HELIOS RENEWABLE ENERGY PROJECT

PINS Document Number:
EN010140/APP/6.1.16

Pursuant to:
APFP Regulation 5(2)(a)

Environmental Statement Chapter 16: Summary and Residual Effects

June 2024

16. Summary and Residual Effects

16.1. Introduction

16.1.1. This chapter summarises the residual effects in each of the technical assessments included in this Environmental Statement (ES).

16.1.2. Following assessment of the likely significant effects of the Proposed Development, additional mitigation measures have been proposed to be secured and implemented. These are set out in Table 16.1 below along with the residual effects of the Proposed Development following mitigation.

Table 16.1: Significance Table

16.1.3. Where significant environmental effects from the Proposed Development have been identified, these are summarised in section 16.2 Summary.

Phase	Effect/ Receptor	Additional Mitigation/ Enhancement Measures	Residual Significance
Chapter 6: Cultural Heritage			
Construction	Effects on areas of archaeological potential identified through geophysical survey	None required	Neutral (not significant)
	Effects on below-ground archaeological deposits within underground cable route corridor due to excavation	None required	Minor Adverse (not significant)
	Effects to the setting of above-ground heritage assets as a result of construction activity and transport movements	None required	Neutral (not significant)

Phase	Effect/ Receptor	Additional Mitigation/ Enhancement Measures	Residual Significance
Operational	Effects on the setting of Camblesforth Hall Grade I Listed Building (1173983)	Interpretation boards will be established at the Site describing archaeological context of the area, secured by DCO requirement	Neutral (not significant)
	Effects on the setting of Carlton Towers Grade I Listed Building (1295955)		Minor Adverse (not significant)
	Effects on the setting of Manor Farmhouse – Grade II Listed Building (1148398)		Neutral (not significant)
Decommissioning	Effects on Carlton Towers – Grade I listed building (1295955)	None required	Minor Beneficial (not significant)
	Effects on areas of archaeological potential identified through geophysical survey	None required	Neutral (not significant)
Chapter 7: Landscape and Views			
Construction	Effects on the Landscape of the SIte	None required	Moderate Negative (not

Phase	Effect/ Receptor	Additional Mitigation/ Enhancement Measures	Residual Significance
			significant)
	Effects on Landscape Character		Minor/ Negligible – Moderate Negative (not significant)
	Effects on Visual Receptors		Negligible – Moderate Negative (not significant)
Operation	Effects on the Landscape of the Site	Maintenance and management of planting proposals carried out in compliance with the oLEMP.	Moderate Negative (not significant)
	Effects on Landscape Character		Moderate – Negligible Negative (Not Significant)
	Effects on Visual Receptors		Minor/ Negligible – Negligible Negative (Not Significant)
Decommissioning	Effects on the Landscape of the Site	None required	Minor Negative (not significant)

Phase	Effect/ Receptor	Additional Mitigation/ Enhancement Measures	Residual Significance
	Effects on Landscape Character		Negligible – Minor Negative (not significant)
	Effects on Visual Receptors		No effect – Moderate Negative (not significant)
Chapter 8: Biodiversity			
Construction	Non-Statutory Designated Sites	None required	Negligible Neutral (not significant)
	Habitats	None required	**Major Beneficial (significant)**
	Breeding Birds	None required	Minor Adverse (not significant)
Operational	Non-Statutory Designated Sites	None required	**Moderate Beneficial (significant)**

Phase	Effect/ Receptor	Additional Mitigation/ Enhancement Measures	Residual Significance
	Habitats	None required	**Major Beneficial (significant)**
	Breeding birds	None required	**Moderate beneficial (significant)**
Decommissioning	Non-Statutory Designated Sites	None required	Negligible Adverse (not significant)
	Habitats	None required	Negligible to Minor Adverse (not significant)
	Breeding Birds	None required	Minor Adverse (not significant)
Chapter 9: Water Environment			
Construction	Disruption to drainage regime (surface water runoff rates and volumes) and resultant elevated flood risk	None required	Minor Adverse – Negligible (not significant)

Phase	Effect/ Receptor	Additional Mitigation/ Enhancement Measures	Residual Significance
	Construction of new watercourse crossings and resultant elevated flood risk	None required	Negligible (not significant)
	Potentially polluting construction activities and spillage/leakage of polluting substances affecting onsite watercourse / drainage ditches via direct flow	None required	Negligible (not significant)
	Potentially polluting construction activities and spillage/leakage of polluting substances affecting water quality of Eskamhorn Meadows Site of Special Scientific Interest ('SSSI'), River Derwent Special Area of Conservation ('SAC') and SSSI, and Barlow Common Local Nature Reserve ('LNR')	None required	Minor Adverse – Negligible (not significant)

Phase	Effect/ Receptor	Additional Mitigation/ Enhancement Measures	Residual Significance
	Potentially polluting construction activities and spillage/leakage of polluting substances affecting water quality of the River Ouse and River Aire via direct flow	None required	Minor Adverse - Negligible (not significant)
	Potentially polluting construction activities and spillage/leakage of polluting substances affecting water quality of water quality of the Humber Estuary designated sites via direct flow	None identified	Minor Adverse (not significant)
	Potentially polluting construction activities and spillage/leakage of polluting substances affecting groundwater bodies via direct flow	Enhanced monitoring in CEMP, Hydrogeological Risk Assessment for trenchless methods and Piling Risk Assessment.	**Moderate Adverse** – Minor Adverse (**significant** – not significant)
Operational	Disruption to drainage regime (surface water runoff and volume) and resultant	None required	**Moderate Beneficial** – Minor Beneficial (**significant** – not

Phase	Effect/ Receptor	Additional Mitigation/ Enhancement Measures	Residual Significance
	elevated flood risk		significant)
	Disruption to flood hazards (fluvial, surface water and emergent groundwater)	Detailed design of the equipment and if necessary floodplain compensation will be informed by EA approved site-specific flood modelling,	Negligible (not significant)
	Operation of new watercourse crossings and resultant elevated flood risk	None required	Negligible (not significant)
	Potentially polluting operational activities and spillage/leakage of polluting substances affecting on-Site watercourse/ drainage ditches via direct flow	None required	Negligible (not significant)
	Potentially polluting operational activities and spillage/leakage of polluting substances affecting water quality of the	None required	Minor Adverse – Negligible (not significant)

Phase	Effect/ Receptor	Additional Mitigation/ Enhancement Measures	Residual Significance
	River Ouse and River Aire and Humber Estuary and its nature designations via direct flow via direct flow		
	Potentially polluting construction activities and spillage/leakage of polluting substances affecting groundwater bodies via direct flow	None identified	Minor Adverse (not significant)
Decommissioning	Disruption to drainage regime (surface water runoff rates and volumes) and resultant elevated flood risk	None required	Minor Adverse – Negligible (not significant)
	Potentially polluting construction activities and spillage/leakage of polluting substances affecting on-site watercourse / drainage ditches via direct flow	None required	Negligible (not significant)
	Potentially polluting construction	None required	Minor Adverse – Negligible

Phase	Effect/ Receptor	Additional Mitigation/ Enhancement Measures	Residual Significance
	activities and spillage/leakage of polluting substances affecting water quality of Eskamhorn Meadows SSSI, River Derwent SAC & SSSI, and Barlow Common LNR		(not significant)
	Potentially polluting construction activities and spillage/leakage of polluting substances affecting water quality of water quality of the River Ouse and River Aire via direct flow	None required	Minor Adverse – Negligible (not significant)
	Potentially polluting construction activities and spillage/leakage of polluting substances affecting water quality of the Humber Estuary designated sites via direct flow	None required	Minor Adverse to Negligible (not significant)
	Potentially polluting construction activities and spillage/leakage of	Enhanced monitoring in DEMP	**Moderate Adverse** – Minor Adverse (**significant** - not

Phase	Effect/ Receptor	Additional Mitigation/ Enhancement Measures	Residual Significance
	polluting substances affecting groundwater bodies via direct flow		significant)
Chapter 10: Transport and Access			
Construction	Effects on Road User and Pedestrian Safety	None required	Negligible (not significant)
	Effects on Severance		Negligible (not significant)
	Effects on Driver Delay		Negligible (not significant)
	Effects on Non-Motorised User Delay		Negligible (not significant)
	Effects on Non-Motorised User Amenity (including fear and intimidation)		Minor Adverse (not significant)
	Effects of Hazardous Loads		Negligible (not significant)
Operational	Effects on Road User and Pedestrian Safety	None required	Negligible (not significant)

Phase	Effect/ Receptor	Additional Mitigation/ Enhancement Measures	Residual Significance
	Effects on Severance		Negligible (not significant)
	Effects on Driver Delay		Negligible (not significant)
	Effects on Non-Motorised User Delay		Negligible (not significant)
	Effects on Non-Motorised User Amenity (including fear and intimidation)		Negligible (not significant)
	Effects of Hazardous Loads		Negligible (not significant)
Decommissioning	Effects on Road User and Pedestrian Safety	None required	Negligible (not significant)
	Effects on Severance		Negligible(not significant)
	Effects on Driver Delay		Negligible (not significant)
	Effects on Non-Motorised User Delay		Negligible (not significant)

Phase	Effect/ Receptor	Additional Mitigation/ Enhancement Measures	Residual Significance
	Effects on Non-Motorised User Amenity (including fear and intimidation)		Minor Adverse (not significant)
	Effects of Hazardous Loads		Negligible (not significant)
Chapter 11: Noise and Vibration			
Construction	Effects from Construction Noise	None required	Negligible (not significant)
	Effects from Construction Road Traffic		Negligible (not significant)
	Effects from Construction Vibration		Negligible (not significant)
Operational	Effects from Operational Plant Noise	None required	Negligible (not significant)
Decommissioning	Effects from Decommissioning	None required	Negligible (not significant)

Phase	Effect/ Receptor	Additional Mitigation/ Enhancement Measures	Residual Significance
	Effects from Decommissioning Vibration		Negligible (not significant)
Chapter 12: Climate Change			
Construction	Effects resulting from the Proposed Development's construction vehicle emissions	Not required further to embedded mitigation and those adopted by the project.	Minor Adverse (not significant)
Operational	Effects resulting from the Proposed Development's provision of renewable energy to the grid	N/A	Major Beneficial (local level) (significant) Minor Beneficial (national level) (not significant)
Climate Change Resilience	Effects of climate change on infrastructure	Not required further to embedded mitigation and those adopted by the project.	Negligible – Moderate Beneficial (significant)
	Effects of climate change on future site	Not required further to embedded	Negligible (not significant)

Phase	Effect/ Receptor	Additional Mitigation/ Enhancement Measures	Residual Significance
	users	mitigation and those adopted by the project.	
	Effects of climate change on the natural environment (Ecology, Landscaping and Planting)	Not required further to embedded mitigation and those adopted by the project.	Negligible – Minor Adverse (not significant)
	Effects of climate change on flood risk	Not required further to embedded mitigation and those adopted by the project.	**Moderate Beneficial (surface water drainage regime) (significant)** Negligible (all other flood sources) (not significant)
Chapter 13: Socio-Economics			
Construction	Job Creation	None required	Negligible (not significant)
	Economic Output	None required	Negligible (not significant)
	Workforce Expenditure	None required	Minor Beneficial (not significant)

Phase	Effect/ Receptor	Additional Mitigation/ Enhancement Measures	Residual Significance
	Local Amenity	None required	Negligible to Minor Adverse (not significant)
Operational	Renewable Energy Generation	None required	Moderate Beneficial (significant)
	Local Amenity	None required	Negligible (not significant)
Decommissioning	Job Creation	None required	Minor Beneficial (not significant)
	Economic Output	None required	Minor Beneficial (not significant)
	Workforce Expenditure	None required	Minor Beneficial (not significant)
	Local Amenity	None required	Negligible to Minor Adverse (not significant)

Phase	Effect/ Receptor	Additional Mitigation/ Enhancement Measures	Residual Significance
Chapter 14: Soils and Agricultural Land			
Construction	Loss of BMV land	Implementation of the SMP to enable restoration.	Moderate adverse (not significant)
	Effects on soils	None required	Negligible (not significant)
Operational	Effects on farm business	Income from the Proposed Development.	Moderate or Minor Adverse (not significant)
	Effects on BMV	None required	Neutral (not significant)
	Effects on soils	None required	Moderate Beneficial (not significant)
	Effect on food production	None required	Neutral (not significant)
Decommissioning	Effect on soils	None required	None (not significant)

16.2. Summary

16.2.1. Full results of significant residual effects have been determined following assessments undertaken as part of the ES. The text below sets out both the significant residual beneficial and adverse effects identified in the ES.

16.2.2. The Proposed Development is expected to result in the following significant adverse effects:

Construction

16.2.3. During construction the Proposed Development will introduce potentially polluting construction activities on water quality of groundwater bodies, with the implementation of management controls, enhanced monitoring and a detailed Hydrogeological Risk Assessment for the trenchless method utility crossing of the railway and Piling Risk Assessment the Proposed Development is identified as resulting in significant (moderate) adverse for on-site groundwater bodies (Groundwater Source Protection Zone – Zone I Inner Protection Zone and Zone III Total Catchment) to not significant adverse impacts.

16.2.4. The Proposed Development will result in the temporary loss of 7.0 ha of Grades 1 and 2 and 2.9 ha of subgrade 3a land, the overall effect is identified as significant (major) adverse. Though the land is not permanently lost and it is capable of restoration to a comparable grade at the decommissioning phase.

Operational

16.2.5. There are no significant adverse effects anticipated during operation.

Decommissioning

16.2.6. During decommissioning the Proposed Development will introduce potentially polluting decommissioning activities on water quality of groundwater bodies, with the implementation of management controls, enhanced monitoring and a detailed Hydrogeological Risk Assessment for the trenchless method utility crossing of the railway and Piling Risk Assessment the Proposed Development is identified as resulting in significant (moderate) adverse for on-site groundwater bodies (Groundwater Source Protection Zone – Zone I Inner Protection Zone and Zone III

Total Catchment) to not significant adverse impacts.

16.2.7. The ES finds that the Proposed Development is expected to result in the following significant beneficial effects:

Construction

16.2.8. The commitment to deliver measurable BNG gains through significant habitat enhancements and provision within the Site, during construction, will deliver clear habitat enhancements, resulting in biodiversity gains within the Site and the wider environment, resulting in a significant (major) beneficial effect.

Operational

16.2.9. Improved habitat connectivity within the Site as well as with habitats within the wider environment will create larger, stronger and more ecologically resilient natural corridors in the landscape during operation, resulting in a significant (moderate) beneficial effect.

16.2.10. During operation, created and existing semi-natural habitats within the Site will be subject to long-term management (informed by regular ecological monitoring), which will result in a significant (major) beneficial effect.

16.2.11. During operation, the creation of new habitats and on-going management is anticipated to provide benefit for most breeding bird species recorded on Site. Subsequently, impacts to breeding birds during the operational phase would be of moderate beneficial (positive) magnitude on a receptor of Local value and sensitivity, which are consequently significant (moderate) beneficial effects.

16.2.12. Proposed Development will introduce a new drainage regime (surface water runoff and volume) and will impact the resultant flood risk taking into account design mitigation measures is significant (moderate) beneficial to not significant effects.

16.2.13. Due to flood mitigation embedded into the Proposed Development, the effect on infrastructure resilience with regard to surface water flood risk and the drainage regime is identified as significant (moderate) beneficial, and overall the effect of flood risk is considered to be significant (moderate) beneficial.

16.2.14. The Proposed Development will have a significant (moderate) beneficial effect on

renewable energy generation in the Yorkshire and Humber region during the operational phase.

Decommissioning

16.2.15. There are no significant beneficial effects anticipated during decommissioning.