potential Impact	Mitigation and/or Enhancement Measure	Requirement for Monitoring	Responsibility
	allow safe passage for wildlife, such as fish, water voles, otters etc. However, short and long term impact of designs should be considered, and there can be a case for using pipe or box culverts; • When installing culverts, care will be taken to ensure that the construction does not pose a permanent obstruction to migrating species of fish, or riparian mammals (i.e. the crossings will make provision for fish and wildlife migration); • Culverts should be sized so that they do not interfere with the bed of the stream post construction, (i.e. the crossings will leave the watercourse in as natural condition as possible or permit reestablishment of substrate post construction); • Single culverts will be used in preference to a series of smaller culverts that may be more likely to become blocked		

Potential Impact	Mitigation and/or Enhancement Measure	Requirement for Monitoring	Responsibility
	with flotsam and create erosion (i.e. the crossings will not constrict the channel); • If any fish are found during the construction of any culverts they will be removed from the immediate construction site to a place of safety if deemed necessary after consultation with the relevant fisheries interest; • To minimise impacts on breeding of any fish found, then any in-stream works in these areas will be conducted during months which have less impact on their breeding and development, where possible; • Ease and speed of construction are important to minimise disruption to the watercourse and surrounding habitat; • Culverts and headwalls should be designed for the life of the Proposed Development;		

Potential Impact	Mitigation and/or Enhancement Measure	Requirement for Monitoring	Responsibility
	• Designs should be low maintenance and where possible self-cleansing; and • Structures should visually be in keeping with the surroundings Each watercourse crossing shall be designed on a case by case basis to be appropriate for the width of watercourse being crossed, and the prevailing ecological and hydrological situation (i.e. the sensitivity of the watercourse). **Management of Flood Risk** The CEMP will incorporate measures aimed at preventing an increase in flood risk during the construction works. Examples of measures that will be implemented onsite include: • Topsoil and other construction materials will be stored outside of the 1 in 100 year floodplain extent. If areas located within Flood Zone 2 are to be utilised for the storage of construction		

Potential Impact	Mitigation and/or Enhancement Measure	Requirement for Monitoring	Responsibility
	materials, this will be done in accordance with the applicable flood risk activity regulations, if required; • Connectivity will be maintained between the floodplain and the adjacent watercourses, with no changes in ground levels within the floodplain as far as practicable; • During the construction phase, the contractor will monitor weather forecasts on a monthly, weekly and daily basis, and plan works accordingly. For example, works in the channel of any watercourse will be avoided or halted were there to be a significant risk of high flows or flooding; • The construction laydown area, Site office and supervisor will be notified of any potential flood occurring by use of the Floodline Warnings Direct or equivalent service; • The drainage systems will be designed so that there will be no significant increases in flood risk downstream during		

Potential Impact	Mitigation and/or Enhancement Measure	Requirement for Monitoring	Responsibility
	storms up to and including the 1 in 100 (1%) annual probability design flood, with an allowance of 20% for climate change; • SuDS features will be utilised to ensure the surface water drainage strategy adequately attenuates and treats runoff from the Site, whilst minimising flood risk within the Site and surrounding areas; and • There may be PV Modules within Flood Zone 2; however, these would be designed to mitigate any flood risk to them. The detailed design would determine the various heights required, which are recommended to be at least 800mm. As part of the CEMP the appointed contractor will be required to produce an Emergency Response Plan which will provide details of the response to an impending flood and include:		

Potential Impact	Mitigation and/or Enhancement Measure	Requirement for Monitoring	Responsibility
	• A 24-hour availability and ability to mobilise staff in the event of a flood warning; • The removal of all plant, machinery and material capable of being mobilised in a flood for the duration of any holiday close down period where there is a forecast risk that the Site may be flooded; • Details of the evacuation and Site closedown procedures; • Arrangements for removing any potentially hazardous material and anything capable of becoming entrained in floodwaters, from the temporary works areas; • The appointed contractor will sign up to Environment Agency flood warning alerts and describe in the Emergency Response Plan the actions it will take in the event of a flood event occurring. These actions will be hierarchal meaning		

Potential Impact	Mitigation and/or Enhancement Measure	Requirement for Monitoring	Responsibility
	that as the risk increases the contractor will implement more stringent protection measures; • If water is encountered during below ground construction, suitable de-watering methods will be used. Any groundwater dewatering required in excess of the exemption thresholds will be undertaken in line with the requirements of the Environment Agency (under the Water Resources Act 1991 as amended) and the Environmental Permitting Regulations (2016); and • Safe egress and exits are to be maintained at all times when working in excavations. When working in excavations a banksman is to be present at all times.		
Potential for risks to human health	**Best Practice and Mitigation Measures During Construction**	To be confirmed in the final CEMP.	To be confirmed in

Potential Impact	Mitigation and/or Enhancement Measure	Requirement for Monitoring	Responsibility
associated with waste generation, land contamination, airborne contamination and groundwater contamination. The discovery of ground contamination during groundworks. Levelling of the Site including the possible introduction of new fill materials.	Best practice avoidance and mitigation measures proposed include: • All plant (i.e. inverters, transformers and switchgear) will be installed on concrete bases and/or a thick layer of sand with suitable bunding where appropriate; • The detailed operational drainage design will be carried out pre-construction with the objective of ensuring that drainage of the land to the present level is maintained. It will follow either the design of a new drainage system taking into account the proposed new infrastructure (access tracks, cable trenches, structure foundations) to be constructed, or, if during the construction of any of the infrastructure, there is any interruption to existing land drainage, then new sections of drainage will be constructed. Infiltration drainage design will be in accordance with BRE 365;		the final CEMP which will be secured as a requirement of the DCO.

Potential Impact	Mitigation and/or Enhancement Measure	Requirement for Monitoring	Responsibility
	• An Outline Surface Water Drainage Strategy will be prepared as an appendix to the Environmental Statement which will outline how surface water runoff associated the Proposed Development will be intercepted, attenuated and discharged; • Appropriate use of Personal Protective Equipment (PPE) and implementation and adherence to Health & Safety Protocols, Plans and Procedures; • A Pollution Response Plan will be drafted prior to the commencement of the works. The plan will outline key pollution mitigation measures including a Control of Substances Hazardous to Health (COSHH) / fuel inventory and key contacts to be notified in the event of a significant pollution incident, which may subsequently lead to the contamination of controlled waters. Tanks and dispensing		

Potential Impact	Mitigation and/or Enhancement Measure	Requirement for Monitoring	Responsibility
	pumps will be locked when not in use to prevent unauthorised access; • Oils and hydrocarbons will be stored in designated locations with specific measures to prevent leakage and release of their contents, include the siting of storage areas away from surface water drains, on an impermeable base with an impermeable bund that has no outflow and is of adequate capacity to contain 110% of the contents. Valves and trigger guns will be protected from vandalism and kept locked up when not in use. All chemicals will be stored in accordance with their COSHH guidelines, whilst spill kits will be provided in areas of fuel/oil storage; • All plant and machinery will be kept away from surface water bodies wherever possible. Vehicles should be well maintained to prevent accidental pollution from leaks. Static		

Potential Impact	Mitigation and/or Enhancement Measure	Requirement for Monitoring	Responsibility
	machinery and plant should include drip trays beneath oil tanks/engines/gearboxes/hydraulics, which will be checked and emptied regularly via a licensed waste disposal operator. Refuelling and delivery areas will be located away from surface water drains; • An Emergency Spillage Action Plan will be produced, which all Site staff will have read and understood, and provisions made to contain any leak/spill. Information regarding spill prevention and disposal of COSHH items will be provided as part of the standard site induction presentations and during regular toolbox talks and as the works progress; • Workers will remain vigilant of ground conditions at all times and will report to the contractor any suspect areas of potential contamination. Should any potentially contaminated ground, including isolated 'hotspots' of contamination and/or potential		

Potential Impact	Mitigation and/or Enhancement Measure	Requirement for Monitoring	Responsibility
	deposits of asbestos containing materials (ACM), be encountered, the contractor will be required to investigate the areas and assess the need for containment or disposal of the material. Advice should be sought from an environmental specialist should materials suspected of being contaminated be found. The contractor will also be required to assess whether any additional health and safety measures are required; • To further minimise the risks of contaminants being transferred and contaminating other soils or water, construction workers will be briefed as to the possibility of the presence of such materials; • In the event that contamination is identified, appropriate remediation measures will be taken to protect construction		

Potential Impact	Mitigation and/or Enhancement Measure	Requirement for Monitoring	Responsibility
	workers, future Site users, water resources, structures and services; • The contractor will be required to place arisings and temporary stockpiles away from watercourses and drainage systems, whilst surface water will be directed away from stockpiles to prevent erosion; • Stockpiles and material handling areas will be kept as clean as practicable to avoid nuisance from dust. Dusty materials will be dampened down using water sprays in dry weather or covered; • The length of time materials are stockpiled onsite before being removed for re-use, recycling or disposal is to be kept to a minimum and stockpiles are to be covered with tarpaulins prior to disposal;		

Potential Impact	Mitigation and/or Enhancement Measure	Requirement for Monitoring	Responsibility
	• Dust generating equipment will be located to minimise potential nuisance impacts to receptors, as far as practicable. • The risk to surface water and groundwater from runoff from any contaminated stockpiles during construction works will be reduced by implementing suitable measures to minimise rainwater infiltration and/or capture runoff and leachates, through use of bunding and/or temporary drainage systems. These mitigation measures will be designed in line with current good practice, follow appropriate guidelines and all relevant licences/permits; • The contractor will ensure that all material is suitable for its proposed use and will not result in an increase in contamination-related risks on identified receptors, including any landscaped areas and underlying groundwater;		

Potential Impact	Mitigation and/or Enhancement Measure	Requirement for Monitoring	Responsibility
	• Any waters removed from excavations by dewatering will be discharged appropriately, subject to the relevant permits being obtained from the Environment Agency; • The contractor will implement a dust suppression/management system in order to control the potential risk from airborne contamination migrating offsite to adjacent sites; • Complaints about dust will be investigated at the earliest opportunity and appropriate action taken to control the source or remedy the impact as appropriate; • Access roads will be regularly cleaned and damped down with water; • All vehicles entering and leaving the Site during the works will pass through a wheel washing facility. Vehicles used to transport materials and aggregates will be enclosed or		

Potential Impact	Mitigation and/or Enhancement Measure	Requirement for Monitoring	Responsibility
	covered in a tarpaulin. Vehicle movements will be kept to a minimum and vehicle speeds within the Site will be limited; • Piling/ramming will be carried out in accordance with the Environment Agency Guidance Note on Piling / Penetrative Ground Improvement Methods on Land Affected by Contamination and ground investigations will inform the Foundation / Piling Works Risk Assessment which will define the appropriate piling methods and foundation design to mitigate risk; • Work will be carried out in accordance with relevant Construction Design Management (CDM) Regulations 2015 details of these measures will be presented within the Health and Safety Plan (H&SP) prepared as part of the final CEMP; • A competent/licensed contractor will survey (pre-site preparation survey as defined by the Health and Safety		

Potential Impact	Mitigation and/or Enhancement Measure	Requirement for Monitoring	Responsibility
	Executive (HSE)) and remove asbestos containing materials and other materials and structures contaminated with asbestos fibres; and • Specification of concrete used in foundations and building structures will be selected based on the results of the chemical composition of the Site's soil and groundwater. Guidance is provided by the Building Research Establishment (BRE) series *'Concrete in Aggressive Ground'* (2005).		
Agricultural Land Use			
Loss of land from agricultural production. Impacts on soil. Impacts to agricultural businesses.	The following objectives will be achieved through the CEMP: • Agricultural soils will be managed, preserved, retained and reinstated in accordance with Defra guidance to ensure that there is no loss of land quality or long-term damage to soils; and	Ongoing review during the installation period. Review five years after completion of the installation.	To be confirmed in the final CEMP which will be secured as a requirement of the DCO.

Potential Impact	Mitigation and/or Enhancement Measure	Requirement for Monitoring	Responsibility
	• The CEMP will include a Soil Management Plan (SMP) providing guidance on handling of soil material, specific to the soil resource present. The purpose of the SMP is to inform construction works to minimise the damage to soil structures during the construction phase, and provide amelioration to any localised impacts using good agricultural practices. The SMP will: I. identify the different soil handling units across the site by reference to their resilience to being handled or trafficked. This study will consider soil properties and climatic conditions II. identify the key periods when soils can be accessed for construction without significant risk of any structural damage, to direct the construction process to avoid more susceptible soils from being affected during construction III. produce colour-coded maps to inform the construction process regarding soil properties, timing and handling		

Potential Impact	Mitigation and/or Enhancement Measure	Requirement for Monitoring	Responsibility
	IV. produce guidance notes for operators regarding soil properties and condition V. set out the process and timing for establishing a green cover crop before, or in some cases after, the installation of panels. The composition of the seed mix used can be varied across the site to deliver specific yield and biodiversity objectives appropriate to the location VI. inform the soil stripping, handling and storing process for temporary compounds so that the land can be restored following completion of the installation in an appropriate way VII. set out land management techniques to be followed in the event of any localised soil damage, such as rutting in wetter areas, so that those soils will recover quickly VIII. set out the long-term land care required for maintaining, and maximising, soil health during the operational phase of the Proposed Development		

Potential Impact	Mitigation and/or Enhancement Measure	Requirement for Monitoring	Responsibility
	IX. provide a process for a review of soil health after 5 years, to be followed by any recommendations for revised land management practices. The CEMP will also consider areas where longer-term infrastructure is proposed, in particular internal access tracks and bases for Solar Stations. Permanent internal tracks will be located so far as possible where they will be suitable for post-decommissioning agricultural use. The CEMP will consider: • soil removal and storage depending upon soil type and resilience • separate storage, if required, of topsoils and subsoils • seeding of stored soils and ongoing management of the vegetation height and shape of any stored soils. The CEMP will consider access routes to ensure ongoing access for husbandry and any land being cropped during the construction process, and to the need to adhere to precautions to minimise the risk of any spread of plants and seeds between holdings.		

Potential Impact	Mitigation and/or Enhancement Measure	Requirement for Monitoring	Responsibility
	The CEMP will include measures to liaise with landowners and negotiate closure or severance of field accesses at key times of the farming year to mitigate potential short-term effects on farm businesses and enterprises as a result of construction.		
Glint and Glare			
Glint and Glare risks are covered by the measures set out in the **Landscape and Visual** and **Access and Highways** sections of this table.			
Climate Change			
Greenhouse gas (GHG) emissions from construction vehicles and equipment	Appropriate standard best practice measures to control impacts will be included in the CEMP and will include: • Adopting the CCS to assist in the reduction of pollution, including GHG, from the Proposed Development by employing industry best practice measures. These will be listed in the CEMP; • Encouraging the use of lower carbon modes of transport by identifying and communicating local bus services and	Contractor to confirm in final CEMP	Specific responsibilities will be set out within the final CEMP which will be secured as a requirement of the DCO.

Potential Impact	Mitigation and/or Enhancement Measure	Requirement for Monitoring	Responsibility
	pedestrian and cycle routes to and from Site to all construction staff and providing facilities for the safe storage of cycles; • Implementing a Travel Plan to reduce the use of private car journeys to Site by construction staff and employees. • Liaising with construction personnel for potential to implement staff minibuses and car sharing options; • The contractor will be required to report on fuel consumption and carbon footprint following the construction of the Proposed Development; • Prevent idling vehicles by switching vehicles and plant off when not in use and ensuring that all construction vehicles conform to current EU emissions standards;		

Potential Impact	Mitigation and/or Enhancement Measure	Requirement for Monitoring	Responsibility
	• Conducting regular and planned maintenance of the construction plant and machinery to optimise efficiency; • Increasing recyclability by segregating construction waste to be re-used and recycles where reasonably practicable; • Disposing of wastes locally where reasonably practicable to reduce emissions associated with transportation; • Designing, constructing and implementing the Proposed Development in such a way as to minimise the creation of waste and maximise the use of alternative materials with lower embodied carbon such as locally sourced products and materials with a higher recycled content where feasible; and • Reusing site-won materials to minimise the use of natural resources and unnecessary materials (e.g. reusing excavated soil for fill requirements).		

Potential Impact	Mitigation and/or Enhancement Measure	Requirement for Monitoring	Responsibility
	Mitigation measures embedded within the design of the Proposed Development to ensure its resilience to increased flood risk as a result of climate change are included under the '**Water Resources and Ground Conditions'** section of this table, above.		
Socio-economics			
Impacts to local residents, businesses and community facilities Disruption to users of Public Rights of Way	Temporary closures of Public Rights of Way (PRoW) will be supported by appropriate and clearly signed alternative routes and where possible will be planned and programmed to minimise disruption to users. All members of the construction work force and visitors will be made aware of the PROW affected by the construction of the Proposed Development.	To be confirmed in the final CEMP.	To be confirmed in the final CEMP which will be secured as a requirement of the DCO.
Arboriculture			
Impact to trees	An Arboricultural Method Statement (AMS) will be prepared and will from part of the CEMP. The AMS will identify the specification for tree protection measures and the methodology for sensitive works in proximity to retained trees during construction.	A pre-construction arboriculture survey in line with	The final CEMP, which will be secured as a

Potential Impact	Mitigation and/or Enhancement Measure	Requirement for Monitoring	Responsibility
	A pre-construction tree survey will be undertaken where construction works are likely to affect trees. The findings and recommendations of these will be taken into account by the appointed contractor. Where works in close proximity to retained trees cannot be practically avoided, these works will be undertaken in accordance with current best practice, defined in British Standard (BS) 5837: 2012 'Trees in relation to design, demolition and construction'. All necessary protective fencing will be installed prior to the commencement of any Site clearance or construction works.	BS5837:2012 will be undertaken concurrently with the detailed design of the Scheme, to identify where trees are likely to be affected by the construction works and to inform the development of the detailed design.	requirement of the DCO, will set out roles and responsibilities for implementation.
Waste			
Potential to impact on sensitive receptors (humans,	The contractor will consider the objectives of sustainable resource and waste management and seek to use material resources efficiently, reduce waste at source, reduce waste that	The types, quantities and final destination	To be confirmed in the final CEMP

Potential Impact	Mitigation and/or Enhancement Measure	Requirement for Monitoring	Responsibility
wildlife and controlled waters) if not stored and managed appropriately.	requires final disposal to landfill and apply the principles of the waste hierarchy. This will include, where reasonably practical, working towards a cut and fill balance for excavations; segregation of construction materials onsite for appropriate re-use, recycling and recovery, with landfill as a last resort. This will be achieved by a combination of measures, including: • The contractor will prepare and implement a Construction Resource Management Plan (CRMP), which will set out targets for fuel, waste and energy consumption; • All waste transported offsite will be delivered to the appropriately licenced receivers of such materials; and • As part of the CRMP, the contractor will segregate construction waste to be re-used and recycled where reasonably practicable. All soil to be reused onsite or disposed of off-site will be appropriately characterised by the contractor.	of waste generated during the construction phase will be identified, measured and recorded through the CRMP. A register of all waste loads leaving the construction Site will be maintained to provide a suitable audit trail for compliance purposes and to facilitate monitoring and	which will be secured as a requirement of the DCO.

Potential Impact	Mitigation and/or Enhancement Measure	Requirement for Monitoring	Responsibility
	To minimise impacts of waste on the surrounding environment, the following measures will be implemented: • Offsite pre-fabrication, where reasonably practicable, including the use of pre-fabricated structural elements, cladding units, mechanical and electrical risers and packaged plant rooms. Pre-fabrication could be utilised for the office/warehouses and control rooms associated with the primary onsite substation; • Burning of waste or unwanted materials will not be permitted onsite; • All hazardous materials including chemicals, cleaning agents and solvent containing products to be properly sealed in sealed containers at the end of each day prior to storage in appropriately protected and bunded storage areas;	reporting of waste types, quantities and management methods.	

Potential Impact	Mitigation and/or Enhancement Measure	Requirement for Monitoring	Responsibility
	• Materials requiring removal from the construction site will be transported using licensed carriers and records kept, detailing the types and quantities of waste moved and the destinations of this waste, in accordance with the relevant regulations. An audit and careful checks will be undertaken to ensure that all carriers and facilities will be licenced, and that the appropriate permits and transfer notes are in place prior to removal of waste; and • Prior to commencement of construction, suitable recycling and landfill facilities with sufficient capacity to receive the quantities of construction waste expected will be identified.		
Major Accidents and/or Disasters			
The incidence of major accidents and disasters as a result	All works will be undertaken in accordance with the Building Regulations, NHS England Emergency Preparedness, Resilience and Response Framework, Health and Safety at Work Act 1974, Safety at Work Regulations 1999, CDM Regulations 2015,	To be confirmed in the final CEMP.	To be confirmed in the final CEMP which will be

Potential Impact	Mitigation and/or Enhancement Measure	Requirement for Monitoring	Responsibility
of the Proposed Development. Potential impacts on the Proposed Development as a result of Major Accidents and Disasters.	Railway Operator Regulatory Requirements, 999 emergency service response procedure and call/response procedure to report utility system failures. Details of fire, police, emergency services and hospitals will be publicised and included in the Site induction. The relevant risk assessments for safety during construction will be required and produced by the contractor prior to construction, which will be implemented to minimise the risk of accidents and disasters onsite. Furthers risks of major accidents and disasters are covered in the following sections of this table: **Access and Highways**, **Water Resources and Ground Conditions**, and **Waste**.		secured as a requirement of the DCO.

4.0 Implementation of the CEMP

4.1.1. The CEMP will set out all roles, responsibilities and actions required in respect of implementation of the measures described in this oCEMP, including:

- An organogram showing team roles, names and responsibilities;
- Training requirements for relevant personnel on environmental topics;
- Information onsite briefings and toolbox talks that will be used to equip relevant staff with the necessary level of knowledge to follow environmental control procedures;
- Measures to advise employees of changing circumstances as work progresses;
- Communication methods;
- Document control; and
- Environmental emergency procedures.

5.0 Monitoring and Recording

5.1. Monitoring

5.1.1. To meet the requirement of the CEMP, environmental monitoring of the Proposed Development and its impacts will be undertaken throughout the construction phase.

5.1.2. As part of the monitoring process the contractor will allocate a designated Environmental Site Officer(s), who will be present onsite throughout the construction process and when new activities are commencing. The Environmental Site Officer will observe Site activities and report any deviations from the measures set out within the CEMP, along with the action taken and general conditions at the time. The Applicant will be informed of any deviations from the measures set out within the CEMP as soon as possible following identification of such issues. The Environmental Site Officer will also act as day-to-day contact with relevant local authorities and other regulatory agencies such as the Environment Agency.

5.1.3. During construction, the Environmental Site Officer will conduct walkover surveys to ensure all requirements of the CEMP are being met. Action from these surveys will be documented on an Environmental Action Schedule, discussed with the Site Manager for programming requirements and issued weekly for actioning. The Environmental Site Officer and /or the Project Manager will arrange regular formal inspections to ensure the requirements of the CEMP are being adhered to. After completion of the works, the Environmental Site Officer will conduct a final review.

5.1.4. A Community Liaison Officer will be appointed to lead discussions with local communities during construction. Contact details will also be available on the display board at the Site entrance should anyone wish to make contact. The Contractor will set up a social media page where

regular progress updates will be provided. This would be used to post any information on changes such as crane deliveries or new phases of work to ensure that the local community remain up to date.

5.2. Records

5.2.1. The Environmental Manager / Project Manager will retain records of environmental monitoring and implementation of the CEMP. This will allow provision of evidence that the CEMP is being implemented effectively. These records will include:

- Environmental Action Schedule;
- Licences and approvals;
- Results of inspections by Environmental Manager/ Project Manager;
- Other environmental surveys and investigations; and
- Environmental equipment test records.

5.2.2. The CEMP will be updated as necessary, with a full review as required (at least quarterly) throughout the construction period. A brief report will be produced and submitted to the relevant local planning authorities for information on a quarterly basis and following completion of commissioning. This will summarise the monitoring process, observed deviations from the CEMP and the corrective actions taken.

Annex 1: Construction Dust Risk Assessment

HOARE LEA

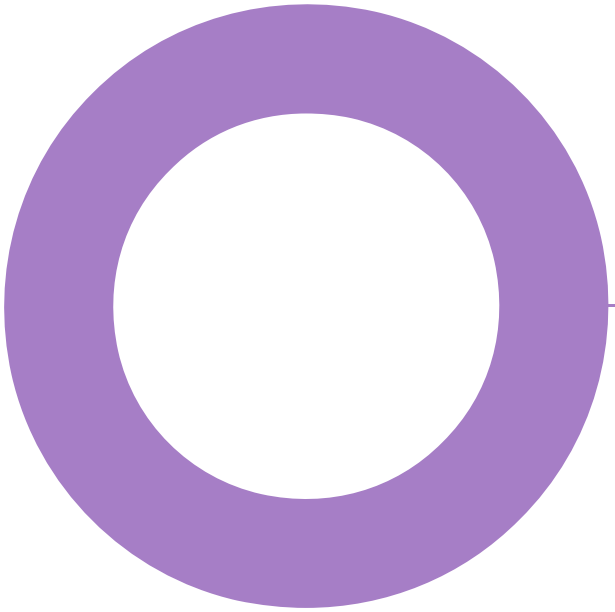
Mallard Pass Solar Farm. Essendine.

LDA Design.

AIR QUALITY

CONSTRUCTION DUST RISK ASSESSMENT

REVISION 01 – 13 MAY 2022



Audit sheet.

Rev.	Date	Description of change / purpose of issue	Prepared	Reviewed	Authorised
00	27/04/2022	First Draft	BC	LB	KW
01	13/05/2022	Final Issue	BC	LB	KW

Project number: 10/13153A
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1. Introduction.

Hoare Lea have been commissioned by LDA Design on behalf of the Applicant, a subsidiary of Windel Energy Ltd., to undertake a Construction Dust Risk Assessment to support the production of an outline Construction Environmental Management Plan (oCEMP) in support of the Development Consent Order (DCO) application for the proposed Mallard Pass Solar Farm, Essendine (the 'Development').

1.1 The Site.

The project involves the installation of solar photovoltaic (PV) generating panels and associated infrastructure which would allow for the generation of an anticipated 350 megawatts (MW) (the 'Solar PV Site') at land at Mallard Pass, Essendine (the 'Site').

The key components of the Solar PV Site comprise the following:

- PV modules;
- Mounting Structures;
- Inverters;
- Transformers;
- Switchgear;
- Onsite Primary Substation and Ancillary Buildings;
- Low Voltage Distribution Cables;
- Grid Connection Cables;
- Fencing, security and ancillary infrastructure;
- Access tracks; and
- Green infrastructure (GI).

The construction activities are provided in Chapter 5 of the Preliminary Environmental Information Report (PEIR) but will include ground preparation and solar farm construction, which may give rise to emissions of dust. Construction is anticipated to begin in Summer 2026 and expected to last 24 months.

1.2 Site Description and Location.

The Site is located within both South Kesteven District Council (SKDC) and Rutland County Council (RCC) administrative areas at the approximate National Grid Reference (NGR): 504223 312156. The Site is located to the immediate south, east and west of Essendine and approximately 800 m north-east of Ryhall. The north eastern most edge of Stamford is located approximately 1 km south-west of the Solar PV Site at its nearest point. The centre of Peterborough is located approximately 16 km south-east of the Solar PV Site.

The Site currently comprises approximately 906 ha of predominantly arable land and blocks of non-ancient woodland.

A visual representation of the Site boundary is displayed in Figure 1.

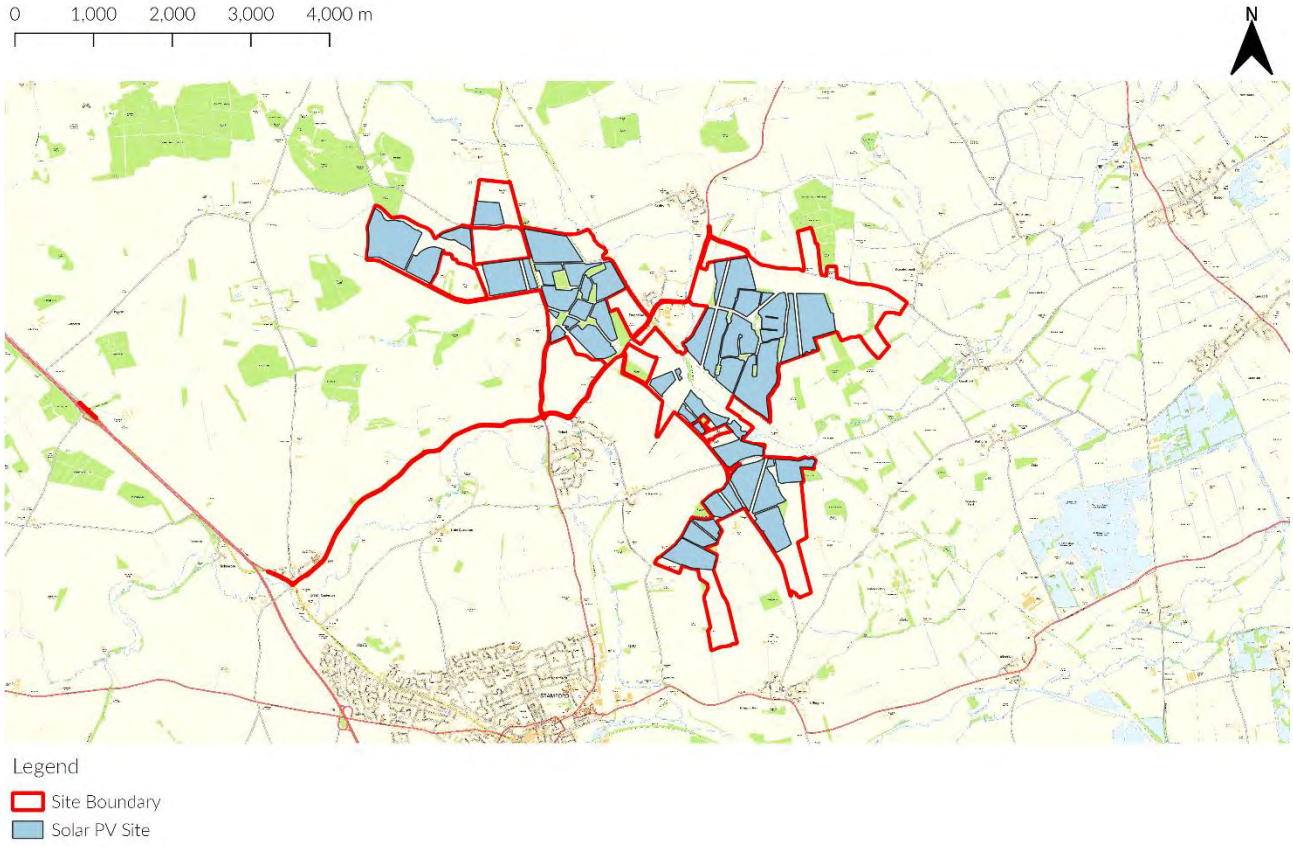

Figure 1: Visual representation of the Site boundary. Contains OS Data © Crown Copyright and Database rights 2022.

1.3 Scope of Assessment.

A meeting took place with Environmental Health Officers from SKDC, RCC, and Lincolnshire County Council on 2nd February 2022 to discuss the approach to assessing the Site with regard to air quality. It was agreed that production of a stand-alone Construction Dust Risk Assessment to inform the oCEMP was an appropriate approach. Furthermore, the approach was submitted within the Scoping Report to the Planning Inspectorate (PINS), which was accepted in the Scoping Opinion received on 18th March 2022.

A summary of the scope of this Construction Dust Risk Assessment includes:

- Determination of baseline scenario, using Defra predicted background concentrations;
- Assessment of potential air quality impacts from dust emission during the construction phase; and
- Identification of required mitigation measures.

2. Legislation, Policy and Guidance Documents.

2.1 National Policy Statements.

Overarching National Policy Statement (NPS) for Energy (EN-1)[1] advises construction of infrastructure development may have an adverse effect on air quality, causing emissions to air that could lead to adverse health impacts on health, on protected species and habitats. The consideration of relevant mitigation is advised to minimise impacts to air quality.

There are no relevant policies specific to air quality impacts during construction contained within NPS for Renewable Energy Infrastructure (EN-3)[2] or NPS for Electricity Networks Infrastructure (EN-5)[3].

2.2 Air Quality Strategy and Local Air Quality Management.

The Environment Act 1995 (Part IV)[4] requires the Secretary of State to publish an air quality strategy and local authorities to review and assess the quality of air within their boundaries. The latter has become known as Local Air Quality Management (LAQM).

The Air Quality Strategy[5] provides the policy framework for local air quality management and assessment in the UK. It sets out air quality standards and objectives for key air pollutants. These standards and objectives are designed to protect human health and the environment. The Strategy also sets out how the different sectors of industry, transport and local government, can contribute to achieving these air quality objectives.

Local authorities are required to identify whether the objectives have been, or will be, achieved at relevant locations. If the objectives are not achieved, the authority must declare an Air Quality Management Area (AQMA) and should prepare an Air Quality Action Plan (AQAP) within 12 months. The action plan must identify appropriate measures and policies that can be introduced to help achieve the objective(s).

The air quality objectives set out the extent to which the Government expects the standards to be achieved by a certain date. They take account of economic efficiency, practicability, technical feasibility and timescale. The objectives for use by local authorities are prescribed within the Air Quality (England) Regulations 2000[6], and the Air Quality (England) (Amendment) Regulations 2002[7].

The objectives for fine particulate matter (PM_{10} and $PM_{2.5}$) are given in Table 1. The target dates for meeting the PM_{10} objectives was 2004. It should be noted that local authorities in England have a flexible role in working towards reducing emissions and concentrations of $PM_{2.5}$.

Table 1: Air Quality Objectives for PM_{10} and $PM_{2.5}$

Pollutant	Time Period	Objective
Fine Particulate Matter (PM_{10})†	24-hour Mean	50 µg/m^3 Not to be exceeded more than 35 times a year
	Annual Mean	40 µg/m^3
Fine Particulate Matter ($PM_{2.5}$) †*	Annual Mean	25 µg/m^3
Notes: †Measured gravimetrically.		

The objectives apply at locations where members of the public are likely to be regularly present and exposed over the averaging period of the objective. Examples of where the annual mean objectives should apply are provided in LAQM.TG16[8] and include building facades of residential properties, schools, hospitals. The annual mean objectives are not relevant for the building facades of offices or other places of work where members of the public do not have regular access, nor kerbsides nor gardens.

The 24-hour objective for PM_{10} is considered to apply at the same locations as the annual mean objective, as well as in gardens of residential properties and at hotels.

2.3 EU Limit Values.

The European Union has also set limit values for PM_{10} and $PM_{2.5}$; these are legally binding and have been implemented into English legislation by The Air Quality Standards Regulations 2010[9] and The Air Quality Standards (Amendment) Regulations 2016[10].

The limit values for PM_{10} and $PM_{2.5}$ are the same as the English objectives (given in Table 1), but applied from 2005 for PM_{10} and 2015 for $PM_{2.5}$. The limit values apply at all locations (apart from where the public does not have access, where health and safety at work provisions apply and on the road carriageway).

2.4 The Environment Act.

The Environment Act 2021[11] acts as the UK's new framework of environmental protection and came into force on 1st April 2022. With regard to air quality, the Environment Act establishes a legally binding duty on government to bring forward at least two new air quality targets in secondary legislation by 31 October 2022. Target objectives[12] under consideration for air quality include:

- Reducing the annual mean level of fine particulate matter ($PM_{2.5}$) in ambient air (as required by Clause 2 of the Environment Act); and
- Reducing population exposure to $PM_{2.5}$.

2.5 General Nuisance Legislation.

Part III of the Environmental Protection Act (EPA) 1990 (as amended) contains the main legislation on Statutory Nuisance and allows local authorities and individuals to take action to prevent a statutory nuisance. Section 79 of the EPA defines, amongst other things, smoke, fumes, dust and smells emitted from industrial, trade or business premises so as to be prejudicial to health or a nuisance, as a potential Statutory Nuisance.

Fractions of dust greater than 10 μm in diameter (i.e. greater than PM_{10}) typically relate to nuisance effects as opposed to potential health effects and therefore are not covered within the Air Quality Strategy. In legislation there are currently no numerical limits in terms of what level of dust deposition constitutes a nuisance.

2.6 Local Policy.

2.6.1 South Kesteven District Council Local Plan 2011 -2036

The South Kesteven District Council Local Plan 2011 - 2036[13] was adopted in 2011 and sets out the vision, policies and objectives for the district until 2036. The SKDC Local Plan 2011 - 2036 contains several policies related to air quality. The most relevant of these are shown below:

"SD1: The Principles of Sustainable Development in South Kesteven

Development proposals in South Kesteven will be expected to minimise the impact on climate change and contribute towards creating a strong, stable and more diverse economy.

…

f. The pollution of air, land, water, noise and light

…"

And

"EN4: Pollution Control

Development should seek to minimise pollution and where possible contribute to the protection and improvement of the quality of air, land and water. In achieving this:

…

Development that, on its own or cumulatively, would result in significant air, light, noise, land, water or other environmental pollution or harm to amenity, health well-being or safety will not be permitted. New development proposals should not have an adverse impact on existing operations.

…"

2.6.2 Rutland County Council Adopted Core Strategy Development Plan Document 2011.

The Rutland County Council Adopted Core Strategy Development Plan Document 2011[14] was adopted in 2011 and sets out the vision, policies and objectives for the district until 2036. The RCC Local Plan 2011-2036 contains no polices related to air quality.

2.7 Assessment Guidance.

The primary guidance documents consulted in undertaking this assessment are detailed below.

2.7.1 Defra Local Air Quality Management Technical Guidance

Defra Local Air Quality Management Technical Guidance (LAQM.TG(16))[8] was published for use by local authorities in their LAQM review and assessment work. The document provides key guidance in aspects of air quality assessment, including screening, use of monitoring data, and use of background data that are applicable to all air quality assessments.

2.7.2 IAQM 'Construction and Demolition Dust Guidance'

Guidance on the assessment of dust from demolition and construction has been published by the IAQM[15]. The guidance provides a methodology to determine the dust emission magnitude and provides a series of matrices to determine the risk magnitude of potential dust sources associated with construction activities. This allows for the identification of appropriate mitigation measures that are defined within further IAQM guidance.

3. Assessment Methodology.

3.1 Existing Air Quality in the Study Area.

A baseline air quality review was undertaken to determine the existing air quality in the vicinity of the Site. This desk-top study was undertaken using the following sources:

- Air quality data for SKDC and RCC, including a review of the SKDC[16] and RCC[17] Annual Status Reports (ASRs) and local monitoring data;
- Background pollution maps taken from Defra's Local Air Quality Management (LAQM) website[18];
- Pollution Inventory from the Environment Agency[19];
- The UK Ambient Air Quality Interactive Map[20]; and
- Ordnance Survey data and aerial photography from Google Maps.

3.2 Construction Phase Impacts.

3.2.1 Construction Dust Assessment

The assessment of construction dust impacts has been undertaken in line with the IAQM methodology. There are currently no hardstanding structures present within the Site boundary and no demolition activities are expected to occur associated with the Development. Therefore activities on the proposed construction site have been divided into three types to reflect their different potential impacts. These are:

- Earthworks;
- Construction; and
- Trackout.

The risk of dust emissions was assessed for each activity with respect to:

- Potential loss of amenity due to dust soiling; and
- The risk of health effects due to a significant increase in exposure to PM_{10}.

The first stage of the assessment involves screening to determine whether there are any sensitive receptors within the threshold distances defined by the IAQM guidance. A detailed assessment of the impact of dust from construction sites will be required where:

- A 'human receptor' is located within 350 m of the boundary of the Site or within 50 m of the route(s) used by construction vehicles on the public highway, up to 500 m from the Site entrance; and
- An 'ecological receptor' is located within 50 m of the boundary of the Site or within 50 m of the route(s) used by construction vehicles on the public highway, up to 500 m from the Site entrance.

The magnitude of dust emission for each activity is determined on the basis of the guidance, indicative thresholds, information available relating to the project and expert judgement. The risk of dust effects arising is based upon the relationship between the dust emission magnitude and the sensitivity of the area. The risk of impact is then used to determine the mitigation requirements.

Descriptors for magnitude of impact and impact significance used in this assessment of construction phase dust are given in the guidance[15] available online.

3.3 Assessment of Significance.

3.3.1 Construction Phase Impacts

The IAQM guidance[15] on the assessment of dust from demolition and construction states that the primary aim of the risk assessment is to identify site specific mitigation that, once implemented, should ensure that there will be no significant effect. Therefore, the assessment has been used to determine an appropriate level of mitigation for the construction phase.

The determination of which mitigation measures are recommended include elements of professional judgement and the professional experience of the consultants preparing this report is set out in Appendix 1.

4. Baseline Environment.

This section sets out the available information on air quality in the vicinity of the Site.

4.1 Site Setting.

The Site is located within both the SKDC and RCC areas of administration at approximate NGR: X 504223, Y 312156. The Site is located to the immediate south, east and west of the village Essendine and approximately 800m north-east of the village Ryhall.

The Site currently comprises approximately 906 ha of predominantly arable land and blocks of non-ancient woodland.

4.2 Local Air Quality Management Review and Assessment.

The Site is not located within an AQMA. The Site is located approximately 25 km to the south east of its nearest AQMA declared for concentrations of NO_2. This AQMA is designated as "South Kesteven District Council No.6 AQMA", located within the SKDC area of administration in the town of Grantham, and was declared for exceedances of the annual and 1-hour mean NO_2 AQO in 2013. The closest AQMA declared for exceedances of relevant PM_{10} AQOs, at approximately 43 km from the Site, is designated as the "Mountsorrel Air Quality Management Area". This AQMA was declared for exceedances of the PM_{10} 24-hour mean AQO and is located within the Charnwood Borough Council (CBC) area of administration.

4.3 Local Air Quality Monitoring.

Neither RCC nor SKDC currently undertake any automatic air quality monitoring and therefore no monitoring data is available for PM_{10} and $PM_{2.5}$.

4.4 Industrial Pollution.

A desk-based review of potential industrial sources using the Environment Agency Pollution Inventory[19] did not identify any significant industrial or waste management sources of air pollution that are likely to affect the Site with regard to air quality.

4.5 Defra Predicted Concentrations.

The Defra predicted background concentrations have been obtained from the national maps published by Defra[18]. These estimated concentrations are produced on a 1 km by 1 km grid basis for the whole of the UK. The Site falls into multiple grid squares and the Defra predicted background concentrations for these grid squares regarding PM_{10} and $PM_{2.5}$ are provided in Figure 2 and Figure 3 respectively. This has been completed for the year 2026 which is the peak construction year.

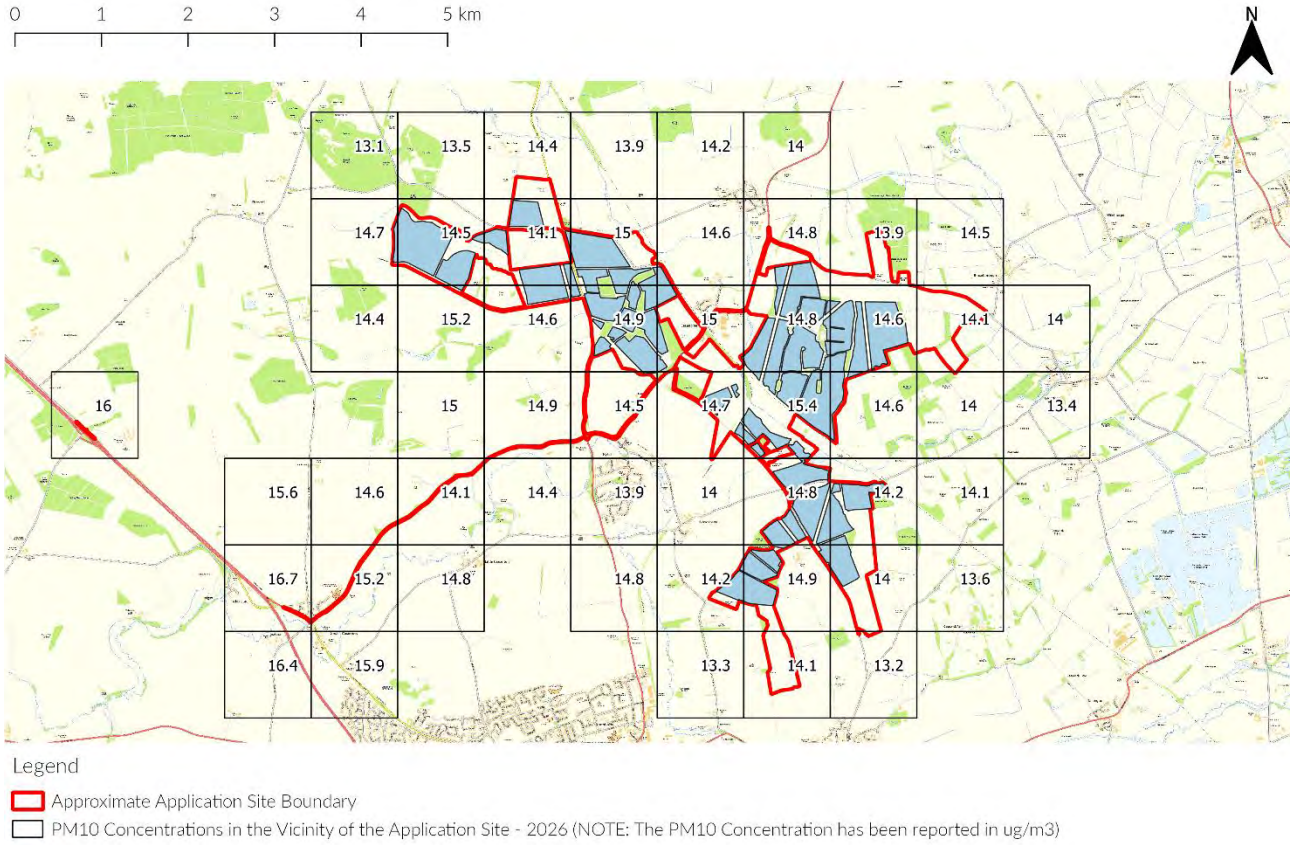

Figure 2: PM_{10} Defra predicted background concentration in the vicinity of the Site (2026). Contains OS Data © Crown Copyright and Database rights 2022.

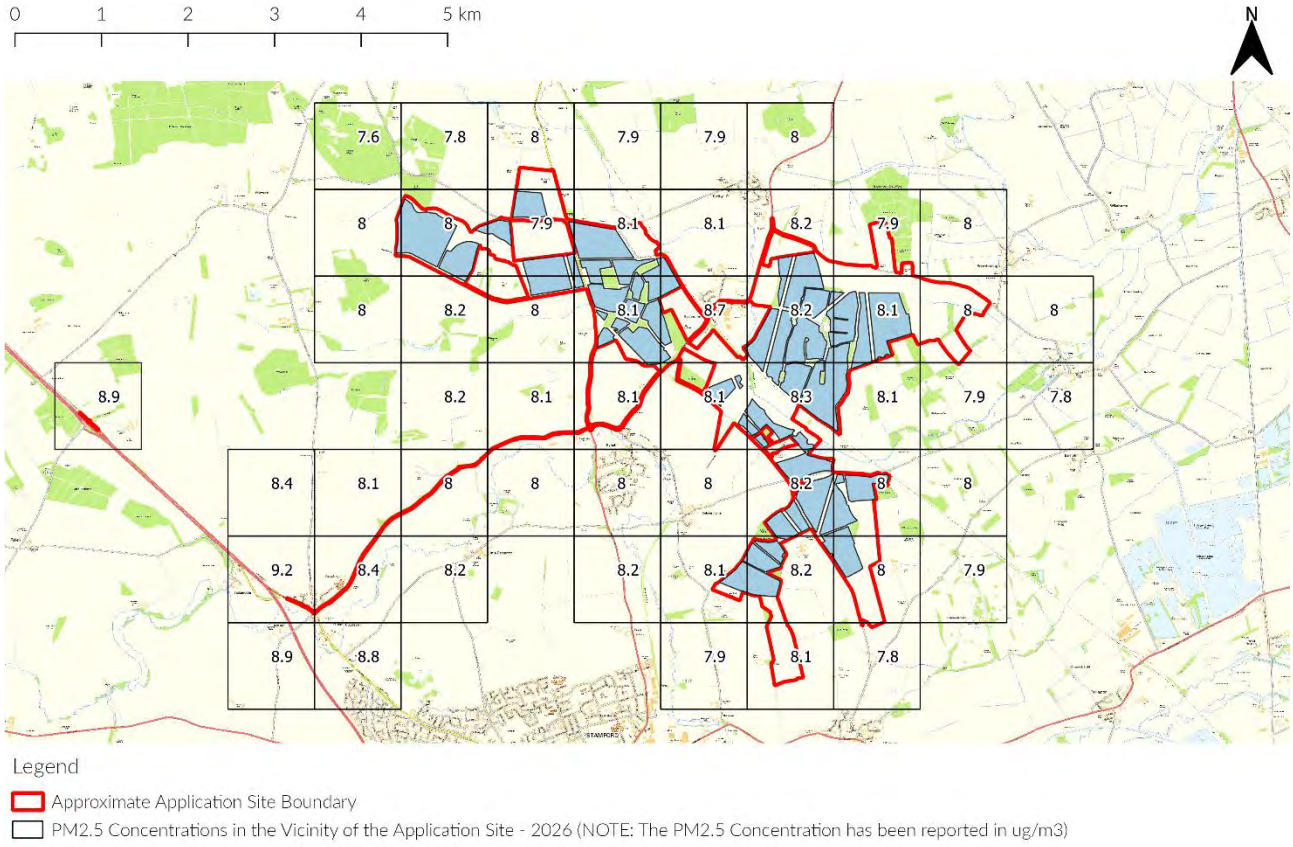

Figure 3: $PM_{2.5}$ Defra predicted background concentration in the vicinity of the Site (2026). Contains OS Data © Crown Copyright and Database rights 2022.

As shown in Figure 2 and Figure 3, Defra predicted background concentrations are below the relevant AQOs for the pollutants PM_{10} and $PM_{2.5}$ at all grid squares within the vicinity of the Site for PM_{10} and $PM_{2.5}$ in 2026.

4.6 Summary of Background Data.

The Site is not located within an AQMA.

No monitoring of PM_{10} or $PM_{2.5}$ is undertaken within the SKDC or RCC area of administration.

Predicted Defra background concentrations for pollutants PM_{10} and $PM_{2.5}$ are below the relevant AQOs in 2026, the anticipated year for the beginning of construction activities.

5. Construction Phase Assessment.

The potential for air quality impacts during the construction of the Site are assessed in this section. At this stage construction phasing and location of access tracks across the Site have not been confirmed, therefore the Site has been assessed as a whole. This may be revisited when further detail becomes available. One primary construction compound opposite National Grid Ryhall Substation, as well as up to seven temporary construction compounds (locations to be confirmed), are proposed.

5.1 Construction Phase Dust Assessment.

The risk of dust impacts is based on the potential dust emissions magnitude and the sensitivity of the area. These two factors are then combined to determine the risk of dust impacts with no mitigation applied. In the absence of any site-specific information, a higher risk category has been applied to represent a worst-case scenario.

5.1.1 Assessment Screening

There are 'human receptors' within 350m of the Site and two designated ecological receptors within 50 m of the Site boundary.

The Ryhall Pasture and Little Warren Verges Site of Special Scientific Interest (SSSI) is located adjacent to the north-western boundary of the Solar PV Site at approximate NGR: 502749 313588. The location of this ecological receptor with respect to the Site boundary is given in Figure 4.

Figure 4: Location of Ryhall Pasture and Little Warren Verges within the Site Boundary. Contains OS Data © Crown Copyright and Database rights 2022.

Braceborough Little Wood Ancient Woodland is located within 50 m of the Site boundary at approximate NGR: 506739 313309. The location of this ecological receptor with respect to the Site boundary is given in Figure 5.

Figure 5: Location of Braceborough Little Wood with respect to the Site Boundary. Contains OS Data © Crown Copyright and Database rights 2022.

Therefore, an assessment of construction dust on ecological receptors and human receptors is required.

5.1.2 Potential Dust Emission Magnitude

The potential magnitude of dust emissions from demolition, earthworks, construction and trackout have been assessed, as identified in Table 2.

Table 2: Predicted Magnitude of Dust Emissions

Activity	Magnitude	Justification
Demolition	N/a	No other hardstanding structures are present and the rest of the Site is undeveloped. There is not expected to be any demolition on Site.
Earthworks	Large	The total site area has been confirmed by LDA Design to be 906 hectares. Mounting structures for the Solar PV panels will be pile-driven or screw mounted into the ground. Additionally, trenching for onsite and offsite cabling will be up to 1 m wide and 1.3 m deep - exact routing (i.e. length of trenching) has not yet been finalised. The soil type at the Site was assessed using the application Soilscape[21] which classified the soil types at the Site to be either "loamy" or "loamy and clayey" which are dust producing soil types.
Construction	Large	The total construction volume is expected to be greater than 100,000 m^3. The structures to be constructed at the Site include: – The solar PV panels and mounting structures will be made from materials that are not likely to emit dust;

Activity	Magnitude	Justification
		– The inverters and transformers will be housed in a pre-assembled containers, However, there is a possibility these will be mounted on concrete pad, which has a high potential for dust emission; – The substation and ancillary buildings, including site office and welfare buildings at approximately 10,500 $m^{3;}$ and – The construction of access tracks within the Site. Many of the construction materials for the Solar PV Site have little potential for dust emission, however extent of the area of construction for access tracks is currently unknown, therefore the site magnitude has been classified as large.
Trackout	Large	During the peak construction period, there are expected to be 54 HDVs per day, as predicted by Transport Consultants for the project. Site access for construction vehicles has not been finalised and it is likely that up to six temporary construction compounds at various locations will be used during the construction period. The soil type at the Site was previously classified using the application Soilscape[21] to be both "loamy" and "loamy and clayey" which are both potentially dusty soil types. Internal access tracks are likely to be constructed from compacted stone, so will be unpaved and have the potential for dust release. Based on the soil type, the number of HDVs and the unpaved road length the magnitude of trackout has been large.

5.1.3 Sensitivity of the Study Area

The sensitivity of the area takes into account the following factors:

– The specific sensitivities of receptors in the area;
– The proximity and number of those receptors;
– In the case of PM_{10}, the local background concentration; and
– Site-specific factors, such as whether there are natural shelters, such as trees or other vegetation, to reduce the risk of wind-blown dust.

The sensitivity of the area and the factors considered are detailed in Table 3 and the construction dust band criteria (350 m, 100 m, 50 m and 20 m) are displayed in Figure 6.

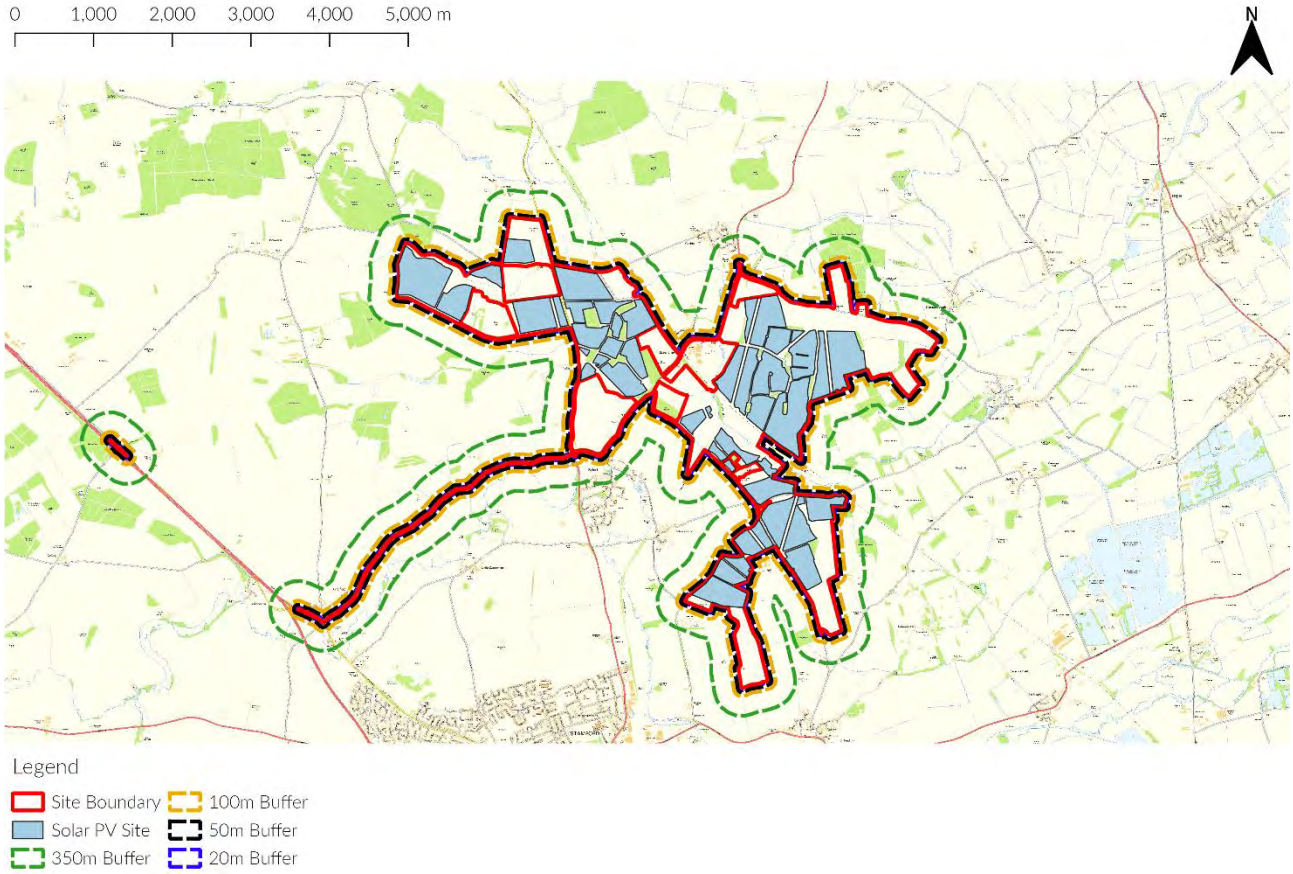

Figure 6: Construction Dust Band Criteria (350 m, 100 m, 50 m, 20 m) with respect to the Site. Contains OS Data © Crown Copyright and Database rights 2022.

Table 3: Sensitivity of the Area

Sensitivity Type	Factors	Sensitivity of Area	
		On – Site Activity	Trackout
Dust Soiling	For onsite activities there are between 10-100 residential dwellings and 10-100 car parking spaces within 20 m of the Site boundary. As such, the surrounding area has been classed as high sensitivity to take the potential for dust soiling into account. For trackout, the distances are measured from the side of the roads used by construction traffic. As the site access and construction compound locations are not finalised, it has been assumed that there are greater than 100 residential receptors, classed as high sensitivity receptors, located within 50 m of the potential construction routes used by construction traffic up to 500 m from the Site boundary. Therefore, the sensitivity of the area surrounding the Site has been classified as high with respect to dust soiling for trackout.	High	High
Human Health	The Defra predicted PM_{10} background concentrations for 2026, the earliest possible year of construction activities for the Proposed Development across all of the 1 km by 1 km grid squares in which the Site is located are all below 24 µg/m^3.	Low	Low

Sensitivity Type	Factors	Sensitivity of Area	
		On – Site Activity	Trackout
	For onsite activities there are greater than 100 residential dwellings within 20 m of the Site boundary. As the PM_{10} concentration is less than 24 µg/m^3, the sensitivity of the area to human health impacts is considered to be low. For trackout, the distances are measured from the side of the roads used by construction traffic. There are greater than 100 residential dwellings located within 50 m of the anticipated routes used by construction traffic up to 500 m from the Site. However, incorporating the low Defra predicted PM_{10} background concentrations from the year 2026 classifies the sensitivity of the area surrounding the Site to be low with respect to human health for trackout.		
Ecological Impacts	There are two ecological receptors within 20 m of the Site boundary. Little Warren Verges SSSI is classified as medium sensitivity and Braceborough Little Wood Ancient Wood land as low sensitivity. For trackout, the distances are measured from the side of the roads used by construction traffic. Neither ecological receptor is located within 50 m of the likely routes used by construction traffic up to 500 m from the Site, however it is unclear at this stage where internal access routes will be located.	Medium	Medium

5.1.4 Risk of Dust Impacts

The outcomes of the assessments of potential magnitude of dust emissions and the sensitivity of the area are combined to determine the risk of impact. This risk is then used to inform the selection of appropriate mitigation. Table 4 details the risk of dust impacts for demolition, earthworks, construction and trackout activities.

Table 4: Summary of Potential Unmitigated Dust Risks

Potential Impact	Sensitivity – Onsite Activity	Sensitivity - Trackout	Demolition	Earthworks	Construction	Trackout
Magnitude			N/a	Large	Large	Large
Dust Soiling Impacts	High	High	N/a	High Risk	High Risk	High Risk
Human Health Impacts	Low	Low	N/a	Low Risk	Low Risk	Low Risk
Ecological Impacts	Medium	Medium	N/a	Medium Risk	Medium Risk	Medium Risk

6. Mitigation.

6.1 Construction Phase.

To mitigate the potential impacts during the construction phase it is recommended that mitigation measures as detailed in the IAQM guidance are implemented. These mitigation measures have been carefully selected for the proposed development and are based upon the dust risk categories outlined in the guidance[15]. These mitigation measures are to be included in the oCEMP.

It is recommended that the local authority approve a Dust Management Plan (DMP) prior to works commencing on site. Table 5 below details the measures that should be incorporated in the DMP. For general mitigation measures, which excludes those specifically targeted towards earthworks, construction and trackout (which are given towards the end of the table), high risk measures have been applied as these represent the highest risk category determined in Table 5. This approach is consistent with the IAQM guidance.

Table 5: Mitigation Measures

Issue	Mitigation Measure
Communications	Develop and implement a stakeholder communications plan that includes community engagement before work commences on site.
	Display the name and contact details of person(s) accountable for air quality and dust issues on the site boundary. This may be the environment manager/engineer or the site manager.
	Display the head or regional office contact information.
Dust Management Plan	Develop and implement a Dust Management Plan (DMP), which may include measures to control emissions, approved by the Local Authority. The DMP may include monitoring of dust deposition, dust flux, real-time PM_{10} continuous monitoring and/or visual inspections.
Site Management	Record all dust and air quality complaints, identify cause(s), take appropriate measures to reduce emissions in a timely manner, and record the measures taken.
	Make the complaints log available to the Local Authority when asked.
	Record any exceptional incidents that cause dust and/or air emissions, either on- or off- site, and the action taken to resolve the situation in the log book.
	Hold regular liaison meetings with other high risk construction sites within 500 m of the site boundary, to ensure plans are co-ordinated and dust and particulate matter emissions are minimised. It is important to understand the interactions of the off-site transport/deliveries which might be using the same strategic road network routes.
Monitoring	Undertake daily on-site and off-site inspection, where receptors (including roads) are nearby, to monitor dust, record inspection results, and make the log available to the Local Authority when asked. This should include regular dust soiling check of surfaces such as street furniture, cars, window sills within 100 m of the site boundary, with cleaning to be provided if necessary.
	Carry out regular site inspections to monitor compliance with the DMP, record inspection results, and make an inspection log available to the Local Authority when asked.
	Increase the frequency of site inspections by the person accountable for air quality and dust issues on site when activities with a high potential to produce dust are being carried out and during prolonged dry or windy conditions.
	Agree dust deposition, dust flux, or real-time PM_{10} continuous monitoring locations with the Local Authority. Where possible, commence baseline monitoring at least three months before work commences on site or, if it is a large site, before work on a phase commences.

Issue	Mitigation Measure
Preparing and maintaining the site	Plan site layout so that machinery and dust causing activities are located away from receptors, as far as is possible.
	Erect solid screens or barriers around dusty activities or the site boundary that are at least as high as any stockpiles on site.
	Fully enclose site or specific operations where there is a high potential for dust production and the site is active for an extensive period.
	Avoid site runoff of water or mud.
	Keep site fencing, barriers and scaffolding clean using wet methods.
	Remove materials that have a potential to produce dust from site as soon as possible, unless being re-used on site. If they are being re-used cover as described below.
	Cover, seed or fence stockpiles to prevent wind whipping.
Operating vehicles/machinery and sustainable travel	Ensure all vehicles switch off engines when stationary – no idling vehicles.
	Avoid the use of diesel or petrol-powered generators and use mains electricity or battery powered equipment where practicable.
	Impose and signpost a maximum-speed-limit of 15 mph on surfaced and 10 mph on unsurfaced haul roads and work areas (if long haul routes are required these speeds may be increased with suitable additional control measures provided, subject to the approval of the nominated undertaker and with the agreement of the Local Authority, where applicable).
	Produce a Construction Logistics Plan to manage the sustainable delivery of goods and materials.
	Implement a Travel Plan that supports and encourages sustainable travel (public transport, cycling, walking and car-sharing)
Operations	Only use cutting, grinding or sawing equipment fitted or in conjunction with suitable dust suppression techniques such as water sprays or local extraction, e.g. suitable local exhaust ventilation systems.
	Ensure an adequate water supply on the site for effective dust/particulate matter suppression/mitigation, using non-potable water where possible and appropriate.
	Use enclosed chutes and conveyors and covered skips.
	Minimize drop heights from conveyors, loading shovels, hoppers and other loading or handling equipment and use fine water sprays on such equipment wherever appropriate.
	Ensure equipment is readily available on site to clean any dry spillages, and clean up spillages as soon as reasonably practicable after the event using wet cleaning methods.
Waste management	Avoid bonfires and burning of waste materials.
Earthworks	Re-vegetate earthworks and exposed areas/soil stockpiles to stabilise surfaces as soon as practicable.
	Use Hessian, mulches or trackifiers where it is not possible to re-vegetate or cover with topsoil, as soon as practicable.
	Only remove the cover in small areas during work and not all at once.
Construction	Avoid scrabbling (roughening of concrete surfaces) if possible.

Issue	Mitigation Measure
	Ensure sand and other aggregates are stored in bunded areas and are not allowed to dry out, unless this is required for a particular process, in which case ensure that appropriate additional control measures are in place.
	Ensure bulk cement and other fine powder materials are delivered in enclosed tankers and stored in silos with suitable emission control systems to prevent escape of material and overfilling during delivery.
Trackout	Use water-assisted dust sweeper(s) on the access and local roads, to remove, as necessary, any material tracked out of the site. This may require the sweeper being in continuous use.
	Avoid dry sweeping of large areas.
	Ensure vehicles entering and leaving sites are covered to prevent escape of materials during transport.
	Inspect on-site haul routes for integrity and instigate necessary repairs to the surface as soon as reasonably practicable.
	Record all inspections of haul routes and any subsequent action in a site log book.
	Install hard surfaced haul routes, which are regularly damped down with fixed or mobile sprinkler systems, or mobile water bowsers and regularly cleaned.
	Implement a wheel washing system (with rumble grids to dislodge accumulated dust and mud prior to leaving the site where reasonably practicable).
	Ensure there is an adequate area of hard surfaced road between the wheel wash facility and the site exit, wherever site size and layout permits.
	Access gates to be located at least 10 m from receptors where possible.

Potential dust effects during the construction phase are considered to be both temporary and short-term in nature. The impacts are determined to be 'temporary' as they will only potentially occur throughout the construction phase and 'short term' because these will only arise at particular times when certain activities and meteorological conditions combine to create the predicted level. Notwithstanding this, with the application of the above dust control and mitigation measures, it is considered that residual effect at all receptors will be 'not significant' in accordance with the IAQM guidance.

7. Summary and Conclusions.

This Construction Dust Risk Assessment has been carried out to support the production of an oCEMP in support of the DCO application for the proposed solar farm, Essendine.

It should be noted that this Construction Dust Risk Assessment is the assessment of the construction dust risk impacts on the Site in its entirety. It is not an assessment of the phased construction of the Site due to construction phasing and the location of access tracks across the Site still requiring confirmation.

A qualitative assessment of the potential dust impacts during the construction of the Site has been undertaken. Before implementation of mitigation measures the potential risk of impacts as a result of construction activity at the Site is considered to be high for risk of dust soiling, medium for impacts to ecological receptors and low for risk to human health.

Through good practice and implementation of appropriate mitigation measures, it is expected that the release of dust would be effectively controlled and mitigated, with resulting impacts considered to be 'not significant'. All dust impacts are considered to be temporary and short-term in nature.

8. Glossary of Terms.

AQMA	Air Quality Management Area
AQO	Air Quality Objective
Defra	Department for Environment, Food and Rural Affairs
DMP	Dust Management Plan
HDV	Heavy Duty Vehicles (> 3.5 tonnes gross vehicle weight)
IAQM	Institute of Air Quality Management
LAQM	Local Air Quality Management
LDV	Light Duty Vehicles (≤3.5 tonnes gross vehicle weight)
µg/m^3	Micrograms per cubic metre
Objectives	A nationally defined set of health-based concentrations for nine pollutants, seven of which are incorporated in Regulations, setting out the extent to which the standards should be achieved by a defined date. There are also vegetation-based objectives for sulphur dioxide and nitrogen oxides
oCEMP	Outline Construction Environmental Management Plan
PM_{10}	Particulate matter with an aerodynamic diameter less than 10 micrometres
$PM_{2.5}$	Particulate matter with an aerodynamic diameter less than 2.5 micrometres
PPG	Planning Practice Guidance
RCC	Rutland County Council
SKDC	South Kesteven District Council
SSSI	Site of Special Scientific Interest
Standards	A nationally defined set of concentrations for nine pollutants below which health effects do not occur or are minimal
Trackout	The process involving the transport of dust and dirt from the construction / demolition site onto the public road network, where it may be deposited and then re-suspended by vehicles using the network. This arises when heavy duty vehicles (HDVs) leave the construction / demolition site with dusty materials, which may then spill onto the road, and/or when HDVs transfer dust and dirt onto the road having travelled over muddy ground on site

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Appendix 1 - Professional Experience.

Kathryn Woolley (Hoare Lea), BSc (Hons), AMIEnvSc, MIAQM

Kathryn is an Associate of the Air Quality team with Hoare Lea. She is an Associate Member of the Institution of Environmental Sciences and a Full Member of the Institute of Air Quality Management.

She has a diverse portfolio of experience and has worked on a range of projects from initial site feasibility, through planning and development to construction and operation. Kathryn's expertise covers planning, and air quality, specifically in relation to residential developments, industrial fixed installations such as district heating networks. Kathryn has completed over 50 EIA in the past 8 years throughout the UK and abroad including; St Johns Masterplan in Manchester (residential led), Leicester City Football club training facility north of Leicester (sports use), 1-5 Grosvenor Place, Westminster (mixed use residential, retail and hotel site), and Chestnut Avenue in Eastleigh (residential and community use).

Lauren Buchanan (Hoare Lea), MSc, BSc (Hons), AMIEnvSc, MIAQM

Lauren is a Senior Air Quality Consultant at Hoare Lea. She is an Associate Member of the Institution of Environmental Sciences and a Member of the Institute of Air Quality Management. She has worked on a range of projects gaining experience in many different aspects of air quality assessment, including monitoring and detailed dispersion modelling of dust, odour, roads and industrial emissions for a variety of sectors and to fulfil Local Air Quality Management (LAQM) duties on behalf of Local Authorities. Lauren has undertaken air quality assessments for permit requirements and planning applications, including stand-alone reports, Environmental Impact Assessments, Habitats Regulations Assessments and Development Consent Orders.

Bhajan Chatha (Hoare Lea), MEng (Hons), AMIEnvSc, AMIAQM

Bhajan is a Graduate Air Quality Consultant with Hoare Lea. He is a MEng Chemical Engineering Graduate from the University of Aberdeen. During his MEng, Bhajan developed his understanding of air pollution, environmental impacts and toxicology throughout multiple modules. He also studied air pollutants, air pollution control equipment, air pollution monitoring and dispersion modelling during his degree. Within air quality, Bhajan's interests lie in air pollution control equipment and human health impacts.

Bhajan has worked on projects across multiple sectors including residential, commercial and industrial sectors. He has experience preparing air quality screening reports, environmental impact assessments, and indoor air quality plans.

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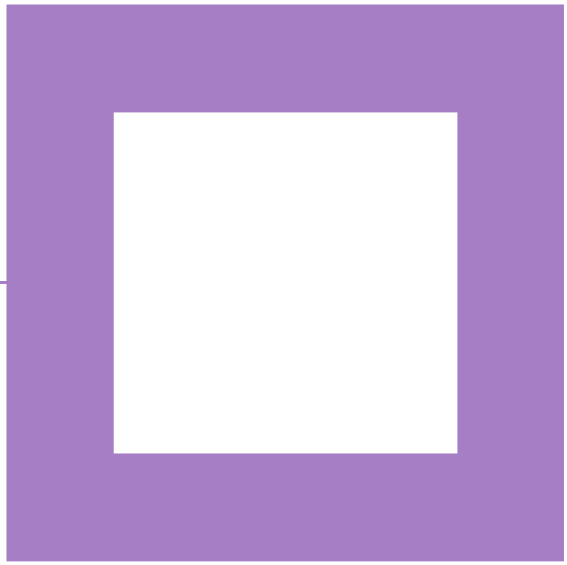

Mallard Pass
Solar Farm

Mallard Pass Solar Farm

Preliminary Environmental Information Report

Volume 3: Appendices

Appendix 5.2: Outline Landscape Ecological Management Plan

May 2022

LDĀDESIGN

Mallard Pass Solar Farm

Outline Landscape and Ecological Management Plan
May 2022

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17 Minster Precincts, Peterborough, PE1 1XX

LDĀDESIGN

7863 Mallard Pass Solar Farm Outline LEMP

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Comment Draft

This document has been prepared and checked in accordance with ISO 9001:2015.

1.0 Introduction

- An introduction to the oLEMP.
- The oLEMP will set out measures to do with the habitat creation and management measures. Details on newly created habitats will include the extent and species composition.

1.1. LEMP's objectives:

- A bullet summary of the principal objectives of the oLEMP and how they contribute to local and county aspirations and targets.

1.2. Structure of the LEMP

- Summary of the Structure of the oLEMP.

1.3. Associated Documents

- Reference to other documents that have informed and should be read in conjunction with the oLEMP. This will include the Ecology and Biodiversity Chapter of the ES and the Landscaping proposals plan.

1.4. Summary of Baseline Data

1.4.1. The Site

- General description of the Site, including land use, topography and hydrology.
- A summary of the baseline habitat and species of the Site

[Diagram 1: Topography]

1.5. Habitats and Designated Sites

1.5.1. Habitats

- A summary in table form of the habitats, their location, condition and any other observations found on Site as informed by the Phase 1 habitat survey.

1.6. Nature Conservation Designations

- A summary of designated statutory and non-statutory nature conservation designations on the Site or within the locality.

1.7. Species

- A summary in table form of the species found on Site and any other observations as informed by the Phase 1 habitat survey and other phase 2 surveys as appropriate.

1.8. Summary of key ecological characteristics of the Site

A summary of the key ecological characteristics of the Site.

1.9. Landscape Designations

A summary of designated landscapes on or near to the Site.

1.10. Landscape Character

1.10.1. National Landscape Character

A summary of the National Landscape Character 75: Kesteven Upland in which the Site lies and the identified Environmental Opportunities.

1.10.2. Local Landscape Character

- A summary of the local landscape character and locally identified opportunities and management priorities.

2.0 Scheme Description

2.1. Development Proposals

A summary of the development proposals and key landscape design principles that have shaped the design under the themes of:

- Landscape
- Ecology
- Amenity

3.0 Management Objectives

Setting out clearly the management objectives for the key habitats, species and functionality of the oLEMP.

Includes a short summary of the key structuring landscape components and how they contribute to wider policy / green infrastructure / BAP aspirations.

4.0 Required Works

This section sets out the required works to help to ensure the objectives detailed in **Section 3.0 – Management Objectives** can be achieved. References to relevant standards and best practice will be made.

4.1. Pre-Construction and Construction

Details any pre-construction and construction requirements. This may include:

- Provenance and quality of planting
- Protection of new planting
- Pre-construction works, such as protection or habitat management
- Installation and location of hibernacula
- Quality of planting

4.2. Enabling Works

- A summary of any works required to enable development including and tree protection, removal or pruning. Operational Management

4.3. Operational Management

Detailed description of the operational management of habitats types to include:

- Summary of habitat and its purpose
- Details of any specific ground preparation (if required)
- Details of seed mixes and planting specification
- Details of maintenance including number and timing of cutting operations.

Habitats detailed will correspond to those identified within the finalised Green Infrastructure Strategy (as well as any others as appropriate) including:

- Proposed Tussocky Grassland with Wildflowers
- Proposed Grazed Grassland
- Proposed Scattered Wet Woodland Planting
- Proposed Structure Planting: Woodland Copse
- Proposed Structure Planting: Tree Belts
- Proposed Structure Planting: Hedgerows
- Proposed Permissive Footpaths

  Retained Arable Fields with Skylark Plots

5.0 Management Programme (work schedule)

5.1. General Management

Detailed prescriptions for management and maintenance of the Proposed Development including general management procedures and more specific requirements as appropriate.

- A detailed works schedule will be provided as an Appendix.
- An indicative specification (e.g. seed mixes, hibernacula, interpretation) will also be provided as an Appendix.

5.2. Ecological Management Measures

Detailed prescriptions for the management and maintenance of the Proposed Development in order to avoid potential impacts of protected species such as:

- Management of new and retained habitats will be carried out in a way which will avoid direct impacts to the species (cutting outside the nesting bird and dormouse active season only)
- Provision of skylark plots will be delivered as per guidance for arable land in use for growing cereal crops. The plots will be provided by switching off the drill during the seeding of crops (or lifting it up) to create undrilled patches at least 3m wide. Each plot will be between 16m2 and 24m2. Two plots per hectare will be provided and will be sited away from field boundaries (at least 24m from the edge of the field) and telegraph poles or overhead lines.
- Habitat management, if required, will be carried out in such a way as to not injury reptiles (e.g. cutting above 150mm) to avoid injuring amphibians that may be present onsite

Further details will be provided within the oLEMP to be submitted in support of the DCO Application.

6.0 Roles, Responsibilities and Monitoring

6.1. Roles and Responsibilities

Detailing of the roles and responsibilities, including:

- Parties responsible for the management and maintenance
- Parties responsible for the monitoring of the LEMP.

6.2. Monitoring

Setting out the monitoring and review requirements for the LEMP.

7.0 References

- List of references

Figures

Figures as appropriate. Likely to include:

- Soft planting plans
- Location of mammal gates, hibernacula etc

Appendices

Appendix 1: Management Programme Schedule

Tabulated table of management prescriptions.

Appendix 2: Outline Project Specification

Outline specification in accordance with NBS (e.g. seed mixes, interpretation, hibernacula etc)