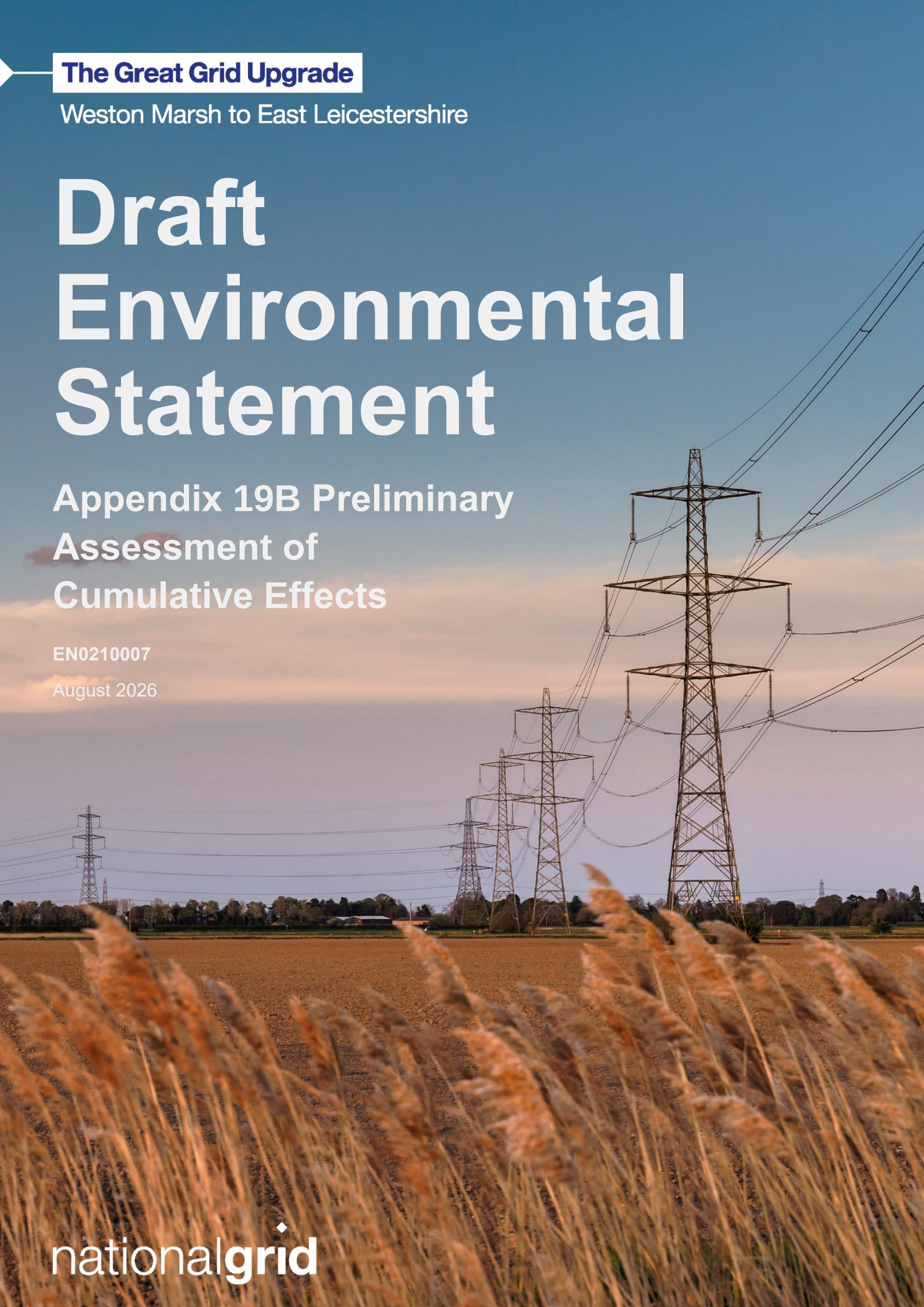




The Great Grid Upgrade

Weston Marsh to East Leicestershire

Draft Environmental Statement

Appendix 19B Preliminary Assessment of Cumulative Effects

EN0210007

August 2026

nationalgrid

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19B. Preliminary Assessment of Cumulative Effects

19B. Preliminary Assessment of Cumulative Effects

19B.1 Introduction

- 19B.1.1 This appendix has been produced to support **Chapter 19 Cumulative Effects** of the non-statutory Draft Environmental Statement (DES) (referred to in this document as “DES” and non-statutory DES”) for the Weston Marsh to East Leicestershire Project (the Project). This appendix outlines the preliminary assessment for inter-project cumulative effects as part of the Cumulative Effects Assessment (CEA) within the DES, in accordance with the methodology defined in **Chapter 19 Cumulative Effects**.
- 19B.1.2 At this stage, the assessment is based on preliminary findings, professional judgement and knowledge of similar projects. Further assessment will be undertaken and presented in the Environmental Statement (ES) including the extent of likely significant cumulative effects.
- 19B.1.3 **Table 19B.1** provides the preliminary assessment of cumulative effects for each environmental aspect. The other existing and/or approved developments referenced to in this table are those which have been taken forward to ‘Stage 3/4’ in **Appendix 19A Preliminary Long List of Other Developments**. The document IDs used in **Appendix 19A** have also been used in the below table.

Table 19B.1 Preliminary Assessment of Cumulative Effects

Receptor(s)	Potential effect of the Project	Preliminary assessment of cumulative effects with ‘other developments’ on the short list (developments that have progressed to Stage 3/4 in Appendix 19A Long List of Other Developments with the Project)	Proposed mitigation applicable to the Project including any apportionment	Residual cumulative effects following mitigation
Landscape				
Grimsthorpe Registered Park and Garden (RPG)	Localised and limited indirect change through introduction of overhead line into the landscape outside the RPG, with no impacts on physical elements that define the RPG.	None of the ‘other developments’ are expected to result in direct impacts on the physical attributes or permanent indirect impacts on the perceptual landscape attributes of the RPG. There is potential for temporary indirect impacts on perceptual attributes relating to construction of the underground pipeline of DCO4 (Anglian Water Lincolnshire Reservoir).	Siting and design of the Project to avoid direct impacts and minimise indirect impacts on the RPG.	The temporary and short term nature of construction would limit the potential for cumulative effects. No potential for operational stage cumulative effects due to the underground nature of the pipeline for DCO4.
Landscape Character Areas (LCA)	Temporary indirect change and/or localised direct impacts associated with construction, and permanent change relating to the operational phase of the Project. Potential for locally greater impacts on landscape character in the immediate vicinity of WMEL-A and WMEL-B substations.	There is the potential for cumulative effects to arise on an LCA where two or more developments would have direct and/or indirect impacts on key physical features or perceptual aspects that contribute to the character of the LCA. There is potential for temporary and permanent impacts on Settled Fens LCA at Weston Marsh relating to the following: • DCO2 – Grimsby to Walpole Weston Marsh • DCO7 – Outer Dowsing Offshore Wind Farm • DCO8 – Meridian Solar Farm There is potential for localised temporary and permanent impacts on The Fens LCA relating to SK60 (Home Farm Solar Farm), on Kesteven uplands LCA relating to SK02 (Ironstone Energy Anaerobic Digestion Plan (ADP)), on Farmland Patchwork LCA and Open Arable LCA relating to M03 (Freeby Lane Green Energy Park), and on Ridge and Valley LCA relating to M02 (Bente Klein Solar Farm). There is also potential for temporary impacts on part of Kesteven Uplands LCA relating to construction of the underground pipeline of DCO4 (Anglian Water Lincolnshire Reservoir). The remaining shortlisted developments located within the landscape Study Area relate to housing development within or immediately to existing settlements or to commercial or industrial development immediately adjacent to other	Siting and design of the Project to avoid key physical features and minimise or reduce impacts on perceptual attributes of landscape character. Opportunities for additional mitigation measures will remain under review during the completion of further assessment and development of the ES.	Potential for significant cumulative effect on relevant LCAs, to be considered in the ES.

Receptor(s)	Potential effect of the Project	Preliminary assessment of cumulative effects with 'other developments' on the short list (developments that have progressed to Stage 3/4 in Appendix 19A Long List of Other Developments with the Project)	Proposed mitigation applicable to the Project including any apportionment	Residual cumulative effects following mitigation
		similar existing developments, with no potential to contribute to a significant cumulative landscape effect with the Project.		
Visual				
Visual Receptors (local residents and users of the local Public Right of Way (PRoW) network)	Temporary impacts relating to the influence of construction activity, haul roads and/or compounds on views and visual amenity, and/or permanent impacts relating to changes to views associated with the new overhead line and/or WMEL-A, or WMEL-B, substations.	There is the potential for cumulative effects to arise where two or more developments would alter the composition and impression of views experienced by residential receptors and/or users of the local PRoW network. There is potential for temporary and permanent impacts on visual receptors around Weston Marsh relating to the following: • DCO2 – Grimsby to Walpole Weston Marsh. • DCO7 - Outer Dowsing Offshore Wind Farm. • DCO8 - Meridian Solar Farm. There is potential for localised temporary and permanent impacts on local visual receptors relating to a number of developments as follows: • SK60 - Home Farm Solar Farm on receptors near Morton and Morton Drove. • SK02 - Ironstone Energy ADP on receptors near Gunby. • M03 - Freeby Lane Green Energy Park on receptors north of Freeby. • M02 – Brente Klein Solar Farm on receptors near Potter Hill and Welby. There is also potential for temporary impacts on visual receptors near Grimsthorpe relating to construction of the underground pipeline of DCO4 - Anglian Water Lincolnshire Reservoir. The remaining shortlisted developments located within the visual Study Area relate to housing development within or immediately adjacent to existing settlements, or to commercial or industrial development immediately adjacent to other similar existing developments, with no potential to contribute to a significant cumulative visual effect with the Project.	Siting and design of the project to avoid, minimise or reduce visual impacts from settlements and residential properties and the local PRoW network. Opportunities for additional mitigation measures will remain under review during the completion of further assessment and development of the ES.	Potential for significant cumulative effect on relevant representative viewpoints and visual receptors, to be considered in the ES.
Long distance recreational routes	Temporary impacts relating to the influence of construction activity, haul roads and/or compounds on views	There is the potential for combined and/or sequential cumulative effects to arise where two or more developments would alter the	Siting and design of the project to avoid, minimise or reduce visual impacts from long distance recreational routes.	Potential for significant cumulative effect on recreational users of relevant long

Receptor(s)	Potential effect of the Project	Preliminary assessment of cumulative effects with ‘other developments’ on the short list (developments that have progressed to Stage 3/4 in Appendix 19A Long List of Other Developments with the Project)	Proposed mitigation applicable to the Project including any apportionment	Residual cumulative effects following mitigation
	and visual amenity, and/or permanent impacts relating to changes to views associated with the new overhead line and/or WMEL-B substation.	composition and impression of views experienced by recreational receptors travelling along a long distance route. There is potential for temporary and permanent impacts on users of a section of the Macmillan Way near Surfleet relating to the following: • DCO2 – Grimsby to Walpole Weston Marsh. • DCO7 - Outer Dowsing Offshore Wind Farm. • DCO8 - Meridian Solar Farm. There is also potential for temporary and/or permanent impacts on users of a section of the Viking Way relating to SK02 (Ironstone Energy ADP). The remaining identified long distance routes are at greater distance from and with little or no visibility of the Project and/or the shortlisted developments located within the visual Study Area, such that there is no potential for significant cumulative visual effects.	Opportunities for additional mitigation measures will remain under review during the completion of further assessment and development of the ES.	distance routes, to be considered in the ES.
Ecology and Biodiversity				
Statutory designated sites of International importance for nature conservation (The Wash Special Protection Area (SPA)/Ramsar; Nene Washes SPA/Ramsar; Rutland Water SPA/Ramsar; Upper Nene Valley SPA/Ramsar)	Permanent and temporary habitat loss and degradation (Upper Nene Valley Gravel Pits SPA/Ramsar only) due to construction. For all sites - potential loss, degradation or disturbance of functionally linked land (FLL), and potential disturbance (e.g. pollution (vibration, dust, air quality, light, noise and visual).	None of the ‘other developments’ are expected to result in permanent or temporary habitat loss from within these designated sites. There would be no cumulative effect as a result of loss of habitat from within statutory designated sites of international importance for nature conservation. There is the potential for temporary or permanent effects due to loss, degradation or disturbance of FLL and potential disturbance from construction activity associated with: • DCO2 – Grimsby to Walpole Weston Marsh • DCO6 – Green Hill Solar Farm Limited • DCO8 – Meridian Solar Farm • SH06 – Ashwood Homes (H14-0083-26) • R02 - Land to The South West Of Pickwell Lane Whissendine Rutland (2024/0600/SCR) • R04 - Land North of Exton Lane Burley Rutland (2022/0828/SCR) There is the potential for a cumulative effect due to combined losses of FLL during construction.	This will remain under review during the completion of further assessment and development of the ES.	Potential for significant cumulative effect, to be considered in the ES.

Receptor(s)	Potential effect of the Project	Preliminary assessment of cumulative effects with ‘other developments’ on the short list (developments that have progressed to Stage 3/4 in Appendix 19A Long List of Other Developments with the Project)	Proposed mitigation applicable to the Project including any apportionment	Residual cumulative effects following mitigation
Statutory designated sites of National importance for nature conservation (The Wash Site of Special Scientific Interest (SSSI); Nene Washes SSSI; Surfleet Lows SSSI; Dusby Wood SSSI; Rutland Water SSSI; Upper Nene Valley Gravel Pits SSSI; Birch Spinney and Mawsley SSSI)	Permanent and temporary habitat loss and degradation (Upper Nene Valley Gravel Pits SSSI only) due to construction. For all sites - potential loss, degradation or disturbance of FLL, and potential disturbance (e.g. pollution (vibration, dust, air quality, light, noise and visual).	None of the ‘other developments’ are expected to result in permanent or temporary habitat loss from within these designated sites. There would be no cumulative effect as a result of loss of habitat from within statutory designated sites of national importance for nature conservation. There is the potential for temporary or permanent effects due to loss, degradation or disturbance of FLL and potential disturbance from construction activity associated with: • DCO2 – Grimsby to Walpole Weston Marsh • DCO6 – Green Hill Solar Farm Limited • DCO8 – Meridian Solar Farm • SH06 – Ashwood Homes (H14-0083-26) • R02 - Land to the South West Of Pickwell Lane Whissendine Rutland (2024/0600/SCR) • R04 - Land North of Exton Lane Burley Rutland (2022/0828/SCR) There is the potential for a cumulative effect due to combined losses of FLL during construction.	This will remain under review during the completion of further assessment and development of the ES.	Potential for significant cumulative effect, to be considered in the ES.
Other statutory designated sites of importance for nature conservation (Summer Leys Local Nature Reserve (LNR))	Potential loss, degradation or disturbance of functionally linked land (including hydrological connectivity).	There is the potential for temporary or permanent effects due to loss, degradation or disturbance of FLL and potential hydrological linkage associated with: • DCO6 – Green Hill Solar Farm Limited	This will remain under review during the completion of further assessment and development of the ES.	Potential for significant cumulative effect, to be considered in the ES.
Non-statutory designated sites (A16 East Verge South of the River Glen Local Wildlife Site (LWS); Vernatt’s Drain LWS and River Glen Corridor LWS; Pinchbeck Marsh LWS; South Forty Foot Drain LWS; Norwood LWS; Twyford Wood LWS; Haconby Drive Drain LWS; Corby Glen Road Verge LWS; Breache’s Wood LWS; Swinstead Road Verges North LWS; Spring Wood Edenham LWS; Oak Plantation Hedgerow LWS and Gipsy Nook Verge LWS;	Permanent and temporary habitat loss and degradation. Construction pollution (e.g. noise/vibration/air quality/dust/light/visual). Potential for hydrological connectivity.	There is the potential for DCO6 – Green Hill Solar Farm to result in habitat loss from potential LWS (Unnamed site south of Mears Ashby Road) which could result in a cumulative effect on the potential LWS. There is the potential for a cumulative effect due to construction pollution and/or disturbance (including changes to hydrological connectivity) on the following non-statutory designated sites for nature conservation from construction activity associated with: • DCO2 – Grimsby to Walpole Weston Marsh • DCO6 – Green Hill Solar Farm Limited • DCO8 – Meridian Solar Farm	Implementation of construction environmental management measures set out in Appendix 4A Draft Outline Code of Construction Practice. Coordination and/or regular liaison meetings with those developments that have the potential to generate cumulative effects to understand programme overlaps and ensure mitigation measures are complimentary This will remain under review during the completion of further assessment and development of the ES.	Potential for significant cumulative effect, to be considered in the ES.

Receptor(s)	Potential effect of the Project	Preliminary assessment of cumulative effects with ‘other developments’ on the short list (developments that have progressed to Stage 3/4 in Appendix 19A Long List of Other Developments with the Project)	Proposed mitigation applicable to the Project including any apportionment	Residual cumulative effects following mitigation
Scalford Brook LWS; Hammers Lodge Farm Field LWS; Vivians Covert LWS; Wilby Meadows Stream LWS; Earls Barton Lock Lake LWS; Grendon Lakes North LWS and Upper Nene Valley LWS; unnamed LWS site south of Mears Ashby Road)				
Ancient woodland (Breaches Wood; Norwood/East Woods; Little Osgrove Wood; Herricho Wood; Cransley Wood)	Potential permanent and temporary habitat loss. Disturbance and degradation (e.g. pollution (vibration, dust, air quality, light, noise and visual)	None of the ‘other developments’ are expected to result in any loss or degradation of ancient woodland habitats. None of the ancient woodlands that may be subject to disturbance or degradation are located in close proximity to the ‘other development’. However, there is the potential for cumulative effects as a result of air quality changes during construction, due to the Project in combination with the following: - DCO2 – Grimsby to Walpole Weston Marsh - DCO 4 – AW Lincolnshire Reservoir - DCO6 – Green Hill Solar Farm Limited	Implementation of construction environmental management measures set out in Appendix 4A Draft Outline Code of Construction Practice . Coordination and/or regular liaison meetings with those developments that have the potential to generate cumulative effects to understand programme overlaps and ensure mitigation measures are complimentary This will remain under review during the completion of further assessment as the final affected road network is confirmed and the ES is finalised.	Potential for significant cumulative effect, to be considered in the ES.
Habitats (excluding ancient woodland)	Habitat loss and degradation Disturbance (e.g. pollution (vibration, dust, air quality, light, noise and visual)	Survey work for the Project is in progress. At this stage, a precautionary approach has been taken to potential for cumulative effects on habitats. There is the potential for cumulative effects due to the temporal and spatial overlap of the Project with the following ‘other developments’: - DCO2 – Grimsby to Walpole Weston Marsh - DCO4 – AW Lincolnshire Reservoir - DCO6 – Green Hill Solar Farm Limited - DCO8 – Meridian Solar Farm - SH06 – Ashwood Homes (H14-0083-26) - SK51 – Ironstone Energy Ltd (S24/0568) - M02 - Bente Klein (24/00972/FUL)	Implementation of construction environmental management measures set out in Appendix 4A Draft Outline Code of Construction Practice . Coordination and/or regular liaison meetings with those developments that have the potential to generate cumulative effects to understand programme overlaps and ensure mitigation measures are complimentary This will remain under review during the completion of further assessment and development of the ES.	Potential for significant cumulative effect, to be considered in the ES.
Species	Habitat loss Habitat severance/fragmentation, or degradation. Disturbance (e.g. pollution; lighting; noise; vibration)	Survey work for the Project is in progress. At this stage, a precautionary approach has been taken to potential for cumulative effects on protected and/or notable species in particular with respect	Implementation of construction environmental management measures set out in Appendix 4A Draft Outline Code of Construction Practice . Coordination and/or regular liaison meetings with those developments that	Potential for significant cumulative effect, to be considered in the ES.

Receptor(s)	Potential effect of the Project	Preliminary assessment of cumulative effects with 'other developments' on the short list (developments that have progressed to Stage 3/4 in Appendix 19A Long List of Other Developments with the Project)	Proposed mitigation applicable to the Project including any apportionment	Residual cumulative effects following mitigation
	Direct mortality	to birds, great crested newt, bats, otter and water vole. There is the potential for cumulative effects due to the temporal and spatial overlap of the Project with the following 'other developments': • DCO2 – Grimsby to Walpole Weston Marsh • DCO6 – Green Hill Solar Farm Limited • DCO8 – Meridian Solar Farm • SH06 – Ashwood Homes (H14-0083-26) • SK51 – Ironstone Energy Ltd (S24/0568) • M02 - Bente Klein (24/00972/FUL) • M04 – Grimston Development Ltd (25/00845/FUL) • M07 – Mars Petcare UK (26/00011/OUT) • R04 - Land North Of Exton Lane Burley Rutland (2022/0828/SCR).	have the potential to generate cumulative effects to understand programme overlaps and ensure mitigation measures are complimentary This will remain under review during the completion of further assessment and development of the ES.	
Cultural Heritage				
Archaeological remains within the draft Order Limits	Loss of all or part of the archaeological site due to construction. Permanent effects ranging in significance based on the value of the receptor. Mitigation through archaeological excavation and recording.	There is the potential for cumulative effects arising where two or more developments would have a physical impact on the same archaeological site as the Project, even where the other development does not physically intersect with the draft Order Limits. There is also the potential for cumulative effects where an 'other development' will involve construction within the draft Order Limits and, as a result, could have an impact on archaeological remains not yet identified which the Project could also impact. Both the Project and the Grimsby to Walpole Project (DCO2) have been assessed as having a potential impact on parts of the medieval sea bank in Weston (MLI98445). The Project would have a small adverse magnitude of impact (after a programme of archaeological mitigation), resulting in a moderate adverse significance of effect. DCO2 similarly would impact a small part of the sea bank, an impact assessed as negligible adverse significance of effect. Further, although no effects have been reported at the DES stage, the asset is also within the draft order limits for DCO8 and there is a possibility that	Where the Project would have an effect on archaeological remains also being impacted by another scheme, the archaeological mitigation strategies for both should reflect the need for an integrated approach to archaeological excavation and recording, including synthesis of results. This will be considered in more detail for the ES. This preliminary assessment assumes that standard good-practice archaeological mitigation strategies are applied across the other schemes to minimise impacts to archaeological sites, albeit it is acknowledged that detailed information on other schemes' mitigation is limited at this stage.	Not currently known due to current early stage of project design and the level of design and impact assessment undertaken for DCO4, and the need for further surveys to inform the assessment of potential effects from the Project.

Receptor(s)	Potential effect of the Project	Preliminary assessment of cumulative effects with 'other developments' on the short list (developments that have progressed to Stage 3/4 in Appendix 19A Long List of Other Developments with the Project)	Proposed mitigation applicable to the Project including any apportionment	Residual cumulative effects following mitigation
		there would be an impact from the construction of it as well. Although the developments in combination would affect a larger total part of the sea bank, the principle that the impact would be partial due to the majority of the monument bring unaffected would remain. As a result, it is unlikely that there would be a cumulative effect greater than the two Projects considered individually. While the majority of archaeological remains are still to be identified through non-intrusive and intrusive survey, there is an overlap in potential impacts from the Lincolnshire Reservoir (DCO4) pipeline and the Project which would have overlapping Order Limits. Non-designated heritage assets which could experience a cumulative effect include: • Deserted medieval village of Southorpe (MLI33649) – assessed as a potential negligible adverse effect from the Project (permanent construction) • Deserted medieval village of Elshtope/Southorpe (MLI33654), assessed as a small magnitude of impact as only a small part of the receptor would be impacted, resulting in a potential moderate adverse effect from the Project due to its high value (permanent construction). • Possible Bronze Age round barrow, Elsthorpe Grange (MLI84042), not physically impacted by the design at this stage, but potentially experiencing a major adverse significance of effect as a result of change to its setting (operation and maintenance). • Cropmark and earthwork Holloway, Edenham (MLI84041) - assessed as a potential negligible adverse effect from the Project (permanent construction) At the time of writing, the exact siting of the Lincolnshire Reservoir pipeline and its potential physical and setting related impacts are not known, so the potential cumulative effect cannot be measured. There is an overlap in the physical area of the Grimston Developments LTD proposed development (M02) with the draft Order Limits at		

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		Welby. This would potentially result in cumulative effects on any archaeological remains present within the overlapping areas. This will be confirmed through further surveys.		
Heritage assets (designated and non-designated) with settings sensitive to change, outside of the draft Order Limits	Change to setting of heritage assets resulting in a loss of value due to intrusion of construction activity such as visibility of or noise from construction machinery (temporary construction). Change to setting of heritage assets resulting in a loss of value due to presence of the Project in the landscape (permanent operational).	Potential cumulative effect from concentration of construction activity around Weston Marsh, with Grimsby to Walpole (DCO2) constructing substations and the Project, Outer Dowsing Offshore Wind Farm (DCO7) and Meridian Solar Farm (DCO 8) will both be constructing connections to them. The sum of DCO2, DCO7 and DCO8 with the Project has the potential to be greater than the effect of any single development. However, at present, there is only one heritage asset identified as being impacted by any combination of the Project and the two other DCOs at Weston Marsh. This is an area of medieval salterns (MLI23633), which would be physically impacted by the Project resulting in a permanent construction effect of moderate or minor adverse after mitigation. DCO2 would not physically impact the salterns, but has been assessed as having the potential to result in temporary construction and permanent operational impacts arising from change to their setting during construction and operation, both assessed as minor adverse significance of effect. The combination of the physical impact to part of the salterns, and the change to their setting, would likely have an adverse cumulative effect. There is also a potential cumulative effect from construction of both the Lincolnshire Reservoir (DCO4) pipeline to the east of Corby Glen and the Project. The timing of the construction periods for both developments will be a key part of whether there is a cumulative effect. This will be considered further for the ES, when the potential temporary construction effects of the Project are understood in greater detail. There is an overlap in the physical area of M02 with the draft Order Limits at Welby. Although no assets are known within this part of the draft Order Limits, there would potentially be cumulative effects on nearby heritage assets, including:	Consideration of construction timescale phasing should be considered where there is a potential cumulative – notably the pipeline for Lincolnshire Reservoir (DCO 4) where there would be construction to both east and west of Grimsthorpe Castle between 2031-2032 for Lincolnshire Reservoir.	Potential for cumulative effects to the assets listed. Further assessment to be undertaken for the ES.

Receptor(s)	Potential effect of the Project	Preliminary assessment of cumulative effects with 'other developments' on the short list (developments that have progressed to Stage 3/4 in Appendix 19A Long List of Other Developments with the Project)	Proposed mitigation applicable to the Project including any apportionment	Residual cumulative effects following mitigation
		- Church of St Bartholemew (NHLE: 1075115), a grade II* listed building. A potential moderate adverse significance of effect has been assessed for the Project, resulting from change to the asset during through changes to its setting. The solar arrays proposed for M02 would also be intervisible with the church, especially whilst proposed screening planting is maturing. This was assessed in the Heritage Assessment for M02 as 'less than substantial harm at the lower end of the spectrum once whilst screen planting matures, reducing further once trees have grown'. The construction timescales for M02 are not clear in the documents currently available but it can be assumed that there will be a period within the operation of the Project where screening planting for the solar arrays will not have matured and the church's setting would include a greater concentration of new modern intrusions than either of the two developments if considered separately. There is the potential for a temporary cumulative effect as a result. - Welby Grange farm (NHLE: 1180096), a grade I listed building. The Project has been assessed as having a potential minor adverse significance of effect resulting from the presence of the Project in the landscape to the north of the farmstead complex. In addition to this, from the western elevation of the rear wing of the farmhouse, solar arrays from M02 would be visible and dynamic views of the asset from the footpath to the west of the farmhouse would also be affected by the introduction of solar arrays to the north-east. This was assessed in the Heritage Assessment for MO2 as an effect of 'less than substantial harm that would be in the middle (moderate) on the spectrum'. There is the potential for a cumulative operational effect as a result of both developments being in views from and of the farmhouse. Other projects are currently thought unlikely to result in cumulative effects, either because infrastructure would be below ground during		

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		operation (e.g. infrastructure forming part of the Lincolnshire Reservoir DCO4 and Outer Dowsing Offshore Wind DCO7), or because their character would be much smaller in the landscape than the Project meaning that any combination of effects would be no greater than the effect of the individual developments.		
Water Environment				
Surface water bodies within 500 m Study Area	Temporary impacts on surface water quality of watercourses from construction runoff. Slight adverse effect (not significant).	Potential cumulative effects due to the temporal and spatial overlap of Projects within 500m of the draft Order Limits on the water quality of surface water body receptors, from construction activity associated with: • DCO2 – Grimsby to Walpole • DCO4 – Anglian Water Lincolnshire Reservoir • DCO5 – Green Solar Farm Ltd • DCO7 – Outer Dowsing Offshore Wind • DCO8 – Meridian Solar Farm Ltd • SH02 – Cedar Homes Ltd • SK01 – Millington Estates Ltd • SK18 – GCE Hire Fleet Ltd • SK42 – J Gibbison of Hereward Homes Ltd • SK44 – Unit D. Best House Grange Business Park • SK71 – GCE Hire Fleet Ltd • M02 – Brente Klein Solar Farm • M04 – Grimston Developments Ltd • M07 – New research facilities • M08 – Davidson House Meridian • M10 – Bowbridge Homes The remaining developments are currently thought unlikely to result in cumulative effects because they are either all in other river catchments, separated from the Project by wide areas of flat land or other development and barriers that will prohibit propagation of site runoff.	Implementation of construction environmental management measures set out in Appendix 4A Draft Outline Code of Construction Practice. This preliminary assessment assumes that standard good-practice construction management measures are applied across the other schemes to minimise impacts on water quality and construction runoff., albeit it is acknowledged that detailed information on other schemes’ mitigation is limited at this stage. Additional mitigation measures are not anticipated to be required in relation to the water environment. However, this will remain under review during the completion of further assessment and development of the ES.	Remains slight adverse (not significant).
Surface water bodies within 500 m Study Area	Localised and temporary impacts on hydromorphology and flow regimes from watercourse crossings, surface	Potential cumulative effect due to the temporal and spatial overlap of Projects within 500m of the draft Order Limits on the hydromorphology of	Implementation of construction environmental management measures	Remains slight adverse (not significant).

Receptor(s)	Potential effect of the Project	Preliminary assessment of cumulative effects with 'other developments' on the short list (developments that have progressed to Stage 3/4 in Appendix 19A Long List of Other Developments with the Project)	Proposed mitigation applicable to the Project including any apportionment	Residual cumulative effects following mitigation
	water outfalls and changes in runoff during construction. Slight adverse effect (not significant).	surface water body receptors from construction activity associated with: • DCO2 – Grimsby to Walpole • DCO4 – Anglian Water Lincolnshire Reservoir • DCO5 – Green Solar Farm Ltd • DCO7 – Outer Dowsing Offshore Wind • DCO8 – Meridian Solar Farm Ltd • SH02 – Cedar Homes Ltd • SK01 – Millington Estates Ltd • SK18 – GCE Hire Fleet Ltd • SK42 – J Gibbison of Hereward Homes Ltd • SK44 – Unit D. Best House Grange Business Park • SK71 – GCE Hire Fleet Ltd • M02 – Brente Klein Solar Farm • M04 – Grimston Developments Ltd • M07 – New research facilities • M08 – Davidson House Meridian • M10 – Bowbridge Homes The remaining developments are currently thought unlikely to result in cumulative effects because they are either all in other river catchments, separated from the Project by wide areas of flat land or other development and barriers that will prohibit propagation of site runoff.	set out in Appendix 4A Draft Outline Code of Construction Practice. This preliminary assessment assumes that standard good-practice construction management measures are applied across the other schemes to minimise impacts on hydromorphology including watercourse crossings and outfalls, albeit it is acknowledged that detailed information on other schemes' mitigation is limited at this stage. Additional mitigation measures are not anticipated to be required in relation to the water environment. However, this will remain under review during the completion of further assessment and development of the ES.	
Surface water bodies within 500 m Study Area	Temporary impacts on flood risk during construction. Slight adverse effect (not significant).	Potential cumulative effect due to the temporal and spatial overlap of Projects within 500m of the draft Order Limits on flood risk during construction associated with: • DCO2 – Grimsby to Walpole • DCO4 – Anglian Water Lincolnshire Reservoir • DCO5 – Green Solar Farm Ltd • DCO7 – Outer Dowsing Offshore Wind • DCO8 – Meridian Solar Farm Ltd • SH02 – Cedar Homes Ltd • SK01 – Millington Estates Ltd • SK18 – GCE Hire Fleet Ltd • SK42 – J Gibbison of Hereward Homes Ltd	Implementation of construction environmental management measures set out in Appendix 4A Draft Outline Code of Construction Practice. This preliminary assessment assumes that standard good-practice construction management measures are applied across the other schemes to minimise impacts on flood risk to third parties, albeit it is acknowledged that detailed information on other schemes' mitigation is limited at this stage. A more detailed cumulative assessment, including confirmation of other developments' mitigation commitments and any need for	Remains slight adverse (not significant)

Receptor(s)	Potential effect of the Project	Preliminary assessment of cumulative effects with 'other developments' on the short list (developments that have progressed to Stage 3/4 in Appendix 19A Long List of Other Developments with the Project)	Proposed mitigation applicable to the Project including any apportionment	Residual cumulative effects following mitigation
		- SK44 – Unit D. Best House Grange Business Park - SK71 – GCE Hire Fleet Ltd - M02 – Brente Klein Solar Farm - M04 – Grimston Developments Ltd - M07 – New research facilities - M08 – Davidson House Meridian - M10 – Bowbridge Homes The remaining developments are currently thought unlikely to result in cumulative effects because they are either all in other river catchments, separated from the Project by wide areas of flat land or other development and barriers that will prohibit propagation of site runoff.	additional project specific measures, will be provided in the ES.	
Surface water bodies within 500 m Study Area	Potential pollution of surface water from increase in runoff from impermeable surfaces and maintenance activities during operation. Slight adverse effect (not significant).	Potential cumulative effect due to the temporal and spatial overlap of Projects within 500m of the draft Order Limits on the water quality of surface water body receptors from operational and maintenance activity associated with: - DCO2 – Grimsby to Walpole - DCO4 – Anglian Water Lincolnshire Reservoir - DCO5 – Green Solar Farm Ltd - DCO7 – Outer Dowsing Offshore Wind - DCO8 – Meridian Solar Farm Ltd - SH02 – Cedar Homes Ltd - SK01 – Millington Estates Ltd - SK18 – GCE Hire Fleet Ltd - SK42 – J Gibbison of Hereward Homes Ltd - SK44 – Unit D. Best House Grange Business Park - SK71 – GCE Hire Fleet Ltd - M02 – Brente Klein Solar Farm - M04 – Grimston Developments Ltd - M07 – New research facilities - M08 – Davidson House Meridian - M10 – Bowbridge Homes The remaining developments are currently thought unlikely to result in cumulative effects	Implementation of operational environmental management measures set out in Chapter 10 Water Environment. Any significant effects have been designed and/or mitigated out in line with standard good practice measures and National Grid operational management procedures. This preliminary assessment assumes that standard good-practice operational management measures are applied across the other schemes to minimise impacts on water quality including routine maintenance runoff, albeit it is acknowledged that detailed information on other schemes' mitigation is limited at this stage. However, where the Project may have an effect on surface water bodies also being impacted by another development, the water environment mitigation strategies for both should reflect the need for an integrated approach to safeguarding the water environment. This will be considered in more detail for the ES.	Not currently known due to the early stage of project design and the level of design and impact assessment undertaken for other developments, and the need for further assessment of potential effects from the Project, to be considered further in ES.

Receptor(s)	Potential effect of the Project	Preliminary assessment of cumulative effects with ‘other developments’ on the short list (developments that have progressed to Stage 3/4 in Appendix 19A Long List of Other Developments with the Project)	Proposed mitigation applicable to the Project including any apportionment	Residual cumulative effects following mitigation
		because they are either all in other river catchments, separated from the Project by wide areas of flat land or other development and barriers that will prohibit propagation of site runoff.		
Surface water bodies within 500 m Study Area	Localised impacts on hydromorphology from changes in runoff during operational. Slight adverse effect (not significant).	Potential cumulative effect due to the temporal and spatial overlap of Projects within 500m of the draft Order Limits on the hydromorphology of surface water body receptors from operational and maintenance activity associated with: • DCO2 – Grimsby to Walpole • DCO4 – Anglian Water Lincolnshire Reservoir • DCO5 – Green Solar Farm Ltd • DCO7 – Outer Dowsing Offshore Wind • DCO8 – Meridian Solar Farm Ltd • SH02 – Cedar Homes Ltd • SK01 – Millington Estates Ltd • SK18 – GCE Hire Fleet Ltd • SK42 – J Gibbison of Hereward Homes Ltd • SK44 – Unit D. Best House Grange Business Park • SK71 – GCE Hire Fleet Ltd • M02 – Brente Klein Solar Farm • M04 – Grimston Developments Ltd • M07 – New research facilities • M08 – Davidson House Meridian • M10 – Bowbridge Homes The remaining developments are currently thought unlikely to result in cumulative effects because they are either all in other river catchments, separated from the Project by wide areas of flat land or other development and barriers that will prohibit propagation of site runoff.	Implementation of operational environmental management measures set out in Chapter 10 Water Environment. Any significant effects have been designed and/or mitigated out in line with standard good practice measures and National Grid operational management procedures. This preliminary assessment assumes that standard good-practice operational management measures are applied across the other schemes to minimise impacts on hydromorphology, albeit it is acknowledged that detailed information on other schemes’ mitigation is limited at this stage. However, where the Project would have an effect on surface water bodies also being impacted by another development, the water environment mitigation strategies for both should reflect the need for an integrated approach to safeguarding the water environment. This will be considered in more detail for the ES.	Not currently known due to the early stage of project design and the level of design and impact assessment undertaken for other developments, and the need for further assessment of potential effects from the Project, to be considered further in ES.
Surface water bodies within 500 m Study Area	Potential increase in flood risk during operation. Slight adverse effect (not significant).	Potential cumulative effect due to the temporal and spatial overlap of Projects within 500m of the draft Order Limits on flood risk during operation associated with: • DCO2 – Grimsby to Walpole	Implementation of operational environmental management measures set out in Chapter 10 Water Environment . Any significant effects have been designed and/or mitigated out in line with standard good practice	Not currently known due to the early stage of project design and the level of design and impact assessment undertaken for other developments, and the need for further assessment of potential effects

Receptor(s)	Potential effect of the Project	Preliminary assessment of cumulative effects with 'other developments' on the short list (developments that have progressed to Stage 3/4 in Appendix 19A Long List of Other Developments with the Project)	Proposed mitigation applicable to the Project including any apportionment	Residual cumulative effects following mitigation
		- DCO4 – Anglian Water Lincolnshire Reservoir - DCO5 – Green Solar Farm Ltd - DCO7 – Outer Dowsing Offshore Wind - DCO8 – Meridian Solar Farm Ltd - SH02 – Cedar Homes Ltd - SK01 – Millington Estates Ltd - SK18 – GCE Hire Fleet Ltd - SK42 – J Gibbison of Hereward Homes Ltd - SK44 – Unit D. Best House Grange Business Park - SK71 – GCE Hire Fleet Ltd - M02 – Brente Klein Solar Farm - M04 – Grimston Developments Ltd - M07 – New research facilities - M08 – Davidson House Meridian - M10 – Bowbridge Homes The remaining developments are currently thought unlikely to result in cumulative effects because they are either all in other river catchments, separated from the Project by wide areas of flat land or other development and barriers that will prohibit propagation of site runoff.	measures and National Grid operational management procedures. There is not anticipated to be an increase in flood risk during operation when considering surrounding committed development as the generation of surface water runoff from the developments must be in line with the NPPF, and therefore not increase runoff beyond existing rates. Should any surrounding development lead to displacement of floodplain storage, compensatory storage must be implemented in line with the NPPF to ensure that the total volume of floodplain storage is not reduced to prevent any increase in flood risk elsewhere. Where the Project would have an effect on flood risk also being impacted by another development, the water environment mitigation strategies for both should reflect the need for an integrated approach to safeguarding the water environment. This will be considered in more detail for the ES.	from the Project, to be considered further in ES.
Geology and Hydrogeology				
Human health receptors – construction workers and adjacent land users during the construction phase	Harm to human health through exposure to contamination, dust and vapours from ground disturbance during construction that is affected by pre-existing contamination. Slight adverse (not significant).	Potential cumulative effect due to the temporal and spatial overlap of Projects within 250m of the draft Order Limits on additional human health receptors from construction activity associated with: - DCO2 - intersect Grimsby to Walpole at Weston Marsh - DCO4 - intersect Anglian Water Lincolnshire Reservoir - DCO5 - Intersect Green Solar Farm Ltd - DCO7 - Intersect Outer Dowsing Offshore Wind - DCO 8 – Meridian Solar Farm Ltd - SK01 - Millington Estates Ltd	Implementation of construction environmental management measures set out in Appendix 4A Draft Outline Code of Construction Practice. Coordination and regular liaison meetings with other high risk construction sites or activities within 250m of the draft Order Limits to support the alignment of management plans.	Not likely to result in a significant cumulative effect.

Receptor(s)	Potential effect of the Project	Preliminary assessment of cumulative effects with 'other developments' on the short list (developments that have progressed to Stage 3/4 in Appendix 19A Long List of Other Developments with the Project)	Proposed mitigation applicable to the Project including any apportionment	Residual cumulative effects following mitigation
		- SK18 - GCE Hire Fleet Ltd - SK71 - GCE Hire Fleet Ltd - M08 - Davidson House Meridian		
Human health receptors – construction works and adjacent land users during the construction phase	Explosion or asphyxiation as a result of ingress and accumulation of ground gas within structures through ingress and accumulation of ground gas within buildings or other confined spaces. Slight adverse (not significant).	Potential cumulative effect due to the temporal and spatial overlap of Projects within 250m of the draft Order Limits on additional human health receptors from construction activity associated with: - DCO2 - intersect Grimsby to Walpole at Weston Marsh - DCO4 - intersect Anglian Water Lincolnshire Reservoir - DCO5 - Intersect Green Solar Farm Ltd - DCO7 - Intersect Outer Dowsing Offshore Wind - DCO 8 – Meridian Solar Farm Ltd - SK01 - Millington Estates Ltd - SK18 - GCE Hire Fleet Ltd - SK71 - GCE Hire Fleet Ltd - M08 - Davidson House Meridian	Implementation of construction environmental management measures set out in Appendix 4A Draft Outline Code of Construction Practice. Coordination and regular liaison meetings with other high risk construction sites or activities within 250m of the draft Order Limits to support the alignment of management plans.	Not likely to result in a significant cumulative effect.
Human health receptors – construction works and adjacent land users during the construction phase	Harm to human health from disturbance of historical mining leading to potential mobilisation of mine gases and mine water. Slight adverse (not significant).	Potential cumulative effect due to the temporal and spatial overlap of Projects on human health receptors from construction activity within the Coal Mining Reporting Area and other areas of historical mining. Pathways may be created leading to the potential mobilisation of mine gases and/or mine water. The following developments are located within the Coal Mining Reporting Area: - M02 - Brente Klein Solar Farm - M04 - Grimston Developments Ltd - M08 - Davidson House Meridian	Implementation of construction environmental management measures set out in Appendix 4A Draft Outline Code of Construction Practice. Coordination and regular liaison meetings with other high risk construction sites or activities within 250m of the draft Order Limits to support the alignment of management plans.	Potential for significant cumulative effect, to be considered in the ES.
Principal aquifer (Bedrock)	Deterioration in chemical quality of the land and aquifers through ground disturbance during construction that is affected by pre-existing contamination. Slight adverse (not significant).	Potential cumulative effect due to the temporal and spatial overlap of Projects within 500m of the draft Order Limits on the groundwater quality of principal aquifer as a result of construction activities associated with: - DCO4 - Anglian Water Lincolnshire Reservoir - DCO5 - Green Hill Solar Farm Limited - SK01 - Millington Estates Limited	Implementation of construction environmental management measures set out in Appendix 4A Draft Outline Code of Construction Practice. Coordination and regular liaison meetings with other high risk construction sites or activities within 500m of the draft Order	Not likely to result in a significant cumulative effect.

Receptor(s)	Potential effect of the Project	Preliminary assessment of cumulative effects with 'other developments' on the short list (developments that have progressed to Stage 3/4 in Appendix 19A Long List of Other Developments with the Project)	Proposed mitigation applicable to the Project including any apportionment	Residual cumulative effects following mitigation
		- SK18 - GCE Hire Fleet Ltd - SK42 - Jon Gibbison of Hereward Homes Ltd - SK44 - Unit D. Best House Grange Business Park. Enderby Road Whetstone Leicester LE8 6EP United Kingdom - SK71 - GCE Hire Fleet Ltd Submission of details reserved by condition 4	Limits to support the alignment of management plans.	
Principal aquifer (Bedrock)	Alteration to groundwater levels and flow regime due to construction activities (including foundations, temporary drainage and access infrastructure) resulting in short-term, localised effects on groundwater quantity. Slight adverse (not significant).	Potential cumulative effect due to the temporal and spatial overlap of Projects within 500m of the draft Order Limits on the groundwater quantity of principal aquifer as a result of construction activities associated with: - DCO4 - Anglian Water Lincolnshire Reservoir - DCO5 - Green Hill Solar Farm Limited - SK01 - Millington Estates Limited - SK18 - GCE Hire Fleet Ltd - SK42 - Jon Gibbison of Hereward Homes Ltd - SK44 - Unit D. Best House Grange Business Park. Enderby Road Whetstone Leicester LE8 6EP United Kingdom - SK71 - GCE Hire Fleet Ltd Submission of details reserved by condition 4	Implementation of construction environmental management measures set out in Appendix 4A Draft Outline Code of Construction Practice. Coordination and regular liaison meetings with other high risk construction sites or activities within 500m of the draft Order Limits to support the alignment of management plans.	Not likely to result in a significant cumulative effect.
Source Protection Zone 2	Deterioration in chemical quality of the land and aquifers through ground disturbance during construction that is affected by pre-existing contamination. Slight adverse (not significant).	Potential cumulative effect due to the temporal and spatial overlap of Projects within 500m of the draft Order Limits on the groundwater quality of Source Protection Zone 2 as a result of construction activities associated with: - DCO4 - Anglian Water Lincolnshire Reservoir - DCO5 - Green Hill Solar Farm Limited - SK44 - Unit D. Best House Grange Business Park. Enderby Road Whetstone Leicester LE8 6EP United Kingdom	Implementation of construction environmental management measures set out in Appendix 4A Draft Outline Code of Construction Practice. Coordination and regular liaison meetings with other high risk construction sites or activities within 500m of the draft Order Limits to support the alignment of management plans.	Not likely to result in a significant cumulative effect.
Source Protection Zone 2	Alteration to groundwater levels and flow regime due to construction activities (including foundations, temporary drainage and access infrastructure) resulting in short-term, localised effects on groundwater quantity. Slight adverse (not significant).	Potential cumulative effect due to the temporal and spatial overlap of Projects within 500m of the draft Order Limits on the groundwater quantity of Source Protection Zone 2 as a result of construction activities associated with: - DCO4 - Anglian Water Lincolnshire Reservoir - DCO5 - Green Hill Solar Farm Limited	Implementation of construction environmental management measures set out in Appendix 4A Draft Outline Code of Construction Practice. Coordination and regular liaison meetings with other high risk construction sites or activities within 500m of the draft Order Limits to support the alignment of management plans.	Not likely to result in a significant cumulative effect.

Receptor(s)	Potential effect of the Project	Preliminary assessment of cumulative effects with ‘other developments’ on the short list (developments that have progressed to Stage 3/4 in Appendix 19A Long List of Other Developments with the Project)	Proposed mitigation applicable to the Project including any apportionment	Residual cumulative effects following mitigation
		SK44 - Unit D. Best House Grange Business Park. Enderby Road Whetstone Leicester LE8 6EP United Kingdom		
Licensed groundwater abstraction	Deterioration in chemical quality of the land and aquifers through ground disturbance during construction that is affected by pre-existing contamination. Slight adverse (not significant).	Potential cumulative effect due to the temporal and spatial overlap of Projects within 500m of the draft Order Limits on the groundwater quality of licensed groundwater abstractions as a result of construction activities associated with: DCO5 - Green Hill Solar Farm Limited	Implementation of construction environmental management measures set out in Appendix 4A Draft Outline Code of Construction Practice . Coordination and regular liaison meetings with other high risk construction sites or activities within 500m of the draft Order Limits to support the alignment of management plans.	Not likely to result in a significant cumulative effect.
Licensed groundwater abstraction	Alteration to groundwater levels and flow regime due to construction activities (including foundations, temporary drainage and access infrastructure) resulting in short-term, localised effects on groundwater quantity. Slight adverse (not significant).	Potential cumulative effect due to the temporal and spatial overlap of Projects within 500m of the draft Order Limits on the groundwater quantity of licensed groundwater abstractions as a result of construction activities associated with: DCO5 - Green Hill Solar Farm Limited	Implementation of construction environmental management measures set out in Appendix 4A Draft Outline Code of Construction Practice . Coordination and regular liaison meetings with other high risk construction sites or activities within 500m of the draft Order Limits to support the alignment of management plans.	Not likely to result in a significant cumulative effect.
GWDTE (Upper Nene Valley Gravel Pits SSSI)	Deterioration in chemical quality of the land and aquifers through ground disturbance during construction that is affected by pre-existing contamination. Slight adverse (not significant).	Potential cumulative effect due to the temporal and spatial overlap of Projects within 500m of the draft Order Limits on the groundwater quality of GWDTEs as a result of construction activities associated with: DCO5 - Green Hill Solar Farm Limited	Implementation of construction environmental management measures set out in Appendix 4A Draft Outline Code of Construction Practice . Coordination and regular liaison meetings with other high risk construction sites or activities within 500m of the draft Order Limits to support the alignment of management plans.	Not likely to result in a significant cumulative effect.
GWDTE (Upper Nene Valley Gravel Pits SSSI)	Alteration to groundwater levels and flow regime due to construction activities (including foundations, temporary drainage and access infrastructure) resulting in short-term, localised effects on groundwater quantity. Slight adverse (not significant).	Potential cumulative effect due to the temporal and spatial overlap of Projects within 500m of the draft Order Limits on the groundwater quantity of GWDTEs as a result of construction activities associated with: DCO5 - Green Hill Solar Farm Limited	Implementation of construction environmental management measures set out in Appendix 4A Draft Outline Code of Construction Practice . Coordination and regular liaison meetings with other high risk construction sites or activities within 500m of the draft Order Limits to support the alignment of management plans.	Not likely to result in a significant cumulative effect.
Agriculture and Soils				

Receptor(s)	Potential effect of the Project	Preliminary assessment of cumulative effects with ‘other developments’ on the short list (developments that have progressed to Stage 3/4 in Appendix 19A Long List of Other Developments with the Project)	Proposed mitigation applicable to the Project including any apportionment	Residual cumulative effects following mitigation
Best and Most Versatile (BMV) land within a 500m study area	The construction of the new overhead line between Weston Marsh and the WMEL-B substation has the potential to permanently lose agricultural land, due to the construction of the substation site tower foundations and permanent access on BMV land, Grade 1, 2 and 3a (not significant).	Potential cumulative effect due to the temporal and spatial overlap of Projects within the draft Order Limits on the BMV land receptors, from construction activity associated with - DCO 2 - intersect G2W Weston Marsh - DCO 6 - Green Hill Solar Farm Limited - SK51 - East of Sewstern Industrial Estate South of Sewstern Road Gunby Lincolnshire - M03 Freeby Lane Green Energy Park - M02 - Brente Klein Solar Farm	Implementation of construction environmental management measures set out in Appendix 4A Draft Outline Code of Construction Practice . Methods of soil management described in Appendix 12 Draft Outline Soil Management Plan .	Not likely to result in a significant cumulative effect.
Soil within a 500m study area.	Loss of soil and reduction in the ecosystem services provided by soil, including agricultural crop production (not significant).	Potential cumulative effect due to the temporal and spatial overlap of Projects within the draft Order Limits on soil receptors, from construction activity associated with: - DCO 2 intersect G2W Weston Marsh - DCO 6 - Green Hill Solar Farm Limited - SK01 – Millington Estates Ltd - SK44 - Unit D. Best House Grange Business Park. Enderby Road Whetstone Leicester LE8 6EP United Kingdom. - SK51 - East of Sewstern Industrial Estate South of Sewstern Road Gunby Lincolnshire - M02 - Brente Klein Solar Farm - M03 - Freeby Lane Green Energy Park	Implementation of construction environmental management measures set out in Appendix 4A Draft Outline Code of Construction Practice . Methods of soil management described in Appendix 12A Draft Outline Soil Management Plan .	Not likely to result in a significant cumulative effect.
Traffic and Transport				
Road users (all vehicles) on highway network during the construction phase	Severance, driver delay and highway safety effects due to increased traffic. Potential for adverse effect (significant), subject to further assessment to be reported in the ES.	Potential cumulative effects on road users (all vehicles) may arise due to the spatial and temporal overlap of construction traffic movements on the road network, associated with: - DCO2 – Grimsby to Walpole - DCO4 – Anglian Water Lincolnshire Reservoir - DCO5 – Green Hill Solar Farm Limited	The Project includes design mitigation measures which have been incorporated to avoid or reduce traffic and transport impacts, and standard mitigation measures which would normally be implemented on a project of this scale and nature. The standard mitigation includes implementation of construction environmental management measures set out in Appendix 4A Draft Outline Code of Construction Practice , including the measures specific to construction traffic contained in Appendix 13D Draft Outline	Potential for significant cumulative effect, to be considered in the ES.

Receptor(s)	Potential effect of the Project	Preliminary assessment of cumulative effects with 'other developments' on the short list (developments that have progressed to Stage 3/4 in Appendix 19A Long List of Other Developments with the Project)	Proposed mitigation applicable to the Project including any apportionment	Residual cumulative effects following mitigation
			Construction Traffic Management Plan (CTMP). This preliminary assessment assumes that standard good-practice construction traffic management measures are applied across the other schemes, albeit it is acknowledged that detailed information on other schemes' mitigation is limited at this stage. A more detailed cumulative assessment, including confirmation of other developments' mitigation commitments and any need for additional project specific measures, will be provided in the ES.	
Bus users on highway network during the construction phase	Potential for delay due to congestion as a result of increased traffic Potential for adverse effect (significant), subject to further assessment to be reported in the ES.	Potential cumulative effects on bus users may arise due to the spatial and temporal overlap of construction traffic movements on the road network, associated with: • DCO2 – Grimsby to Walpole • DCO4 – Anglian Water Lincolnshire Reservoir • DCO5 – Green Hill Solar Farm Limited	The Project includes design mitigation measures which have been incorporated to avoid or reduce traffic and transport impacts, and standard mitigation measures which would normally be implemented on a project of this scale and nature. The standard mitigation includes implementation of construction environmental management measures set out in Appendix 4A Draft Outline Code of Construction Practice, including the measures specific to construction traffic contained in Appendix 13D Draft Outline Construction Traffic Management Plan. This preliminary assessment assumes that standard good-practice construction traffic management measures are applied across the other schemes, albeit it is acknowledged that detailed information on other schemes' mitigation is limited at this stage. A more detailed cumulative assessment, including confirmation of other developments' mitigation commitments and any need for additional project specific measures, will be provided in the ES.	Potential for significant cumulative effect, to be considered in the ES.

Receptor(s)	Potential effect of the Project	Preliminary assessment of cumulative effects with 'other developments' on the short list (developments that have progressed to Stage 3/4 in Appendix 19A Long List of Other Developments with the Project)	Proposed mitigation applicable to the Project including any apportionment	Residual cumulative effects following mitigation
Pedestrians and cyclists on highway network during the construction phase	Potential for severance, delay, decline in amenity, additional fear and intimidation as a result of increased traffic. Potential for adverse effect (significant), subject to further assessment to be reported in the ES.	Potential cumulative effects on pedestrians and cyclists on the highway network may arise due to the spatial and temporal overlap of construction traffic movements on the road network, associated with: • DCO2 – Grimsby to Walpole • DCO4 – Anglian Water Lincolnshire Reservoir • DCO5 – Green Hill Solar Farm Limited	The Project includes design mitigation measures which have been incorporated to avoid or reduce traffic and transport impacts, and standard mitigation measures which would normally be implemented on a project of this scale and nature. The standard mitigation includes implementation of construction environmental management measures set out in Appendix 4A Draft Outline Code of Construction Practice, including the measures specific to construction traffic contained in Appendix 13D Draft Outline Construction Traffic Management Plan. This preliminary assessment assumes that standard good-practice construction traffic management measures are applied across the other schemes, albeit it is acknowledged that detailed information on other schemes' mitigation is limited at this stage. A more detailed cumulative assessment, including confirmation of other developments' mitigation commitments and any need for additional project specific measures, will be provided in the ES.	Potential for significant cumulative effect, to be considered in the ES.
All users on highway network during the construction phase	Potential for severance, delay, due to potential road closures and/or diversions to facilitate AILs. Potential for adverse effect (significant), subject to further assessment to be reported in the ES.	Potential cumulative effects on all users of the highway network may arise due to spatial and temporal overlap of road closures and/or diversions required to facilitate AIL movements on the road network, associated with: • DCO2 – Grimsby to Walpole • DCO4 – Anglian Water Lincolnshire Reservoir • DCO5 – Green Hill Solar Farm Limited	The Project includes design mitigation measures which have been incorporated to avoid or reduce traffic and transport impacts, and standard mitigation measures which would normally be implemented on a project of this scale and nature. The standard mitigation includes implementation of construction environmental management measures set out in Appendix 4A Draft Outline Code of Construction Practice, including the measures specific to construction traffic contained in Appendix 13D Draft Outline	Potential for significant cumulative effect, to be considered in the ES.

Receptor(s)	Potential effect of the Project	Preliminary assessment of cumulative effects with 'other developments' on the short list (developments that have progressed to Stage 3/4 in Appendix 19A Long List of Other Developments with the Project)	Proposed mitigation applicable to the Project including any apportionment	Residual cumulative effects following mitigation
			Construction Traffic Management Plan. This preliminary assessment assumes that standard good-practice construction traffic management measures are applied across the other schemes, albeit it is acknowledged that detailed information on other schemes' mitigation is limited at this stage. A more detailed cumulative assessment, including confirmation of other developments' mitigation commitments and any need for additional project specific measures, will be provided in the ES.	
All users on highway network during the construction phase	Potential for impact as a result of a road traffic accident leading to hazardous load spill. Potential for adverse effect (significant), subject to further assessment to be reported in the ES.	Potential cumulative effects on all users of the highway network may arise due to spatial and temporal overlap of hazardous load routes on the road network, associated with: • DCO2 – Grimsby to Walpole • DCO4 – Anglian Water Lincolnshire Reservoir • DCO5 – Green Hill Solar Farm Limited	The Project includes design mitigation measures which have been incorporated to avoid or reduce traffic and transport impacts, and standard mitigation measures which would normally be implemented on a project of this scale and nature. The standard mitigation includes implementation of construction environmental management measures set out in Appendix 4A Draft Outline Code of Construction Practice, including the measures specific to construction traffic contained in Appendix 13D Draft Outline Construction Traffic Management Plan. This preliminary assessment assumes that standard good-practice construction traffic management measures are applied across the other schemes, albeit it is acknowledged that detailed information on other schemes' mitigation is limited at this stage. A more detailed cumulative assessment, including confirmation of other developments' mitigation commitments and any need for additional project specific measures, will be provided in the ES.	Potential for significant cumulative effect, to be considered in the ES.

Receptor(s)	Potential effect of the Project	Preliminary assessment of cumulative effects with 'other developments' on the short list (developments that have progressed to Stage 3/4 in Appendix 19A Long List of Other Developments with the Project)	Proposed mitigation applicable to the Project including any apportionment	Residual cumulative effects following mitigation
Pedestrians, cyclists and equestrians on Public Rights of Way and Promoted/Recreational Routes during construction phase	Potential for increased journey distance/time due to long term temporary closures/diversions of routes crossing substation sites, construction compounds, tower construction zones, laydown areas or forming a temporary construction access. Potential for adverse effect (significant), subject to further assessment to be reported in the ES.	Potential cumulative effects on users of PRow may arise due to spatial and temporal overlap within the draft Order Limits, associated with: - DCO2 – Grimsby to Walpole - DCO4 – Anglian Water Lincolnshire Reservoir	The Project includes design mitigation measures which have been incorporated to avoid or reduce traffic and transport impacts, and standard mitigation measures which would normally be implemented on a project of this scale and nature. The standard mitigation includes implementation of construction environmental management measures set out in Appendix 4A Draft Outline Code of Construction Practice, including the measures specific to the management of PRow contained in Appendix 13E Draft Outline Public Rights of Way Management Plan (PRowMP). This preliminary assessment assumes that standard good-practice PRow management measures are applied across the other schemes, albeit it is acknowledged that detailed information on other schemes' mitigation is limited at this stage. A more detailed cumulative assessment, including confirmation of other developments' mitigation commitments and any need for additional project specific measures, will be provided in the ES.	Potential for significant cumulative effect, to be considered in the ES.
Pedestrians, cyclists and equestrians on Public Rights of Way and Promoted/Recreational Routes during construction phase	Potential for increased journey distance/time due to PRow closures during conductor stringing. Potential for significant adverse effect (significant), subject to further assessment to be reported in the ES.	Potential cumulative effects on users of PRow may arise due to spatial and temporal overlap within the draft Order Limits associated with: DCO5 – Green Hill Solar Farm Limited	The Project includes design mitigation measures which have been incorporated to avoid or reduce traffic and transport impacts, and standard mitigation measures which would normally be implemented on a project of this scale and/or nature. The standard mitigation includes implementation of construction environmental management measures set out in Appendix 4A Draft Outline Code of Construction Practice including the measures specific to the management of PRow contained in Appendix 13E Draft Outline Public Rights of Way Management Plan.	Potential for significant cumulative effect, to be considered in the ES.

Receptor(s)	Potential effect of the Project	Preliminary assessment of cumulative effects with ‘other developments’ on the short list (developments that have progressed to Stage 3/4 in Appendix 19A Long List of Other Developments with the Project)	Proposed mitigation applicable to the Project including any apportionment	Residual cumulative effects following mitigation
			This preliminary assessment assumes that standard good-practice PRow management measures are applied across the other schemes, albeit it is acknowledged that detailed information on other schemes’ mitigation is limited at this stage. A more detailed cumulative assessment, including confirmation of other developments’ mitigation commitments and any need for additional project specific measures, will be provided in the ES.	
Railway users during construction phase	Potential for delay due to rail closure. There would only be two short duration possessions required for each railway crossing, and these would be undertaken overnight and at weekends in pre-agreed time slots. It is not expected that the Project would lead to any significant adverse effects on rail passengers.	Potential cumulative effects on rail users may arise due to potential impacts on the same railway lines and temporal overlap associated with: DCO4 – Anglian Water Lincolnshire Reservoir	The construction strategy has been designed to minimise impacts on railways. Implementation of construction environmental management measures set out in Appendix 4A Draft Outline Code of Construction Practice .	Potential for significant cumulative effect, to be considered in the ES.
Navigable waterway users during construction phase	Potential for reduced access /delay due to navigable waterway closure. There would only be two short duration closures required for each navigable waterway crossing, and these would be undertaken overnight and at weekends. It is not expected that the Project would lead to any significant adverse effects on navigable waterway users.	Potential cumulative effects on navigable waterway users may arise due to spatial and temporal overlap on navigable waterways associated with: - DCO2 – Grimsby to Walpole - DCO4 – Anglian Water Lincolnshire Reservoir	The construction strategy has been designed to minimise impacts on navigable waterways. Implementation of construction environmental management measures set out in Appendix 4A Draft Outline Code of Construction Practice .	Potential for significant cumulative effect, to be considered in the ES.
Road users, public transport users (Bus), pedestrians and cyclists on highway network during operation phase	Severance, driver delay and highway safety effects due to increased traffic. Operational/maintenance traffic will not trigger the screening thresholds in the ISEP Guidelines (Ref 19B.1) and are not therefore likely to lead to significant effects on road users.	It is unlikely that there would be potential for cumulative effects on road users (all vehicles) due to the spatial and temporal overlap of operational traffic movements due to the likely low travel demands in the operational phase associated with: - DCO2 – Grimsby to Walpole - DCO4 – Anglian Water Lincolnshire Reservoir - DCO5 – Green Hill Solar Farm Limited	No mitigation required.	Not likely to result in a significant cumulative effect.

Receptor(s)	Potential effect of the Project	Preliminary assessment of cumulative effects with ‘other developments’ on the short list (developments that have progressed to Stage 3/4 in Appendix 19A Long List of Other Developments with the Project)	Proposed mitigation applicable to the Project including any apportionment	Residual cumulative effects following mitigation
Pedestrians, cyclists and equestrians on Public Rights of Way and Promoted/Recreational Routes during operation phase	Potential for increased journey distance/time due to permanent PRow closures/ diversions. Potential for significant adverse effect (significant), subject to further assessment to be reported in the ES.	Potential cumulative effects on users of PRow may arise due to spatial and temporal overlap within the draft Order Limits associated with: - DCO2 – Grimsby to Walpole - DCO4 – Anglian Water Lincolnshire Reservoir	The design will seek to avoid the need for permanent diversions but where this is unavoidable, diversion distances will generally be kept to a minimum.	Not likely to result in a significant cumulative effect.
Railway users during operation phase	Potential for delay due to rail closure. Maintenance vehicles would use existing highway crossing points, and there would not therefore be any significant effects on rail passengers.	There would be no cumulative effects on rail users in the operational phase as the Project will not impact on the railways.	No mitigation required.	Not likely to result in a significant cumulative effect.
Navigable waterway users during operation phase	Potential for reduced access /delay due to navigable waterway closure. Maintenance vehicles would use existing highway crossing points, and there would not therefore be any significant effects on navigable waterway users.	There would be no cumulative effects on navigable waterway users in the operational phase as the Project will not impact on the navigable waterways.	No mitigation required.	Not likely to result in a significant cumulative effect.
Air Quality				
Human receptors within 200m of the Affected Road Network (ARN) during construction	These effects are expected to result from traffic emissions generated from the increase of vehicle movement in the area during construction phase.	If the construction traffic associated with the Project and other developments overlaps temporally, there is potential for a cumulative increase in traffic-related emissions.	Appendix 4A Draft Outline Code of Construction Practice includes measures related to construction emissions standards (excluding workers vehicles).	Potential for significant cumulative effect, to be considered further in ES.
Ecological receptors within 50m of the Affected Road Network (ARN) during construction	These effects are expected to result from traffic emissions generated from the increase of vehicle movement in the area during construction phase.	If the construction traffic associated with the Project and other developments overlaps temporally, there is potential for a cumulative increase in traffic-related emissions.	Appendix 4A Draft Outline Code of Construction Practice includes measures related to construction emissions standards (excluding workers vehicles).	Potential for significant cumulative effect, to be considered further in ES.
Dust sensitive receptors (human and ecological receptors) within 250m of the draft Order Limits	These effects are expected to result from airborne dust generated from construction activities, causing dust soiling, human health and ecological impacts.	If the construction activities from multiple developments overlap temporally and are located within 250 m of each other, there is potential for an increased magnitude of dust generation.	Appendix 4A Draft Outline Code of Construction Practice has mitigation measures that require collaboration with other nearby sites that are within 250m of the draft Order Limits to minimise dust generation. Following implementation of the mitigation measures focussed on reducing dust generation, there would be no likely effect from dust from construction projects beyond 250 m of the Project.	Unlikely to result in significant cumulative effects, to be confirmed in ES.

Receptor(s)	Potential effect of the Project	Preliminary assessment of cumulative effects with ‘other developments’ on the short list (developments that have progressed to Stage 3/4 in Appendix 19A Long List of Other Developments with the Project)	Proposed mitigation applicable to the Project including any apportionment	Residual cumulative effects following mitigation
Ecological and human receptors within 100m of Generators and NRMM	These effects are expected to result from use of generators and NRMM causing temporary deterioration local air quality during construction phase.	If construction activities overlap temporally and generators and/or NRMM associated with multiple developments are operating within 100 m of the same receptors, there is potential for deterioration in local air quality (nitrogen oxide (NO2), oxides of nitrogen (Nox), Particulate Matter (PM10 and PM2.5)) at local human and ecological receptors.	Appendix 4A Draft Outline Code of Construction Practice includes measures relating to the specification, maintenance and operation of generators and NRMM to minimise emissions.	Potential for significant cumulative effect, to be considered further in ES.
Noise and Vibration				
Noise sensitive Receptors within 300m of the draft Order Limits	These effects are typically expected to result from airborne noise and / or vibration causing a temporary disturbance to residential and non-residential receptors close to the construction works.	Potential cumulative effect due to the temporal and spatial overlap of Projects within the 300m of the draft Order Limits on Noise and Vibration sensitive receptors (NSRs) as a result of construction activities associated with: • M02 - Brente Klein Solar Farm • M08 – Davidson House Meridian • SK01 – Millington Estates Ltd • DCO2 – G2W Weston Marsh	Best practicable means (BPM) will be applied at all times to minimise construction noise levels. If, despite the adoption of the Project wide BPM measures described in Appendix 4A draft Outline Code of Construction Practice , potential significant adverse effects are identified, then further site-specific noise mitigation measures shall be included to reduce or avoid potential significant adverse effects.	Potential for significant adverse cumulative effect, to be considered in the ES.
Socioeconomics, Recreation and Tourism				
Local labour market	Employment, Gross Value Added (GVA) and training opportunities generation – potential minor beneficial (not significant).	Only developments with expected impacts on local populations and the economy are expected to have potential cumulative effect on socio-economics, recreation, and tourism. This includes residential, mixed-use, and regeneration or development schemes, as well as energy infrastructure schemes where cumulative effects may arise through increased demand on community infrastructure or changes to the local economy. Potential cumulative effects on the local labour market may arise where construction activities overlap spatially and temporally within the defined Zone of Influence (Zol) for economy and employment receptors, which includes local authorities of South Holland, South Kesteven, West Northamptonshire, North Northamptonshire, Melton, and Harborough. Relevant cumulative schemes therefore include: • DCO2 – Grimsby to Walpole • DCO4 – Anglian Water Lincolnshire Reservoir • DCO5 – Green Hill Solar Farm Limited	No mitigation required.	Potential for significant beneficial cumulative effect, to be considered in the ES.

Receptor(s)	Potential effect of the Project	Preliminary assessment of cumulative effects with 'other developments' on the short list (developments that have progressed to Stage 3/4 in Appendix 19A Long List of Other Developments with the Project)	Proposed mitigation applicable to the Project including any apportionment	Residual cumulative effects following mitigation
		• DCO7 – Outer Dowsing Offshore Wind • DCO8 – Meridian Solar Farm • SH06 – Ashwood Homes Lincs Gateway Business Park • SK02 – Ironside Energy • SK48 • SK49 - First Floor, RCI Building Haylock House Kettering Parkway Kettering Northants NN15 6EY • SK51 – Ironside Energy Limited • SK52 - Chris Bullimore • SK54 - Beth Evans of Freeths LLP • SK57 - Mark Dennis of Seagate Homes • SK60 - Integrum SPV 21014 Limited • SK61 - Cottom to Ryhall Energy Limited • SK64 - Barratt Redrow and Cooke Trustees Farming • SK66 - Mr Mohammed Khaliq • SK70 - Mr Alexandre Ohanian • M02 - Brente Klein • M03 - Freeby Lane Green Energy Park • M07 – New research facilities • M08 - Davidson House Meridian • M10 - Bowbridge Homes (Frisby) Ltd • H02 - Manor Oak Homes • H03 - Morris • R02 - Stantec • R04 - DWD • LC01 - Great Bowden Green Energy Ltd These developments may generate cumulative beneficial effects through employment creation and construction-related skills and training opportunities. Overlapping construction programmes could increase the magnitude of effects compared to individual assessments. Significant cumulative beneficial effects may therefore occur, although these would be temporary.		

Receptor(s)	Potential effect of the Project	Preliminary assessment of cumulative effects with ‘other developments’ on the short list (developments that have progressed to Stage 3/4 in Appendix 19A Long List of Other Developments with the Project)	Proposed mitigation applicable to the Project including any apportionment	Residual cumulative effects following mitigation
Users of visitor accommodation	Availability of tourism accommodation due to construction workforce usage – potential minor adverse (not significant).	As set out above, only developments with expected impacts on local populations and the economy are expected to have a potential cumulative effect on socio-economics, recreation, and tourism. Potential cumulative effects on the users of visitor accommodation may arise where construction activities overlap spatially and temporally within the defined Zol for economy and employment receptors, which includes local authorities of South Holland, South Kesteven, West Northamptonshire, North Northamptonshire, Melton, and Harborough. Relevant cumulative schemes therefore include: • DCO2 – Grimsby to Walpole • DCO4 – Anglian Water Lincolnshire Reservoir • DCO5 – Green Hill Solar Farm Limited • DCO7 – Outer Dowsing Offshore Wind • DCO8 – Meridian Solar Farm • SH06 – Ashwood Homes Lincs Gateway Business Park • SK02 – Ironside Energy • SK48 • SK49 - First Floor, RCI Building Haylock House Kettering Parkway Kettering Northants NN15 6EY • SK51 – Ironside Energy Limited • SK52 - Chris Bullimore • SK54 - Beth Evans of Freeths LLP • SK57 - Mark Dennis of Seagate Homes • SK60 - Integrum SPV 21014 Limited • SK61 - Cottom to Ryhall Energy Limited • SK64 - Barratt Redrow and Cooke Trustees Farming • SK66 - Mr Mohammed Khaliq • SK70 - Mr Alexandre Ohanian • M02 - Brente Klein • M03 - Freeby Lane Green Energy Park • M07 – New research facilities • M08 - Davidson House Meridian • M10 - Bowbridge Homes (Frisby) Ltd	Implementation of construction environmental management measures set out in Appendix 4A Draft Outline Code of Construction Practice. Additional mitigation measures are not anticipated to be required in relation to Socio-economics, Recreation and Tourism effects. However, this will remain under review during the completion of further assessment and development of the ES.	Not currently known due to the current early stage and level of design and impact assessment undertaken for other developments, and the need for further information to inform the assessment of potential effects from the Project. This will be considered at ES stage.

Receptor(s)	Potential effect of the Project	Preliminary assessment of cumulative effects with ‘other developments’ on the short list (developments that have progressed to Stage 3/4 in Appendix 19A Long List of Other Developments with the Project)	Proposed mitigation applicable to the Project including any apportionment	Residual cumulative effects following mitigation
		• H02 - Manor Oak Homes • H03 - Morris • R02 - Stantec • R04 - DWD • LC01 - Great Bowden Green Energy Ltd Cumulative effects may arise from increased demand for temporary accommodation from construction workers, potentially reducing availability for visitors. However, effects are expected to be short term and geographically limited.		
Users of visitor attractions	Disruption to visitor attractions (amenity and severance) – no effect.	As set out above, only developments with expected impacts on local populations and the economy are expected to have a potential cumulative effect on socio-economics, recreation, and tourism. Potential cumulative effects on users of visitor attractions may arise where projects overlap spatially and temporally within the defined 5 km tourism and recreation Zol. Relevant cumulative schemes therefore include: • DCO2 – Grimsby to Walpole • DCO4 – Anglian Water Lincolnshire Reservoir • DCO5 – Green Hill Solar Farm Limited • DCO7 – Outer Dowsing Offshore Wind • DCO8 – Meridian Solar Farm • SH06 – Ashwood Homes Lincs Gateway Business Park • SK02 – Ironside Energy • SK48 • SK49 - First Floor, RCI Building Haylock House Kettering Parkway Kettering Northants NN15 6EY • SK51 – Ironside Energy Limited • SK52 - Chris Bullimore • SK54 - Beth Evans of Freeths LLP • SK57 - Mark Dennis of Seagate Homes • SK60 - Integrum SPV 21014 Limited • SK61 - Cottom to Ryhall Energy Limited • SK64 - Barratt Redrow and Cooke Trustees Farming	Implementation of construction environmental management measures set out in Appendix 4A Draft Outline Code of Construction Practice. Additional mitigation measures are not anticipated to be required in relation to Socio-economics, Recreation and Tourism effects. However, this will remain under review during the completion of further assessment and development of the ES.	Not likely to result in significant cumulative effects.

Receptor(s)	Potential effect of the Project	Preliminary assessment of cumulative effects with ‘other developments’ on the short list (developments that have progressed to Stage 3/4 in Appendix 19A Long List of Other Developments with the Project)	Proposed mitigation applicable to the Project including any apportionment	Residual cumulative effects following mitigation
		• SK66 - Mr Mohammed Khaliq • M02 - Brente Klein • M03 - Freeby Lane Green Energy Park • M07 – New research facilities • M08 - Davidson House Meridian • M10 - Bowbridge Homes (Frisby) Ltd • H03 - Morris • LC01 - Great Bowden Green Energy Ltd Given there is no visitor attractions within the 5 km Zol, there is no cumulative effect anticipated on these receptors.		
Users of recreational routes and PRowS	Disruption to recreational routes, PRow of significance, and open space in the local area – assessment to be reported in the ES.	As set out above, only developments with expected impacts on local populations and the economy are expected to have a potential cumulative effect on socio-economics, recreation, and tourism. Potential cumulative effects on recreational routes and PRowS may arise where projects overlap spatially and temporally within the defined 500 m Zol. Relevant cumulative schemes therefore include: • DCO2 – Grimsby to Walpole • DCO4 – Anglian Water Lincolnshire Reservoir • DCO5 – Green Hill Solar Farm Limited • DCO7 – Outer Dowsing Offshore Wind • DCO8 – Meridian Solar Farm • M02 - Brente Klein • M07 – New research facilities • M08 - Davidson House Meridian • M10 - Bowbridge Homes (Frisby) Ltd There is potential for adverse effects on users of recreational routes and PRowS from the other developments associated with disruption to amenity, access, and severance. However, any overlap of construction activity is expected to be short-term and limited in spatial extent.	Implementation of construction environmental management measures set out in Appendix 4A Draft Outline Code of Construction Practice. Additional mitigation measures are not anticipated to be required in relation to Socio-economics, Recreation and Tourism effects. However, this will remain under review during the completion of further assessment and development of the ES.	Not currently known due to the current early stage and level of design and impact assessment undertaken for other developments, and the need for further information to inform the assessment of potential effects from the Project. This will be considered at ES stage.
Users of open space	Temporary or permanent loss of open space – assessment to be reported in the ES.	As set out above, only developments with expected impacts on local populations and the economy are expected to have a potential cumulative effect on socio-economics, recreation, and tourism. Potential cumulative effects on	Implementation of construction environmental management measures set out in Appendix 4A Draft Outline Code of Construction Practice. Additional mitigation measures are not	Not currently known due to the current early stage and level of design and impact assessment undertaken for other developments, and the need for further information to inform the assessment of

Receptor(s)	Potential effect of the Project	Preliminary assessment of cumulative effects with 'other developments' on the short list (developments that have progressed to Stage 3/4 in Appendix 19A Long List of Other Developments with the Project)	Proposed mitigation applicable to the Project including any apportionment	Residual cumulative effects following mitigation
		users of open space may arise where projects overlap spatially and temporally within the defined 500 m Zol. Relevant cumulative schemes therefore include: • DCO2 – Grimsby to Walpole • DCO4 – Anglian Water Lincolnshire Reservoir • DCO5 – Green Hill Solar Farm Limited • DCO7 – Outer Dowsing Offshore Wind • DCO8 – Meridian Solar Farm • M02 - Brente Klein • M07 – New research facilities • M08 - Davidson House Meridian • M10 - Bowbridge Homes (Frisby) Ltd There is potential for adverse effects on users of open space from the other developments associated with disruption to amenity, access, and severance. However, any overlap of construction activity is expected to be short-term and limited in spatial extent.	anticipated to be required in relation to Socio-economics, Recreation and Tourism effects. However, this will remain under review during the completion of further assessment and development of the ES.	potential effects from the Project. This will be considered at ES stage.
Development land, utilities, and renewable infrastructure	Temporary or permanent loss of development land – assessment to be reported in the ES.	As set out above, only developments with expected impacts on local populations and the economy are expected to have a potential cumulative effect on socio-economics, recreation, and tourism. Potential cumulative effects on development land, utilities, and renewable infrastructure may arise where projects overlap spatially and temporally within the defined 500 m Zol. Relevant cumulative schemes therefore include: • DCO2 – Grimsby to Walpole • DCO4 – Anglian Water Lincolnshire Reservoir • DCO5 – Green Hill Solar Farm Limited • DCO7 – Outer Dowsing Offshore Wind • DCO8 – Meridian Solar Farm • M02 - Brente Klein • M07 – New research facilities • M08 - Davidson House Meridian • M10 - Bowbridge Homes (Frisby) Ltd There is potential for adverse effects on development land, utilities, and renewable	Implementation of construction environmental management measures set out in Appendix 4A Draft Outline Code of Construction Practice. Additional mitigation measures are not anticipated to be required in relation to Socio-economics, Recreation and Tourism effects. However, this will remain under review during the completion of further assessment and development of the ES.	Not currently known due to the current early stage and level of design and impact assessment undertaken for other developments, and the need for further information to inform the assessment of potential effects from the Project. This will be considered at ES stage.

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		infrastructure from the other developments associated with both temporary and permanent land use and land take impacts. However, any overlap of construction activity is expected to be short-term and limited in spatial extent.		
Users of local businesses and community facilities	Disruption to local businesses and community facilities (amenity and severance) – assessment to be reported in the ES.	As set out above, only developments with expected impacts on local populations and the economy are expected to have a potential cumulative effect on socio-economics, recreation, and tourism. Potential cumulative effects on local businesses and community facilities may arise where projects overlap spatially and temporally within the defined 500 m Zol. Relevant cumulative schemes therefore include: • DCO2 – Grimsby to Walpole • DCO4 – Anglian Water Lincolnshire Reservoir • DCO5 – Green Hill Solar Farm Limited • DCO7 – Outer Dowsing Offshore Wind • DCO8 – Meridian Solar Farm • M02 - Brente Klein • M07 – New research facilities • M08 - Davidson House Meridian • M10 - Bowbridge Homes (Frisby) Ltd There is potential for adverse effects on users of local businesses and community facilities from the other developments associated with disruption to amenity, access, and severance. However, any overlap of construction activity is expected to be short-term and limited in spatial extent.	Implementation of construction environmental management measures set out in Appendix 4A Draft Outline Code of Construction Practice. Additional mitigation measures are not anticipated to be required in relation to Socio-economics, Recreation and Tourism effects. However, this will remain under review during the completion of further assessment and development of the ES.	Not currently known due to the current early stage and level of design and impact assessment undertaken for other developments, and the need for further information to inform the assessment of potential effects from the Project. This will be considered at ES stage.
Users of aviation infrastructure	Disruption to the operation of aviation and defence infrastructure – assessment to be reported in the ES.	As set out above, only developments with expected impacts on local populations and the economy are expected to have a potential cumulative effect on socio-economics, recreation, and tourism. Potential cumulative effects on aviation infrastructure may arise where projects overlap spatially and temporally within the defined 5 km Zol. Relevant cumulative schemes therefore include: • DCO2 – Grimsby to Walpole • DCO4 – Anglian Water Lincolnshire Reservoir	Implementation of construction environmental management measures set out in Appendix 4A Draft Outline Code of Construction Practice. Additional mitigation measures are not anticipated to be required in relation to Socio-economics, Recreation and Tourism effects. However, this will remain under review during the completion of further assessment and development of the ES.	Not currently known due to the current early stage and level of design and impact assessment undertaken for other developments, and the need for further information to inform the assessment of potential effects from the Project. This will be considered at ES stage.

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		• DCO5 – Green Hill Solar Farm Limited • DCO7 – Outer Dowsing Offshore Wind • DCO8 – Meridian Solar Farm • SH06 – Ashwood Homes Lincs Gateway Business Park • SK02 – Ironside Energy • SK48 • SK49 - First Floor, RCI Building Haylock House Kettering Parkway Kettering Northants NN15 6EY • SK51 – Ironside Energy Limited • SK52 - Chris Bullimore • SK54 - Beth Evans of Freeths LLP • SK57 - Mark Dennis of Seagate Homes • SK60 - Integrum SPV 21014 Limited • SK61 - Cottom to Ryhall Energy Limited • SK64 - Barratt Redrow and Cooke Trustees Farming • SK66 - Mr Mohammed Khaliq • M02 - Brente Klein • M03 - Freeby Lane Green Energy Park • M07 – New research facilities • M08 - Davidson House Meridian • M10 - Bowbridge Homes (Frisby) Ltd • H03 – Morris • LC01 - Great Bowden Green Energy Ltd There is potential for adverse effects on users of aviation infrastructure from the other developments associated with disruption to the operation of airfields, airports, or defence facilities during the construction and operation phase.		
Health and Wellbeing				
Residents of Study Area: Employment and income	Employment and training opportunities generation – potential minor beneficial (not significant).	Potential minor benefits (not significant) associated with employment and training opportunities generation for residents of the local area. Only developments with expected impacts on local populations and the economy are expected to have a potential effect employment	No mitigation required.	Potential for minor to moderate beneficial cumulative effect, to be considered in the ES.

Receptor(s)	Potential effect of the Project	Preliminary assessment of cumulative effects with 'other developments' on the short list (developments that have progressed to Stage 3/4 in Appendix 19A Long List of Other Developments with the Project)	Proposed mitigation applicable to the Project including any apportionment	Residual cumulative effects following mitigation
		and income through the generation of temporary or long-term employment and training schemes. This includes residential, mixed-use, and regeneration or development schemes, as well as energy infrastructure schemes where cumulative effects may arise through increased demand on community infrastructure or changes to the local economy. Potential cumulative effects on the local labour market may arise where construction activities overlap spatially and temporally within the wider Study Area, which includes local authorities of South Holland, South Kesteven, West Northamptonshire, North Northamptonshire, Melton, and Harborough. Relevant cumulative schemes therefore include: • DCO2 – Grimsby to Walpole • DCO4 – Anglian Water Lincolnshire Reservoir • DCO5 – Green Hill Solar Farm Limited • DCO7 – Outer Dowsing Offshore Wind • SH06 – Ashwood Homes Lincs Gateway Business Park • SK02 – Ironside Energy • SK48 • SK49 - First Floor, RCI Building Haylock House Kettering Parkway Kettering Northants NN15 6EY • SK51 – Ironside Energy Limited • SK52 - Chris Bullimore • SK54 - Beth Evans of Freeths LLP • SK57 - Mark Dennis of Seagate Homes • SK60 - Integrum SPV 21014 Limited • SK61 - Cottom to Ryhall Energy Limited • SK64 - Barratt Redrow and Cooke Trustees Farming • SK66 - Mr Mohammed Khaliq • SK70 - Mr Alexandre Ohanian • M02 - Brente Klein • M03 - Freeby Lane Green Energy Park • M07 – New research facilities • M08 - Davidson House Meridian		

Receptor(s)	Potential effect of the Project	Preliminary assessment of cumulative effects with 'other developments' on the short list (developments that have progressed to Stage 3/4 in Appendix 19A Long List of Other Developments with the Project)	Proposed mitigation applicable to the Project including any apportionment	Residual cumulative effects following mitigation
		• M10 - Bowbridge Homes (Frisby) Ltd • H02 - Manor Oak Homes • H03 - Morris • R02 – Stantec • R04 - DWD • LC01 - Great Bowden Green Energy Ltd These developments may generate cumulative beneficial effects through employment creation and construction-related skills and training opportunities. Overlapping construction programmes could increase the magnitude of effects compared to individual assessments. Minor to moderate (potentially significant) cumulative beneficial effects on employment and income may therefore occur, although these would be temporary.		
Residents of Study Area: planning uncertainty	Uncertainty and stress relating to the actual and perceived impacts during the pre-construction period – potential minor adverse (not significant) effect for the general population, with a moderate adverse (significant) effect on vulnerable groups.	Potential cumulative effects on uncertainty and stress may arise where multiple major, high-profile projects overlap spatially and temporally within the defined Study Area. Relevant cumulative schemes therefore include: • DCO2 – Grimsby to Walpole • DCO4 – Anglian Water Lincolnshire Reservoir • DCO5 – Green Hill Solar Farm Limited • DCO7 – Outer Dowsing Offshore Wind There is potential for adverse effects on stress and uncertainty relating to perceived impacts.	Adequate communication including the appointment of a community liaison officer, and opportunities for consultation with clearly defined parameters and effects. Additional mitigation measures are not anticipated to be required in relation to health and wellbeing effects. However, this will remain under review during the completion of further assessment and development of the ES.	Not currently known due to the current early stage and level of design and impact assessment undertaken for other developments, and the need for further information to inform the assessment of potential effects from the Project. This will be considered at ES stage.
Residents of Study Area: neighbourhood amenity	Disruption to neighbourhood amenity including due to increased dust, noise and traffic which degrades the sense of place, satisfaction with, and quality of the local environment – potential for moderate adverse (significant) effect for the general population and vulnerable groups along Sections 1 and 2.	Potential cumulative effects on neighbourhood amenity may arise where multiple projects overlap spatially and temporally within the defined Study Area. Potential schemes which may be relevant include: • M02 - Brente Klein Solar Farm • M08 – Davidson House Meridian • SK01 – Millington Estates Ltd • DCO 2 – Grimsby to Walpole Weston Marsh • DCO4 – Anglian Water Lincolnshire Reservoir • DCO5 – Green Hill Solar Farm Limited • DCO8 – Meridian Solar Farm	Implementation of construction environmental management measures set out in Appendix 4A Draft Outline Code of Construction Practice . Additional mitigation measures are not anticipated to be required in relation to health and wellbeing effects. However, this will remain under review during the completion of further assessment and development of the ES.	Not currently known due to the current early stage and level of design and impact assessment undertaken for other developments, and the need for further information to inform the assessment of potential effects from the Project. This will be considered at ES stage.

Receptor(s)	Potential effect of the Project	Preliminary assessment of cumulative effects with 'other developments' on the short list (developments that have progressed to Stage 3/4 in Appendix 19A Long List of Other Developments with the Project)	Proposed mitigation applicable to the Project including any apportionment	Residual cumulative effects following mitigation
		There is potential for adverse cumulative effects on neighbourhood amenity in localised areas along the route.		
Users of PRow	Disruption to recreational routes, PRow of significance, and open space in the local area – potential for significant adverse effect on vulnerable groups at specific locations. Full assessment to be completed at ES.	Potential cumulative effects on recreational routes and PRows may arise where projects overlap spatially and temporally within the defined Study Area. Relevant cumulative schemes therefore include: • DCO2 – Grimsby to Walpole • DCO4 – Anglian Water Lincolnshire Reservoir • DCO5 – Green Hill Solar Farm Limited • DCO7 – Outer Dowsing Offshore Wind • DCO8 – Meridian Solar Farm • M02 - Brente Klein • M07 – New research facilities • M08 - Davidson House Meridian • M10 - Bowbridge Homes (Frisby) Ltd There is potential for adverse effects on users of recreational routes and PRows from the other developments associated with disruption to amenity, access, and severance. However, any overlap of construction activity is expected to be short-term and limited in spatial extent.	Implementation of construction environmental management measures set out in Appendix 4A Draft Outline Code of Construction Practice. Additional mitigation measures are not anticipated to be required in relation to health and wellbeing effects. However, this will remain under review during the completion of further assessment and development of the ES.	Not currently known due to the current early stage and level of design and impact assessment undertaken for other developments, and the need for further information to inform the assessment of potential effects from the Project. This will be considered at ES stage.
Residents of Study Area: Access to open space, leisure and play	Loss of open space and impacts to amenity which may reduce the enjoyment and use of open space, or reduce opportunities for leisure and play – assessment to be reported in the ES.	Potential adverse cumulative effects on loss of open space and amenity may arise where there are additional large scale projects within the defined Study Area.	This preliminary assessment assumes that standard good-practice mitigation strategies are applied across the other schemes to minimise impacts, albeit it is acknowledged that detailed information on other schemes' mitigation is limited at this stage. A more detailed cumulative assessment, including confirmation of other developments' mitigation commitments and any need for additional project specific measures, will be provided in the ES.	Not currently known due to the current early stage and level of design and impact assessment undertaken for other developments, and the need for further information to inform the assessment of potential effects from the Proposed Development. This will be considered at ES stage.
Residents of Study Area: access to health and social care, and other social infrastructure	Disruption to access to health and social care and social infrastructure particularly surrounding transport barriers – assessment to be reported in the ES.	Potential cumulative effects on access to health and social care, and other social care infrastructure may arise due to severance and delay on the road network associated with: • DCO2 Grimsby to Walpole • DCO4 Anglian Water Lincolnshire Reservoir	The Project includes design mitigation measures which have been incorporated to avoid or reduce traffic and transport impacts, and standard mitigation measures which would normally be implemented on a project of this scale and nature.	Residual cumulative effects will be assessed and reported in the ES.

Receptor(s)	Potential effect of the Project	Preliminary assessment of cumulative effects with 'other developments' on the short list (developments that have progressed to Stage 3/4 in Appendix 19A Long List of Other Developments with the Project)	Proposed mitigation applicable to the Project including any apportionment	Residual cumulative effects following mitigation
		DCO5 Green Hill Solar Farm	The standard mitigation includes implementation of construction environmental management measures set out in Appendix 4A Draft Outline Code of Construction Practice including the measures specific to construction traffic contained in Appendix 13D Draft Outline Construction Traffic Management Plan. This preliminary assessment assumes that standard good-practice construction traffic management measures are applied across the other schemes, albeit it is acknowledged that detailed information on other schemes' mitigation is limited at this stage. A more detailed cumulative assessment, including confirmation of other developments' mitigation commitments and any need for additional project specific measures, will be provided in the ES.	
Residents of Study Area: Electric and magnetic Fields	The increased presence of infrastructure which creates electromagnetic fields (EMFs) can affect the perception of EMF exposure. Perceptions of EMF exposure can result in heightened anxiety and worry amongst some groups and individuals. Potential for moderate adverse (significant) effect on vulnerable groups – full assessment to be reported in the ES.	Potential cumulative effects on the perception of EMFs may arise where other powerline projects are in proximity to the defined Study Area. Relevant cumulative schemes therefore include: DCO2 – Grimsby to Walpole There is potential for adverse effects on mental wellbeing due to perceptions of increased or inescapable exposure to EMFs. However, there is no evidence that exposure to EMFs is causal of poor health outcomes.	Education and awareness surrounding EMFs and their impacts on health may reduce anxiety and worry amongst some groups and individuals.	Potential for minor adverse (not significant) effect, to be considered further in the ES.
Residents of the Study Area: Visual amenity of the countryside	Potential permanent changes to the countryside due to the visual presence of the Project. There is a potential minor adverse effects (not significant) – full assessment to be reported in the ES.	Potential cumulative effects on the perception of changes to the countryside may arise where other large -scale industrial projects are in proximity to the defined Study Area. Relevant cumulative schemes therefore include: DCO2 – Grimsby to Walpole DCO4 – Anglian Water Lincolnshire Reservoir DCO5 – Green Hill Solar Farm Limited DCO7 – Outer Dowsing Offshore Wind SK02 – Ironside Energy	Additional mitigation measures to address potential cumulative effects on the perception of changes to the countryside include additional coordinated screening with planting.	Not currently known due to the level of design and impact assessment undertaken for other developments, and the need for further information to inform the assessment of potential effects from the Project. This will be considered at ES stage.

Receptor(s)	Potential effect of the Project	Preliminary assessment of cumulative effects with ‘other developments’ on the short list (developments that have progressed to Stage 3/4 in Appendix 19A Long List of Other Developments with the Project)	Proposed mitigation applicable to the Project including any apportionment	Residual cumulative effects following mitigation
		H02 - Manor Oak Homes R03 - Wardell Armstrong LN01 - Cemex UK Operations Ltd		
Climate Change				
Global climate	The Institute of Sustainability and Environmental Professionals (ISEP) (formerly Institute of Environmental Management and Assessment (IEMA)) guidance (2022) (Ref 19B.2) states that “ <i>Effects of GHG [Greenhouse Gas] emissions from specific cumulative projects therefore in general should not be individually assessed, as there is no basis for selecting any particular (or more than one) cumulative project that has GHG emissions for assessment over any other</i> ”.	Not applicable because the concentration of GHGs in the atmosphere and their impact on climate change are influenced by all sources and sinks globally, whether they are caused by the project or not.	Not applicable	Not applicable

References

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