



OAKLANDS FARM SOLAR PARK

Applicant: Oaklands Farm Solar Ltd

Environmental Statement

Chapter 17 – Summary of Effects

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Oaklands Farm Solar Park - Environmental Statement Volume 1

Chapter 17: Summary of Effects

Final report

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Chapter 17

Summary of Effects

Introduction

17.1 Chapter 5 to 16 of the Environmental Statement (ES) present the findings of the assessments of the predicted effects of the Proposed Development on a topic-by-topic basis. The significance of these effects has been assessed using criteria defined in the topic chapters.

17.2 In line with Schedule 4 of the Environmental Impact Assessment (EIA) Regulations 2017, the ES has focused on identifying significant environmental effects (both beneficial and adverse) of the Proposed Development, during construction and operation (including cumulatively), and where applicable during decommissioning. For some topics, effects from the construction phase are considered to be the worst case, and the decommissioning phase has therefore not been assessed as effects would not be greater than during construction.

17.3 Unless stated otherwise in methodologies set out in the individual assessment chapters, ‘**major**’ and ‘**moderate**’ effects are considered to be ‘significant’ in the context of the EIA Regulations.

Summary of Effects

17.4 Prior to the implementation of additional mitigation¹, significant effects **are not** predicted in relation to the following topics and these are therefore not discussed further in this chapter.

- Water Resources and Flood Risk.
- Ground Conditions.
- Noise.
- Agriculture and Soils.

¹ Embedded mitigation is discussed in Chapter 2, identified in the topic Chapters 5-16 and set out in Appendix 17.1.

- Other Issues: Major Accidents and Disasters; Air Quality (construction); Waste; Human Health; and Telecommunications, Television and Utilities).
- Cumulative and combined effects across all topic chapters.

17.5 Prior to mitigation, potential significant effects **are** predicted in relation to:

- Landscape and Visual Impact.
- Ecology.
- Historic Environment (construction only).
- Transport and Access.
- Socio-Economics, Tourism and Recreation (as also reported in **Chapter 13: Climate Change**).
- Climate Change.
- Glint and Glare (operation only).

17.6 The sections below provide a brief summary of the significant effects. **Tables 17.1 to 17.10** summarise the predicted significant construction and operational effects of the Proposed Development prior to and following the implementation of mitigation and demonstrate that there is scope to mitigate most of the predicted significant effects such that they would be considered 'not significant'. An exception is landscape and visual effects where some significant effects will remain after the implementation of mitigation.

17.7 Identifying and including mitigation for landscape and visual effects has been a key component of the design process for the Proposed Development and additional mitigation is identified in **Appendix 5.6: Landscape and Ecological Management Plan (LEMP)**. **Table 17.8** identifies where additional mitigation presented in the LEMP can provide enhancements which result in significant beneficial effects for ecology.

17.8 All mitigation measures have been collated into a mitigation schedule (**Appendix 17.1**). This includes:

- Considerations and mitigation embedded into the design of the Proposed Development which have been informed by early surveys and assessment and fed into design iterations through the EIA process.

- Best practice measures considered to be standard practice on modern construction sites and operational solar farm sites. This includes measures to control noise, dust, runoff, and pollution prevention. These have been factored into the assessments as embedded mitigation. The table identifies whether the measures are specific to a particular stage of the Proposed Development. Measures for the construction phase will be secured in the Construction Environmental Management Plan (CEMP); operational measures will be secured in the Operational Environmental Management Plan (OEMP); and decommissioning measures in the Decommissioning Environmental Management Plan (DEMP).
- Additional mitigation measures which have been identified in the ES assessments as required to mitigate adverse effects.

17.9 Appendix 17.1 also identifies requirements for further surveys and monitoring measures.

Landscape and Visual

Significant Landscape Effects

17.10 Construction activities will result in direct landscape effects on the Site. There will be a large-scale effect on the Site, resulting in a change from an undeveloped agricultural landscape to a construction site. The construction activities will also affect the perceptual character of the landscape around the Site with a likely large change in the perceptual character of the landscape up to approximately 0.5km from the Proposed Development and a small change to the perceptual character beyond this up to approximately 1km. The Village Estate Farmlands is the only Landscape Character Type (LCT) to fall within 1km. Therefore, **major significant** adverse effects (**significant**) are predicted on the landscape resource of the Site itself and the Village Estate Farmlands LCT (within 0.5km) during construction and up to Year 10 of operation.

17.11 By Year 10 the mitigation planting will have established and will be closer to maturity, resulting in some positive effects on the landscape character of the Site in terms of landcover. There is also likely to be a large change in perceptual character of the landscape up to 0.5km from the Site, and a small change to perceptual character between 0.5 km and approximately 1km. As a result, the overall level of effect at the Site and on the Village Estate Farmlands LCT will be reduced to **moderate** adverse (**significant**) by Year 10.

Significant Visual Effects

17.12 Significant visual effects during the construction phase are predicted for the most elevated edge of Rosliston at Coppice View and The Chase -, with **moderate** adverse effects predicted at Year 1 and Year 10.

17.13 Significant visual effects are also predicted for certain road users within 2.5km of the Site during the construction phase. Effects for road users are transient as they pass the Site. **Major** adverse (**significant**) effects are predicted at Coton Road/Church Street (between Walton-on-Trent and Coton in the Elms), reducing to **moderate** adverse during the operational phase by Year 10 with the maturity of vegetation. **Moderate** adverse (**significant**) visual effects are likely during construction and operation at the following locations:

- Rosliston Road (between Walton-on-Trent and Rosliston)
- Catton Lane (between Rosliston and Church Street)
- Unnamed Road (between Walton-on-Trent and Church Street)

17.14 During construction, **major** adverse (**significant**) visual effects are also predicted for users of the Cross Britain Way/ National Forest Way long distance footpath which runs through the Site. This would likely reduce to **moderate** adverse (**significant**) during the operational phase when planting matures sufficiently to provide mitigation to the degree which it was designed for. **Moderate** adverse (**significant**) visual effects on users of Public Rights of Way to the south of the Cross Britain Way within 2.5km of the Site are also likely, which would reduce to minor during the operational phase when planting matures.

Ecology

17.15 Potential **significant adverse** effects to habitats during the construction phase are likely to arise from direct habitat loss.

17.16 Additional mitigation measures required to address the potential effects to ecological features will be delivered through the LEMP (**Appendix 5.6**). The full detail of this is presented in the Biodiversity Net Gain Assessment (BNG) (**Appendix 6.12**) and as part of the LEMP (**Appendix 5.6**) and will include creation of new habitats including species-rich grassland, hedgerow and woodland planting and the installation of bat boxes. It will therefore be possible

to reduce effects to **not significant** for all ecological features (excluding Skylark) during the construction phase.

17.17 No adverse effects are predicted in relation to operational effects. However, mitigation delivered as part of the LEMP, which supports the delivery of BNG is expected to provide continued benefit through the operational phase. Therefore during the operational phase, the Proposed Development is predicted to have a **significant beneficial** effect (moderate beneficial in the context of the EIA Regulations) to ecological features such as non-statutory designated sites and habitats. Effects on species that use those habitats such as bats, birds, badger, reptiles, breeding birds (excluding skylark) and invertebrates would be significant beneficial but at the Local to Site level which is not significant in the context of the EIA Regulations.

Historic Environment

17.18 The Site has some potential to contain hitherto unrecorded below-ground heritage assets of later prehistoric to Roman date. If present these could range in importance from local to national importance (**Low to High value**). If such assets lie within the panel arrays or footprints of structures (i.e. substation, battery storage) they could experience physical change ranging from some truncation (**less than substantial harm**) to removal (**total loss**) during construction. Assets of High value subject to substantial harm or total loss brings potential for a **significant effect**.

17.19 A suitable programme of mitigation to address harm to, or loss of, assets would be drawn up in consultation with the archaeological advisor to South Derbyshire District Council (SDDC) and will likely comprise a staged programme of archaeological works. However, this mitigation will not reduce the level of effects to the heritage assets but will provide a record of the features lost as a result of Proposed Development, preserving them by record. Therefore, the potential for significant effects for assets of high value remains.

Transport and Access

17.20 Most effects will occur during the construction phase when materials and equipment will be brought to the Site. During construction, direct effects will occur from a temporary rise in the amount of traffic travelling to and from the Site on the local highway network. Construction vehicle routes have been developed and assessed to ensure the most suitable and direct routes for construction vehicles are taken and, so far as possible, avoid highway network restrictions

and sensitive receptors. Light construction vehicles (under 7.5 tonnes) and Heavy construction vehicles (above 7.5 tonnes) will use separate routes to disperse the impact of construction traffic across a wider area.

17.21 To understand the significance of effect of construction traffic, sensitive receptors such as local schools, communities and businesses were identified. The assessment concludes that there will be an overall **significant** adverse effect on the severance of communities; driver delay; non-motorised user amenity and delay; and safety, before mitigation, with effects ranging from negligible to **moderate**.

17.22 Proposed mitigation measures will be put in place to ensure that those environmental effects that experience a significance of effect greater than 'Negligible' can be reduced. This will formally be controlled by the Traffic Management Plan (TMP) which will include:

- Proposed construction vehicle routing that disperses construction traffic across the study area so as to limit the magnitude of impact on sensitive receptors.
- Temporary signage and traffic control.
- Haul road to contain internal trips within the Site.
- Limited operational hours, e.g. to avoid traditional highway peak traffic hours during the AM (08:00-09:00) and PM (17:00-18:00) peaks, and school pick-up and drop off-periods.
- Core working hours between 07:00 and 19:00 on weekdays and between 08:00 and 13:00 on Saturday, arriving up to one hour before and leaving one-hour after to allow for set-up and closedown activities.
- Staggered timing of inbound and outbound construction traffic movements.
- Designated 'routing staff' to enforce construction vehicle routes.
- Traffic Management Group to enforce and update all measures as and if necessary.

17.23 By implementing the mitigation measures, effects will reduce to **negligible – minor** across all sensitive receptors and therefore **not significant**.

17.24 Given the nature of the proposals, a negligible number of vehicle trips will be required during the operational phase to undertake scheduled and emergency maintenance and landscape activities and has therefore been scoped out of further assessment.

Climate Change

17.25 Over the 40 year operational lifetime, the Proposed Development is estimated to produce a cumulative energy generation of 5,653,501 MWh. It has been estimated that 859,332 tCO₂e would be emitted to generate the equivalent energy supply from the grid. The Proposed Development would therefore result in avoided GHG emissions of 767,723 tCO₂e over the operational period. A **moderate to major beneficial effect (significant)** is predicted in relation to the contribution the Proposed Development will make towards the increase of new renewable capacity required in the UK and achieving our forecasted decarbonised grid mix.

Glint and Glare

17.26 Major adverse (significant) effects for road receptors are predicted on two sections of an unnamed regional road (north-west from Coton-in-the-Elms) totaling approximately 300m, and approximately 300m of Coton Road, as effects will occur directly in front of a road user, and there is a lack of any mitigating factors, such as intervening planting/screening.

17.27 To address the potential significant effects, temporary screening will be installed where new planting is proposed to obscure the reflecting solar panels from view prior to the new planting reaching maturity.

17.28 Following the implementation of these mitigation measures, the effects would be reduced to **negligible (not significant)**.

Table 17.1: Summary of Significant Effects during Construction - Landscape

Predicted Effect	Significance of effect prior to additional mitigation (incorporating environmental design and embedded mitigation where applicable)	Additional Mitigation or Enhancement Measures	Residual Effect
Landscape and Visual			
<i>Landscape</i>			
The Site	Major adverse (significant)	Mitigation measures identified in the LEMP	Major adverse (significant)
Village Estate Farmlands LCT	Major adverse (significant) up to 0.5km from the Site	Mitigation measures identified in the LEMP	Major adverse (significant) up to 0.5km from the Site

Table 17.2: Summary of Significant Effects during Construction - Visual

Predicted Effect	Significance of effect prior to additional mitigation (incorporating environmental design and embedded mitigation where applicable)	Additional Mitigation or Enhancement Measures	Residual Effect
Landscape and Visual			
<i>Visual</i>			
Coton Road/Church Street (between Walton-on-Trent and Coton in the Elms) Cross Britain Way / National Forest Way long distance footpath	Major adverse (significant)	No additional mitigation measures are available or practicable	Major adverse (significant)

Predicted Effect	Significance of effect prior to additional mitigation (incorporating environmental design and embedded mitigation where applicable)	Additional Mitigation or Enhancement Measures	Residual Effect
Landscape and Visual			
<i>Visual</i>			
Rosliston Road (between Walton-on-Trent and Rosliston) Catton Lane (between Rosliston and Church Street)	Moderate adverse (significant)	No additional mitigation measures are available or practicable	Moderate adverse (significant)
Unnamed Road (between Walton-on-Trent and Church Street)	Moderate adverse (significant)	No additional mitigation measures are available or practicable	Moderate adverse (significant)

Predicted Effect	Significance of effect prior to additional mitigation (incorporating environmental design and embedded mitigation where applicable)	Additional Mitigation or Enhancement Measures	Residual Effect
Landscape and Visual			
<i>Visual</i>			
PRoWs to the south of the Cross Britain Way / National Forest Way and within 2.5km of the Site			

Table 17.3: Summary of Significant Effects during Construction - Historic Environment

Predicted Effect	Significance of effect prior to additional mitigation (incorporating environmental design and embedded mitigation where applicable)	Additional Mitigation or Enhancement Measures	Residual Effect
Historic Environment			
Potential direct physical effects to potential unknown archaeological assets of later prehistoric to Roman date	Less than substantial harm (for assets of medium value and lower) to Total loss (for assets of high value) – potential for effect significant in context of the EIA Regulations for assets of high value if present.	Mitigation strategy including archaeological fieldwork. This mitigation will not reduce the level of effects to the heritage assets but will provide a record of the features lost as a result of development, preserving them by record. This follows industry best-practice to address effects to heritage assets.	Less than substantial harm to Substantial harm – potential for significant effects for assets of high value if present.

Table 17.4: Summary of Significant Effects during Construction - Ecology

Predicted Effect	Significance of effect prior to additional mitigation (incorporating environmental design and embedded mitigation where applicable)	Additional Mitigation or Enhancement Measures	Residual Effect
Ecology			
Habitats (Direct Habitat Loss)	Significant adverse (minor, minor, and moderate effect in the context of the EIA Regulations)	Creation of new habitats including species-rich grassland, hedgerow and woodland planting.	Not significant (negligible in the context of the EIA Regulations)

Table 17.5: Summary of Significant Effects during Construction - Transport and Access

Predicted Effect	Significance of effect prior to additional mitigation (incorporating environmental design and embedded mitigation where applicable)	Additional Mitigation or Enhancement Measures	Residual Effect
Transport and Access			
Severance of communities Road vehicle driver and passenger delay Non-motorised user delay Non-motorised amenity Road user and pedestrian safety	Negligible – Moderate (Significant)	Outline TMP: <ul style="list-style-type: none"> ■ Temporary signage and traffic control. ■ Haul road to contain internal trips within the Site. ■ Limited operational hours. ■ Core working hours between 07:00 and 19:00 on weekdays and between 08:00 and 13:00 on Saturday. 	Negligible-slight

Predicted Effect	Significance of effect prior to additional mitigation (incorporating environmental design and embedded mitigation where applicable)	Additional Mitigation or Enhancement Measures	Residual Effect
Transport and Access			
		<ul style="list-style-type: none"> ■ Staggered timing of inbound and outbound construction traffic movements. ■ Designated 'routing staff' to enforce construction vehicle routes. ■ Traffic Management Group to enforce and update all measures as and if necessary 	

Table 17.6: Summary of Significant Effects during Operation - Landscape

Predicted Effect	Significance of effect prior to additional mitigation (incorporating environmental design and embedded mitigation where applicable)	Additional Mitigation or Enhancement Measures	Residual Effect
Landscape and Visual			
<i>Landscape</i>			
The Site	Major (significant) at Year 1, reducing to moderate (significant) by Year 10	Mitigation planting as defined in Appendix 5.6: Outline Landscape and Ecological Management Plan	Major (significant) at Year 1, reducing to moderate (significant) by Year 10
Village Estate Farmlands LCT	Major (significant) at Year 1, reducing to moderate (significant) by Year 10 for up to 0.5km from the Site. Minor at Years 1 and 10 for the wider LCT.	Mitigation planting as defined in Appendix 5.6: Outline Landscape and Ecological Management Plan	Major (significant) at Year 1, reducing to moderate (significant) by Year 10 for up to 0.5km from the Site.

Table 17.7: Summary of Significant Effects during Operation - Visual

Predicted Effect	Significance of effect prior to additional mitigation (incorporating environmental design and embedded mitigation where applicable)	Additional Mitigation or Enhancement Measures	Residual Effect
Landscape and Visual			
<i>Visual</i>			
Coton Road/Church Street (between Walton-on-Trent and Coton in the Elms) Cross Britain Way / National Forest Way long distance footpath	Major (significant) at Year 1, reducing to Moderate (significant) by Year 10	Mitigation planting as defined in Appendix 5.6: Outline Landscape and Ecological Management Plan	Major (significant) at Year 1, reducing to Moderate (significant) by Year 10
Rosliston Road (between Walton-	Moderate (significant) at Years 1 and 10	Mitigation planting as defined in Appendix 5.6: Outline	Moderate (significant) at Years 1 and 10

Predicted Effect	Significance of effect prior to additional mitigation (incorporating environmental design and embedded mitigation where applicable)	Additional Mitigation or Enhancement Measures	Residual Effect
Landscape and Visual			
<i>Visual</i>			
on-Trent and Rosliston) Catton Lane (between Rosliston and Church Street) Local community of Rosliston (most elevated edge of the settlement (at Coppice View and The Chase))		Landscape and Ecological Management Plan	

Predicted Effect	Significance of effect prior to additional mitigation (incorporating environmental design and embedded mitigation where applicable)	Additional Mitigation or Enhancement Measures	Residual Effect
Landscape and Visual			
<i>Visual</i>			
Unnamed Road (between Walton-on-Trent and Church Street) PRowS to the south of the Cross Britain Way / National Forest Way and within 2.5km of the Site	Moderate (significant) at Year 1, reducing to minor by Year 10	Mitigation planting as defined in Appendix 5.6: Outline Landscape and Ecological Management Plan	Moderate (significant) at Year 1, reducing to minor by Year 10

Table 17.8: Summary of Significant Effects during Operation - Ecology

Predicted Effect	Significance of effect prior to additional mitigation (incorporating environmental design and embedded mitigation where applicable)	Additional Mitigation or Enhancement Measures	Residual Effect
Ecology			
Non-statutory Designated Site	No effects – adverse operational effects scoped out.	Habitat creation, management and monitoring implemented through Appendix 5.6: Outline Landscape and Ecological Management Plan will result in an enhancement of habitats within the Site, which will contribute to strengthening connectivity and value of habitats associated with non-statutory designated.	Significant beneficial at County Level (moderate effect and significant in the context of the EIA Regulations)
Habitats	No effects – adverse operational effects scoped out.	Habitat creation, management and monitoring implemented	Significant beneficial (moderate effect and significant in the context

Predicted Effect	Significance of effect prior to additional mitigation (incorporating environmental design and embedded mitigation where applicable)	Additional Mitigation or Enhancement Measures	Residual Effect
Ecology			
		<p>through Appendix 5.6: Outline Landscape and Ecological Management Plan will result in an enhancement of habitats within the Site.</p>	<p>of the EIA Regulations) at the County level.</p>

Table 17.9: Summary of Significant Effects during Operation - Climate Change

Predicted Effect	Significance of effect prior to additional mitigation (incorporating environmental design and embedded mitigation where applicable)	Additional Mitigation or Enhancement Measures	Residual Effect
Climate Change			
GHG emissions as a consequence of operational activities (40 years)	Moderate to Major Beneficial (Significant)	No further mitigation required above the mitigation measures incorporated into the outline CEMP (Appendix 4.3) and CTMP (Appendix 10.1).	Moderate to Major Beneficial (Significant)

Table 17.10: Summary of Significant Effects - Glint and Glare

Predicted Effect	Significance of effect prior to additional mitigation (incorporating environmental design and embedded mitigation where applicable)	Additional Mitigation or Enhancement Measures	Residual Effect
Glint and Glare			
Unnamed regional road, two sections totalling 300m from the north-west of Coton-in-the-Elms	Major adverse (significant)	Mitigation planting as defined in Appendix 5.6: Outline Landscape and Ecological Management Plan . Hedgerow maintenance and gap filling to obstruct the reflecting panels from view.	Negligible (not significant)
Coton Road, 300m section from the north-west of Coton-in-the-Elms	Major adverse (significant)	Temporary screening where necessary prior to new planting reaching maturity.	Negligible (not significant)