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Yorkshire Green Energy Enablement (GREEN) Project

Volume 5

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18. Cumulative Effects

18.1 Introduction

18.1.1 This chapter presents the assessment of the likely significant effects of the Yorkshire Green Energy Enablement (GREEN) Project (referred to as the Project or Yorkshire GREEN throughout the ES) with respect to Cumulative Effects Assessment (CEA).

18.1.2 Two types of CEA will be considered in the assessment:

- inter-project effects: effects resulting from the Project combined with the same aspect-related effects generated by other developments to affect a common Receptor; and
- intra-project effects: individual environmental aspect effects resulting from the Project, which are not significant in their own right, but could combine with other environmental aspect effects from the Project to create effects that are significant.

18.1.3 The assessment should be read in conjunction with the Project description provided in **Chapter 3: Description of the Project** (**Volume 5, Document 5.2.3**) and with the 'Assessment of cumulative effects' section of **Chapters 6 to 17 (Volume 5, Documents 5.2.6 to 5.2.17**).

18.1.4 This chapter describes:

- the legislation, policy and technical guidance that has informed the assessment (**Section 18.2**);
- consultation and engagement that has been undertaken and how comments from consultees relating to cumulative effects have been addressed (**Section 18.3**);
- the methods used for the assessment (**Section 18.4 and 18.5)**;
- the assessment of cumulative effects (**Section 18.6 and 18.7**);
- a summary of the significance conclusions (**Section 18.8**).

Limitations and assumptions

18.1.5 The CEA has considered information submitted in support of other existing, proposed and approved development, including screening and scoping reports that have been submitted to the local planning authorities and the Planning Inspectorate and allocated sites up to the end of August 2022 to allow the assessment work to take place. The information regarding proposed developments and allocated sites will be kept under review as the development consent order (DCO) application is processed by the Planning Inspectorate. Further information on limitations and assumptions is provided in **Section 18.6**.

18.2 Relevant legislation, planning policy and technical guidance

18.2.1 This section identifies the legislation, planning policy and technical guidance that has informed the assessment of effects with respect to CEA. Further information on policies

relevant to the Project is provided in **Chapter 5: Legislation and policy overview (Volume 5, Document 5.2.5)**.

Legislation

18.2.2 A summary of the relevant legislation is given in **Table 18.1**.

Table 18.1 – Legislation relevant to the cumulative effects assessment

Legislation	Legislative context
Infrastructure Planning (EIA) Regulations 2017	Schedule 4 of the Infrastructure Planning (EIA) Regulations 2017 (the EIA Regulations[1]) sets out the information for inclusion in the ES. This is to include a description of the likely significant effects of a development on the environment, which should cover, amongst others, cumulative effects. Paragraph 5(e) describes cumulative as: "*the cumulation of effects with other existing and/or approved projects, taking into account any existing environmental problems relating to areas of particular environmental importance likely to be affected or the use of natural resources.*" In addition, Regulation 5(2)(e) of the EIA Regulations requires that the EIA considers the interaction of environmental effects associated with the Proposed Development. The inter-related effects assessment considers likely significant effects from multiple impacts and activities from the construction and operation of the Proposed Development on the same Receptor, or group of Receptors.

Planning policy

18.2.3 A summary of the relevant national planning policy is given in **Table 18.2**. In September 2021, the Department of Business, Energy and Industrial Strategy (BEIS) consulted upon a review of energy National Policy Statements (NPS) with consultation closing on 29 November 2021. The energy NPS were reviewed to reflect the policies and broader strategic approach set out in the Energy white paper and ensure a planning framework was in place to support the infrastructure requirement for the transition to net zero. There are no substantive changes proposed with regard to CEA within those draft Energy National Policy Statements which are considered to be relevant to the Project.

18.2.4 A summary of the relevant national planning policy is given in **Table 18.2**.

[1] UK Government (2017). The Infrastructure Planning (Environmental Impact Assessment) Regulations 2017 (online). Available at: https://www.legislation.gov.uk/uksi/2017/572/contents/made (Accessed October 2022).

Table 18.2 – Planning policy relevant to the cumulative effects assessment

Policy	Policy context
National policy	
Overarching National Policy Statement for Energy (EN-1)[2]	EN-1 states at paragraph 4.2.5 that: "*When considering cumulative effects, the ES should provide information on how the effects of the applicant's proposal would combine and interact with the effects of other development (including projects for which consent has been sought or granted, as well as those already in existence).*" Paragraph 4.2.6, goes on to state that the Secretary of State should: *"...consider how the accumulation of, and interrelationship between effects might affect the environment, economy or community as a whole, even though they may be acceptable when considered on an individual basis with mitigation measures in place*." The methodology is set out in **Section 18.4**. The assessment is provided in **Section 18.6**.
National Policy Statement for Electricity Networks Infrastructure (EN-5)[3]	NPS EN-5 provides topic-specific guidance for electrical infrastructure including overhead lines but makes only limited reference to cumulative considerations: paragraph 2.8.2 refers to overhead lines and the potential for landscape and visual cumulative impacts to arise in relation to substations, wind farms and other sources of power generation. EN-5 also refers briefly to NPS EN-1 and to landscape and visual considerations. **Section 18.6** presents the result of the CEA, including landscape and visual considerations relative to Zones of Influence (ZoI).
National planning policy	
National Planning Policy Framework (NPPF) 2021[4]	Paragraph 111 states that "*Development should only be prevented or refused on highways grounds if there would be an unacceptable impact on highway safety, or the residual cumulative impacts on the road network would be severe*." The assessment of cumulative impacts on traffic and transport, including highway safety and the road network is incorporated into the future baseline traffic flow predictions used in the traffic

[2] Department of Energy and Climate Change (2011). Overarching National Policy Statement for Energy (EN-1). (online) Available at: https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/47854/1938-overarching-nps-for-energy-en1.pdf (Accessed October 2022).
[3] Department of Energy and Climate Change (2011). National Policy Statement for Electricity Networks Infrastructure (EN-5) (online). Available at: https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/47858/1942-national-policy-statement-electricity-networks.pdf (Accessed October 2022).
[4] Ministry of Housing, Communities & Local Government (2021). National Planning Policy Framework (online). Available at: https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/1005759/NPPF_July_2021.pdf (Accessed October 2022).

Policy	Policy context
	modelling, the results of which are discussed in **Chapter 12: Traffic and Transport, Volume 5, Document 5.2.12**. Paragraph 185 states that "*Planning policies and decisions should also ensure that new development is appropriate for its location taking into account the likely effects (including cumulative effects) of pollution on health, living conditions and the natural environment, as well as the potential sensitivity of the site or the wider area to impacts that could arise from the development*". Refer to **Section 18.6 and 18.7** Paragraph 186 states that "*Planning policies and decisions should sustain and contribute towards compliance with relevant limit values or national objectives for pollutants, taking into account the presence of Air Quality Management Areas and Clean Air Zones, and the cumulative impacts from individual sites in local areas*". Refer to **Section 18.6 and 18.7**.

Technical guidance

18.2.5 A summary of the technical guidance for CEA is given in **Table 18.3**.

Table 18.3 – Technical guidance relevant to the cumulative effects assessment

Technical guidance document	Context
Planning Inspectorate Advice Note Seventeen[5], Cumulative Effects Assessment, August 2019	This advice note sets out a staged approach to cumulative effects assessment (CEA) for Nationally Significant Infrastructure Projects and provides template formats for documenting the CEA within an applicant's Environmental Statement. The CEA methodology for the Project has followed the guidance in this note.

18.3 Consultation and engagement

Overview

18.3.1 The assessment has been informed by consultation responses and ongoing stakeholder engagement. An overview of the approach to consultation is provided in **Chapter 4: Approach to preparing the ES (Volume 5, Document 5.2.4)**.

[5] Planning Inspectorate (2019). Advice note seventeen: Cumulative effects assessment relevant to nationally significant infrastructure projects, Version 2 (online). Available at: https://infrastructure.planninginspectorate.gov.uk/wp-content/uploads/2015/12/Advice-note-17V4.pdf (Accessed October 2022)

Scoping Opinion

18.3.2 A Scoping Opinion was adopted by the Secretary of State, administered by the Planning Inspectorate, on 28 April 2021. A summary of the relevant responses received in the Scoping Opinion in relation to cumulative effects and confirmation of how these have been addressed within the assessment is presented in **Table 18.4**.

Table 18.4 – Summary of EIA Scoping Opinion responses for cumulative effect

Consultee	Issue Raised	Response
Planning Inspectorate	At this stage, the Applicant has not provided a draft list of other large-scale developments or projects that is proposed to be used as the basis for the assessment of inter-project effects. The Inspectorate expects that a draft list would be prepared and discussed with relevant consultation bodies prior to submission of any DCO application to ensure that there is an agreed basis from which the cumulative effects assessment is undertaken.	Noted. This information was provided as part of the Preliminary Environmental Important Report (PEIR). This included a long list (**Appendix 5.3.18A, Volume 5, Document 5.3.18A**[6]) of relevant plans and projects which has been screened to identify a short-list (**Table 18.9**) in accordance with Planning Inspectorate Advice Note Seventeen[5]. A supporting figure showing this information was also provided (**Figure 18.1, Volume 5, Document 5.4.18**). Following statutory consultation regular briefings have taken place with the local planning authorities which have been used as a forum for sharing information on the developments and allocations to be considered in the CEA. In July 2022 the local authorities were provided with the draft long List (**Appendix 18A, Volume 5, Document 5.3.18A**) and short list (**Table 18.9**) of other development and asked to review and provide any further comments on the proposed CEA list to inform the assessment. Additional information was requested by and provided to Selby District Council on the approach to CEA. Selby District Council then provided a list of additional developments which were reviewed and incorporated into the CEA long list where applicable.

[6] Reference in this table refer to the updated information provided in this ES. For Statutory Consultation this information was provided as part of **Chapter 4, Volume 5, Document 5.2.4** and its accompanying appendices and figure.

Consultee	Issue Raised	Response
Natural England	The ES should include an impact assessment to identify, describe and evaluate the effects that are likely to result from the project in combination with other projects and activities that are being, have been or will be carried out. The following types of projects should be included in such an assessment, (subject to available information): existing completed projects; approved but uncompleted projects; ongoing activities; plans or projects for which an application has been made and which are under consideration by the consenting authorities; and plans and projects which are reasonably foreseeable, i.e. projects for which an application has not yet been submitted, but which are likely to progress before completion of the development and for which sufficient information is available to assess the likelihood of cumulative and in-combination effects.	Noted. This ES includes a long list (**Appendix 5.3.18.A, Volume 5, Document 5.3.18A**) of relevant plans and projects which has been screened to identify a short-list (**Table 18.9**) in accordance with Planning Inspectorate Advice Note Seventeen[5]. A supporting figure showing this information is provided (**Figure 18.1, Volume 5, Document 5.4.18**).
Natural England	It will be important for any assessment to consider the potential cumulative effects of this proposal, including all supporting infrastructure, with other similar proposals and a thorough assessment of the 'in combination' effects of the proposed development with any existing developments and current applications. A full consideration of the implications of the whole scheme should be included in the ES. All supporting infrastructure should be included within the assessment.	Noted. This ES includes a long list (**Appendix 5.3.18.A, Volume 5, Document 5.3.18A**) of relevant plans and projects which has been screened to identify a short-list (**Table 18.9**) in accordance with Planning Inspectorate Advice Note Seventeen[5]. A supporting figure showing this information is provided (**Figure 18.1, Volume 5, Document 5.4.18**). The assessment reported in the aspect chapters is based on the effects from all elements forming part of the Project.
Natural England	The assessment should also include the cumulative effect of the development with other relevant existing or proposed developments in the area. In this context Natural England advises that the cumulative impact assessment should include other proposals currently at Scoping stage. Due to the overlapping timescale of their progress through the planning system, cumulative impact of the proposed development with those	Noted. This ES includes a long list (**Appendix 18.A, Volume 5, Document 5.3.18A**) of relevant plans and projects which has been screened to identify a short-list (**Table 18.9**) in accordance with Planning Inspectorate Advice Note Seventeen[5]. A supporting figure showing this information is provided (**Figure 18.1, Volume 5, Document 5.4.18**). Development at the scoping

Consultee	Issue Raised	Response
	proposals currently at Scoping stage would be likely to be a material consideration at the time of determination of the planning application.	stage has been considered as part of this process.
North Yorkshire County Council	Cumulative Effects – There are likely to be cumulative effects in conjunction with other major developments. There are current planning applications for other major developments within 1km of the site, including a motorway service area at Lumby (2019/0547/EIA, Selby District Council), gas turbines adjacent to Monk Fryston Substation (2020/0594/FULM Selby DC), EIA scoping for a new quarry at Lumby (NY/2020/0204/SCO, North Yorkshire County Council)."	These developments have been considered as part of the CEA process (CEA long list, **Appendix 5.3.18.A, Volume 5, Document 5.3.18A** and short list, **Table 18.9**).
Skelton Parish Council	Whilst the EIA Scoping Report provides a wealth of information in respect to the project, no mention could be found of proposed sites in the York Local Plan, in particular the large scale housing developments proposed for the area North of York (ST14 Land North of Clifton Moor) located between Skelton/Wigginton.	A long list of allocated sites has been identified and screened to determine a short list of development to be assessed and reported in the ES. The short list includes the allocation listed in Skelton Parish Council's scoping response (**Table 18.9**).
Network Rail	Network Rail is delivering the Trans-Pennine Route Upgrade (TRU) Project, which involves improvements to the railway line between York and Manchester via Leeds. Construction is underway and is anticipated to continue until around 2027. The Yorkshire GREEN Project interfaces with the TRU route at the point where the existing 275kV overhead line crosses the railway close to Huddleston Old Wood, about 2.5km east of the A1M. TRU works in this location will include the installation of overhead line electrification equipment and track replacement. The consultee noted that if the Yorkshire GREEN project involves works to the existing 275kV overhead line in this location, Network Rail should be consulted on the proposed timing and details of the proposed works. Additionally, it is possible that construction works for TRU and the Yorkshire GREEN Project could overlap and Network Rail	Noted. This chapter sets out further detail on the proposed approach to CEA, including a long list which has been screened to identify a short list of other developments proposed to be assessed and reported in the ES. The long list includes the EIA Screening Opinion request (2019/1106/SCN) included for the TRU works between Church Fenton and York which is proposed to be screened out of further detailed assessment (**Appendix 5.3.18.A, Volume 5, Document 5.3.18A**). National Grid Electricity Transmission plc ("National Grid") is undertaking regular engagement with Network Rail on the design details of the Project and its interaction with Network Rail infrastructure.

Consultee	Issue Raised	Response
	would welcome the opportunity to discuss construction proposals to ensure cumulative effects of construction are minimised.	

Statutory consultation

18.3.3 Statutory Consultation took place between 28 October and 9 December 2021 in accordance with the Planning Act 2008[7] ("the Act"). Prescribed and non-prescribed consultees and members of the public were included in the consultation. Various methods of consultation and engagement were used in accordance with the Statement of Community Consultation (SoCC) including letters, website, public exhibitions, publicity and advertising in newspapers and webinar briefings.

18.3.4 National Grid prepared a Preliminary Environmental Information Report (PEIR) which was publicised at this consultation stage. National Grid sought feedback on the environmental information presented in that report. Feedback received during statutory consultation was considered by National Grid and incorporated where relevant in the design of the Project.

18.3.5 A summary of the relevant responses received in response to statutory consultation, together with any subsequent discussions held in relation to CEA and confirmation of how these have been considered within the assessment to date is presented in **Table 18.5**. Statutory consultation representations and National Grid's responses are provided in **Volume 6, Document 6.1 (Consultation Report).**

Table 18.5 – Summary of statutory consultation responses

Consultee	Consideration	How addressed in this ES
North Yorkshire County Council and Selby District Council	These local authorities noted that the identified other developments within proximity of the Project would "*need to be reviewed and updated as necessary as the development proposals evolve*." Comments were also received on the long list of development provided as Appendix 4C to the PEIR not being "*particularly clear in terms of which plans and projects are being referred to –clarity on this would be welcomed*". The stakeholders commented that the "*short list appears to include relevant projects to be included in the cumulative impact assessment. It is noted that Stages 3 and 4 of the cumulative impact assessment will be completed and included as part of the Environmental Statement. The Authorities would welcome ongoing discussions on the cumulative impact assessment, particularly in relation to Monk Fryston substation*	The CEA Long list (**Appendix 5.3.18A, Volume 5, Document 5.3.18A**) and short list (**Table 18.9**) have been kept under review as the Project and EIA have progressed. Further information has been requested from the local authority (see 'Technical Engagement' section) and regular engagement has taken place with the local authorities (see **Table 18.4**) including requests

[7] UK Government (2008). Planning Act 2008. (online) Available at: https://www.legislation.gov.uk/ukpga/2008/29/contents (Accessed October 2022).

Consultee	Consideration	How addressed in this ES
	area, given the number of projects which are coming forward in that location concurrently."	for recently submitted and consented planning applications which may need to be taken into account in the CEA.
North Yorkshire County Council and Selby DC District Council	These local authorities raised comments that they have "*landscape and visual concerns in relation to …potential cumulative and in-combination effects in conjunction with other major developments*."	**Section 6.3, Chapter 6 (Volume 5, Document 5.2.6)** discusses technical engagement in relation to landscape and visual effects. A CEA in relation to landscape and visual effects has been undertaken (**Chapter 6 (Volume 5, Document 5.2.6)** and **Section 18.6**)
North Yorkshire County Council and Selby DC District Council	These local authorities noted that there "*are likely to be cumulative effects in conjunction with other major developments. There are current planning applications for other major developments within 1km of the site, including a motorway service area at Lumby (2019/0547/EIA Selby DC), gas turbines adjacent to Monk Fryston Substation (2020/0594/FULM Selby DC), EIA scoping for a new quarry at Lumby (NY/2020/0204/SCO NYCC)".*	These developments have been considered as part of the CEA process (see CEA long list, **Appendix 5.3.18A, Volume 5, Document 5.3.18A** and short list, **Table 18.9**)
Yorkshire Wildlife Trust	At this stage, a preliminary assessment has been undertaken to identify the planned developments within the area around Yorkshire GREEN which have the potential to result in cumulative effects. The developments identified are all local to the Project, and do not include other National Grid Projects which are related to this project, including those which are reliant on Yorkshire GREEN being implemented e.g. Hornsea P4. As stated in our response to the non-statutory consultation (14thApril 2021), we are aware that the Yorkshire GREEN project is just one part of National Grids' wider ambition to upgrade and reinforce the high-voltage power network across the UK, with multiple projects currently being rolled out for consultation across the country. The Royal Society of Wildlife Trusts (RSWT –the Wildlife trusts umbrella organisation) are in conversation with National Grid, and we support their request for all of the work related to upgrading the power network to	Comments are noted (that YWT response only relates to local considerations).

Consultee	Consideration	How addressed in this ES
	be considered as a single project and cumulative impacts upon ecologically sensitive and biodiverse sites to be fully taken into account, as would be expected as standard practice for any Nationally Significant Infrastructure Projects (NSIP). Our comments therefore relate to local considerations. "	

Technical engagement

18.3.6 Since statutory consultation, regular meetings approximately every four to six weeks have been held with the relevant local authorities within the Order Limits (North Yorkshire County Council, Hambleton District Council, Harrogate District Council, Selby District Council, Leeds City Council and City of York Council). At these meetings requests have been put forward to the local authorities to identify any newly submitted and/or consented planning applications which should be considered in the CEA.

18.3.7 In addition, further clarification was provided to Selby District Council in September 2022 as to how the CEA long and short lists have been compiled and how the area over which other proposed development was identified were determined. The clarification also provided information on the process for determining why schemes were taken forward from the long list to the short list. A work in progress version of the CEA long list was provided to Selby District Council and a number of new planning applications provided by Selby District Council were screened and added to the long list and short list where they met the criteria set out in the assessment methodology.

18.4 Inter-project cumulative effects assessment methodology

18.4.1 Inter-project effects concern the identification and assessment of effects of the Project combined with effects of other existing development and/or approved development.

18.4.2 Such effects can be additive or synergistic or more rarely, antagonistic and the EIA will have regard for the potential for all three types of effect. These terms are explained below:

- Additive effects are where the cumulative effect is equal to the sum of the interaction of a number of individual effects. For example, the loss of two separate areas of woodland of 1Ha each from two separate developments results in a cumulative loss of 2Ha of woodland.
- Synergistic effects are where the cumulative effect is greater than, or different from, the sum of the individual effects. For example, noise emissions from two separate developments combine to have a significant effect on a receptor when individually each development would not result in a significant effect.
- Antagonistic effects are when the interaction of a number of impacts counteract or neutralize each other so are less than the sum of the individual. For example, warming can offset ocean acidification by decreasing the solubility of carbon dioxide.

18.4.3 Whilst there is no standard approach to the CEA, the Planning Inspectorate has published Advice Note Seventeen[5] which provides useful advice in setting out a process for the identification and assessment of ‘other development’. Hence, the CEA has

followed the methodology as defined in Advice Note Seventeen. This is a four-stage approach shown in **Table 18.6.**

Table 18.6 - Summary of PINS Advice Note 17 CEA process summary

Stage	Title	Description
Stage 1	Establish the ZoI and identify the long list of 'other development'	With the exception of climate and traffic effects (paragraphs 18.4.6 and 18.4.7) for each environmental aspect assessment included in the ES a Zone of Influence (ZoI) has been identified within which the potential for cumulative effects has been considered. These have been established through desk studies and modelling. The ZoI is measured from the Order Limits for the Project (**Table 18.7**). This has then supported a desk study exercise to identify the long list of other existing development and/or approved development in the form of planning applications, relevant development plans and other available and relevant sources (see **Table 18.8**).
Stage 2	Identify a short list of 'other development' for CEA	Professional judgement from technical specialists has been used to refine the long list of 'other developments' to identify those that could give rise to significant effects cumulatively with the Project. Those other developments which had the potential to result in significant cumulative effects have been carried through to the shortlist of 'other developments' to be assessed in more detail.
Stage 3	Information gathering	Information was gathered on the 'other developments' in the shortlist to inform the assessment, for example reports and information submitted as part of planning applications
Stage 4	Assessment	Each of the environmental aspects completed an assessment of the relevant 'other developments' in the shortlist within their ZoI.

Stage 1: Project ZoI and long list of 'other development'

18.4.4 In order to establish the long list of 'other development', the ZoI for each of the environmental aspects has been established through expert opinion and reference to accepted industry guidance and standards relevant to the environmental discipline. A summary of each ZoI is shown in **Table 18.7**.

18.4.5 Planning Inspectorate Advice Note Seventeen[5] acknowledges that certain assessments, such as transport and associated operational assessments of vehicular emissions (including air and noise) may inherently be cumulative assessments. This is because they may incorporate modelled traffic data growth for future traffic flows. Where these assessments are comprehensive and include a reasonable worst-case

within the defined assessment parameters, no additional cumulative assessment of these aspects is required. This is reflected in **Table 18.7**.

18.4.6 In terms of road traffic and cumulative traffic flow effects from other developments, the preferred option for predicting existing or historical traffic data for future year assessments is the use of appropriate local traffic forecasts such as TEMPro; a program developed by the DfT providing traffic growth projections used to project long-term forecasts in traffic growth. The forecasts take into account national projections of population, employment, housing, car ownership, and trip rates. This is an accepted approach to assess future baseline traffic. This approach to forecasting traffic growth takes into account the traffic associated with all cumulative and anticipated development within the relevant local plans. Further information on this approach and traffic modelling data can be found in **Chapter 12: Traffic and Transport, Volume 5, Document 5.2.12**.

18.4.7 The approach to cumulative effects assessment (CEA) for greenhouse gases (GHGs) differs from that for many EIA aspects. All global cumulative GHG sources are relevant to the effect on climate change, and this is taken into account in defining the receptor as being of 'high' sensitivity'. Effects of GHG emissions from other projects are not 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. Additionally, the contextualisation of GHG emissions, by its nature, incorporates the cumulative contributions of other GHG sources which make up that context. Therefore, a separate CEA of GHG emissions has not been undertaken as part of this ES. This approach is in accordance with IEMA guidance[8]. Further information can be found in **Chapter 17: Climate Change, Volume 5, Document 5.2.17.**

Table 18.7 - Environmental aspects CEA ZoI

Environmental Aspect	Spatial ZoI (distance from Order Limits)	Justification and Scope
Landscape and Visual Amenity	6km	Reflects the likely maximum geographical extent for significant LVIA effects arising from other development that may overlap with the Project.
Historic Environment	6km	Reflects the likely maximum geographical extent for significant effects arising from other development that may overlap with the Project.
Biodiversity	2km	Protected habitats and species (with the exception of bats) and non-designated sites
	5km	Bats
	5km	Nationally designated sites

[8] IEMA (2022). Environmental Impact Assessment Guide to: Assessing Greenhouse Gas Emissions and Evaluating their Significance – 2nd Edition. (online). Available at: [redacted] (Accessed October 2022).

Environmental Aspect	Spatial ZoI (distance from Order Limits)	Justification and Scope
	15km	Internationally designated sites (non-ornithological)
	20km	Internationally designated sites (ornithological)
Hydrology	Surface water body catchments that the Project intersects	Encapsulates the WFD surface water body catchments that the Project intersects and consequently may interact with.
Geology and Hydrogeology	1km	Reasonable maximum extent over which the Project could potentially contribute to cumulative effects in relation to contamination migration (e.g. groundwater, ground gas), considering the nature of the development activities associated with the Project. This ZoI is consistent with the Study Area of 500m adopted in **Chapter 10: Geology and Hydrogeology, Volume 5, Document 5.2.10** i.e. matches the maximum extent at which the Study Area could overlap with a 500m buffer from another development.
Agriculture and Soils	County boundaries that the Project intersects within 6km (maximum extent)	Consideration given to the loss of Best and Most Versatile (BMV) land .
Air Quality	350m	Dust emissions – spatial scope identified in line with Institute of Air Quality Management (IAQM) guidance on dust assessment[9]
Noise and Vibration	800m	ZoI accounts for the way that the noise will propagate from its source, its frequency content and attenuation of distance to receiver.
Health and Wellbeing	6km (maximum extent)	As the assessment of health effects is based on the assessment of other aspects (traffic, landscape and visual, noise, air quality, hydrology and socio-economics) the ZoI is based on other chapter ZoIs and considered sufficient to identify health receptors which could be impacted by the Project in cumulation with other development.

[9] Institute of Air Quality Management (2016). Guidance on the Assessment of Dust from Demolition and Construction. IAQM; London.

Environmental Aspect	Spatial ZoI (distance from Order Limits)	Justification and Scope
Socio-economics	6km (maximum extent)	Based on other chapter ZoIs and potential effects that may affect socio-economic receptors.

18.4.8 The largest ZoI relates to potential effects on Internationally designated sites (up to 20km from the Order Limits). The total linear extent of the Order Limits is approximately 40km in length and applying a 20km buffer around the Order Limits including Osbaldwick Substation, results in a potential search area of approximately 3100km^2. In order to undertake a proportionate approach to identifying potential other development and allocated sites which could interact with the Project the maximum ZoI has been refined as follows.

18.4.9 The Lower Derwent Valley Ramsar/SPA is located 6.1km south-east from the Order Limits at Osbaldwick Substation, where the Project comprises the replacement of and amendments to existing infrastructure mostly within existing operational land. This Ramsar/SPA is also approximately 15km from the North-west of York Area (Section B, **Figure 1.2, Volume 5, Document 5.4.1)**, where new infrastructure is proposed.

18.4.10 The **Habitat Regulations Assessment No Significant Effects Report (Volume 6, Document 6.4)** and biodiversity assessment (**Chapter 8: Biodiversity, Volume 5, Document 5.2.8, Volume 5**) have identified that no likely significant effects are predicted on this receptor and that no pathways for any effects exist. Bird survey results have recorded bird species, which are qualifying features for these designations, within the Order Limits to the north-west of York. The distance between the SPA and the location where these bird species were recorded (15km) is greater than typical daily commuting distances for the species recorded. It is unlikely that these species would regularly and preferentially cross the intervening urban area of York whilst suitable habitats are available within the SPA and its functionally linked habitat.

18.4.11 Therefore, as there are no pathways for any effects from the Project, a cumulative effect cannot occur. Therefore, other developments and allocations in the southern and eastern areas of York and those further to the south, south-east and east which would fall within the 20km buffer are screened out of the assessment. Other developments and allocations to the north, north-west and west of York that fall within the 6km ZoI identified for other aspects and are therefore identified on the long list of development.

18.4.12 The **Habitat Regulations Assessment No Significant Effects Report (Volume 6, Document 6.3)** and biodiversity assessment (**Chapter 8: Biodiversity, Volume 5, Document 5.2.8**) has scoped out potential effects on SACs which are more than 2km from the Order Limits which are not designated for bat or ornithological interest features. Within the 15km buffer referenced in **Table 18.7** such sites include:

- The River Derwent SAC which is 6.1km east of Osbaldwick at its closest point and designated for freshwater species and habitat; and
- Strenshall Common SAC which is 5km from the closest Order Limits and is designated for its heathland habitats.

18.4.13 The potential for cumulative effects on these receptors is much more likely in closer proximity (i.e. within the 2km ZoI typically used for such designations in assessing biodiversity effects – see **Chapter 8: Biodiversity, Volume 5, Document 5.2.8**).

18.4.14 For the River Derwent SAC, given the distance between the SAC and the Order Limits, there are no effect pathways present and therefore there could be no cumulative effects in combination with any other development.

18.4.15 Although the Order Limits are 5km west of Strenshall Common SAC, the closest area of construction works, would be approximately 5.4km from the SAC and would comprise reconductoring of the existing 2TW/YR 400kV Norton to Osbaldwick overhead line from pylon YR036 and along this overhead line further to the west. Given the nature of works at this location within the Order Limits (replacement of existing overhead line conductor and associated equipment) it is considered that there are no pathways for effects associated with air quality for this receptor (**Chapter 13: Air Quality, Volume 5, Document 5.2.13**). The 6km ZoI is therefore considered sufficient to identify any other development which could result in cumulative effects on this receptor, although it should be noted that no impact pathways associated with the Project exist for this designated site and therefore a cumulative effect cannot occur.

18.4.16 Therefore, the biodiversity ZoI has been refined to 6km in line with the ZoI set out in **Table 18.7** for other aspects including landscape and visual and historic environment.

18.4.17 Given the minor works at Osbaldwick Substation, the appearance of the existing infrastructure at Osbaldwick will undergo very minor changes and therefore cumulative effects in terms of setting, landscape character and views are likely to be very limited and mostly occur during the construction phase of the Project. Therefore, for this element of the Project the ZoI of influence for identifying potential developments and allocations for the long list has been reduced to 3km (**Figure 18.1, Volume 5, Document 5.4.18**)

Proposed criteria for identifying 'other development'

18.4.18 Planning Inspectorate Advice Note Seventeen[5] acknowledges that the approach to defining which 'existing development and/or approved developments' to include in the CEA depends on the availability of information necessary to conduct a CEA. This will partly depend on the status of the relevant 'existing development and/or approved development'.

18.4.19 For the purposes of this CEA 'existing development' considered in the CEA has comprised developments currently under construction, or development constructed during the timeline over which the ES has been prepared, where this information is known. For example development ID13 (see **Table 18.9**) is understood to have been completed during this timeframe but has been included in the CEA where relevant.

18.4.20 The aspect chapters (**Volume 5, Documents 5.2.6 to 5.2.17**) have considered future baseline conditions and whether in the absence of the Project there is likely to be a change in baseline conditions. With the exception of traffic related effects, this has taken into account, where relevant, new future receptors as a result of potential development, for example new housing development, within the relevant study area for each aspect. In relation to traffic, as outlined in above, traffic growth factors have been applied to future baseline traffic flows to and traffic from potential development considered as part of the future baseline. The other developments assessed in the CEA (**Table 18.9**) are not considered to comprise future baseline receptors.

18.4.21 Planning Inspectorate Advice Note Seventeen[5] groups 'existing development and/or approved development into tiers, which reflect the likely degree of certainty attached to each development occurring, with Tier 1 being the most certain and Tier 3 the least certain. The criteria associated with the three Tiers is set out in **Table 18.8**. However,

this has been adapted to also take account of EIA scoping and screening reports submitted to local planning authority planning portals. In line with Advice Note Seventeen (paragraph 3.2.4) whether or not other development is classed as 'major development'[10] is also referenced as this has been used as a means to determine which development to include in the CEA to ensure a proportionate approach.

Table 18.8 - Proposed criteria for identifying other developments

Hierarchy of other Developments	Proposed criteria of other Developments
Tier 1	Under construction.
	Permitted application(s), where the project is classified as 'major development,' whether under the Act or other consent regimes, but not yet implemented.
	Submitted application(s), where the project is classified as 'major development,' whether under the Act or other consent regimes, but not yet determined.
Tier 2	Projects on the Planning Inspectorate's Programme of Projects, and/or the relevant local planning authorities planning portal where the project is classified as 'major development' and a scoping or screening report has been submitted.
Tier 3	Projects on the Planning Inspectorate's Programme of Projects, and/or the subject of pre-application discussion with a relevant LPA, where a scoping or screening report has not been submitted.
	Projects registered on the local planning authority's portal classed as major development but do not require EIA.
	Identified in the relevant Development Plan (and emerging Development Plans - with appropriate weight being given as they move closer to adoption) recognising that much information on any relevant proposals will be limited.
	Identified in other plans and programmes (as appropriate) which set the framework for future development consents/approvals, where such development is reasonably likely to come forward.

18.4.22 Information on 'other developments' has been gathered from the following sources:

[10] UK Government (2010). Town and Country Planning (Development Management Procedure) (England) Order 2010, Regulation 2(1) (online). Available at: https://www.legislation.gov.uk/uksi/2010/2184/contents/made (Accessed October 2022).

- Local authority planning portals;
- Relevant Local Plans;
- Planning Inspectorate's programme of projects; and
- Developer/project websites, where available.

Temporal scope

18.4.23 The criteria have been applied to all planning and development consent applications and EIA screening and scoping reports submitted (and which are either consented or pending determination) in the last five years over the maximum extent of all aspect ZoIs (i.e. the widest aspect ZoI area). Five years is selected as planning permissions typically expire after a period of three to five years (unless an application for extension is permitted), and there are no made development consent orders which apply within the ZoI area.

18.4.24 For the purpose of producing the long list of 'other developments', the 5-year period runs from August 2017 to the end of August 2022 and for allocated sites the timeframe of the relevant local authority development plan.

Stage 2: Short list of 'other development'

18.4.25 In order to determine that the CEA is proportionate, Stage 2 involved a high-level information gathering exercise in order to determine:

- **The scale and nature of 'other development'**: whether the scale and nature of the other development identified in the ZoI was likely to interact with the Project;
- **The temporal scope of 'other development'**: whether the other development had overlapping construction, operational and/or decommissioning phases with the Project; and
- **Any other relevant factors**: whether any other factors, such as the sensitivity of the receiving environment or uncertainty in the potential effects merit further assessment of the potential cumulative effects; and
- **Consultation**: requests from relevant stakeholders for the inclusion of specific projects and/or plans within the CEA.

18.4.26 Information was therefore captured about the other developments including the proposed programme of consenting, construction, operation and decommissioning to determine whether there is overlap and any potential for interaction with the Project. Consideration was given to the scale and nature of the other developments identified in the ZoI, to determine whether they were likely to interact with the Project and to result in a cumulative effect.

18.4.27 Professional judgement was used in order to avoid excluding 'other development' that was close to the threshold limits but had characteristics likely to give rise to a significant effect; or which could give rise to a cumulative effect by virtue of its proximity to the Project. Similarly, professional judgement was applied where 'other development' was considered to not give rise to discernible effects.

18.4.28 Other developments were also scoped-out on the basis that the development:

- was of sufficient distance from the Order Limits that significant cumulative effects are not likely to occur; or

- the closest part of the Project to the receptor with potential to experience cumulative effects comprised existing infrastructure undergoing no or minimal change, for example the existing Monk Fryston to Poppleton 275kV XC overhead line. The overhead line already forms part of the baseline environment, therefore there was no potential for cumulative operational effects with other development in proximity to this part of the Project, particularly in relation to long-term landscape and visual effects and setting effects on historic environment receptors. The change in the baseline would only occur as a result of the effects from the other development. However, the potential for cumulative effects during construction was considered.

Stage 3: Information gathering

18.4.29 Further information on the short-listed developments was gathered to inform the final CEA where this was available. This includes:

- proposed design and location information;
- construction and operational timescales; and
- results of any environmental assessments completed for the other developments.

18.4.30 Information to inform the assessment has been obtained from publicly available sources.

Stage 4: Assessment of other development

18.4.31 Stage 4 of the assessment accords with the methodology presented in Planning Inspectorate Advice Note Seventeen[5]. The assessment is commensurate with information available at the time of assessment. Information on some proposals may be limited and such gaps are acknowledged within the assessment.

18.4.32 All short-listed Tier 1 and Tier 2 other development have been assessed. The assessment for Tier 3 other development may be high level in comparison to Tier 1 and 2, reflective of the level of information available. The significance criteria used to identify likely significant effects is consistent with the criteria presented in **Section 4.7, Chapter 4, Volume 5, Document 5.2.4**.

18.4.33 Any measures envisaged to avoid, prevent, reduce or, if possible, offset any identified significant cumulative effects and, where appropriate, any proposed monitoring arrangements are identified.

18.5 Intra-related cumulative effects assessment methodology

18.5.1 Regulation 5(2)(e) of the EIA Regulations 2017 requires that the EIA consider the interaction of environmental effects associated with the Project. The intra-related effects assessment considers likely significant effects from multiple impacts and activities from the construction, operation and decommissioning of Yorkshire GREEN on the same receptor, or group of receptors.

18.5.2 Intra-related effects can be the following:

- Project lifetime effects: i.e., those arising throughout more than one phase of the Project (construction, operation, and decommissioning) to interact to potentially create a more significant effect on a receptor than if just one phase were assessed in isolation; and

- Receptor led effects: assessment of the scope for all effects to interact, spatially and temporally, to create inter-related effects on a receptor (or group). Receptor-led effects might be short term, temporary or transient effects, or incorporate longer term effects.

18.5.3 There is no standard approach to the assessment of intra-project effects, although it should be carried out with reference to guidance and professional judgement.

18.5.4 Common receptors for environmental aspects have been identified, and consideration given to whether the aspect effects on any common receptors are likely to combine. This has identified:

- the common receptor(s) from the individual aspect assessments;
- the impact source pathways that can affect the common receptor(s);
- the potential effects on the identified common receptor(s); and
- the inter-related effects across the construction, operation and decommissioning phases where appropriate.

18.5.5 It should be noted that some elements of the assessment inherently consider intra-related effects. For example, the terrestrial ecology and nature conservation assessment of effects takes into account the potential for multiple impacts affecting particular features such as disturbance effects on faunal receptors resulting from noise and vibration, visual disturbance and lighting. Where this is the case, this is described within the individual aspect chapter.

18.5.6 The individual aspect chapters have identified environmental effects upon those receptors within their respective study areas. This information has been reviewed and a matrix developed to summarise where different aspects have identified the same receptors and provides an assessment of likely cumulative significant effects. Only receptors that would experience residual effects that have the potential to combine with a different type of effect, have been included and 'negligible' or 'neutral' effects have been excluded from the matrix.

18.5.7 The assessment of inter-related cumulative effects has focused on those receptors where potential significant effects have been predicted in respect of at least two or more topics or where several different aspect effects specific to one receptor have been identified.

18.5.8 An In-combination Climate Change Impact (ICCI) assessment has also been undertaken. This considers the extent to which climate change exacerbates effects on receptors identified in the different aspect chapters which are also impacted by the Project. This is reported in **Chapter 17: Climate Change** (**Volume 5, Document 5.2.17**) and concluded with the embedded environmental measures in place, there would be no significant in-combination climate change effects.

18.6 Assessment: Inter-project cumulative effects

Stage 1: The Long List

18.6.1 A long list of developments has been produced based on the methodology set out in **Section 18.5** above. This is presented in the matrix format suggested by the Planning Inspectorate in Advice Note Seventeen[5] and is provided in **Appendix 5.3.18A, Volume 5, Document 5.3.18A**.

Stage 2: The short list

18.6.2 The long list has been evaluated using the methodology outlined in **Section 18.5** to produce a short list of other developments which have been assessed within the CEA. The short list is provided in **Table 18.9** and the location of the other developments on the short list are shown on **Figure 18.1, Volume 5, Document 5.4.18**.

Table 18.9 - Inter-related effects – short listed projects for CEA

ID	Development, Tier and status of consent	Local Authority	Location, Distance and Direction from Order Limits	Aspects with Potential for Significant Cumulative Effects
2	Developments located in and around Tockwith 19/01734/FULMAJ (63 dwellings, 2.3Ha) Tier 1, consented	Harrogate Borough Council	Tockwith, 2.6 to 3.6km west	Agriculture, Historic environment (to further assess potential for cumulative effects on setting of Marston Moor Registered Battlefield).
3	18/04528/FULMAJ (39 dwellings, 1.43Ha), Tier 1, consented			
4	18/04529/FULMAJ (landscaping, 1.19Ha), Tier 1, consented			
5	17/04919/FULMAJ (74 dwellings, 2.93Ha), Tier 1, consented			
8	18/01802/OUTMAJ (mixed use, 6.7Ha), Tier 1, consented			
10	18/04395/REMMAJ (80 dwellings). Tier 1, consented			
13	20/01004/FUL Construction of an additional free range egg laying unit dimensions 127.5m x 20.8m, with an eaves height of 3.7m and a ridge height of 6.5m. The development includes additional infrastructure of 2	Hambleton District Council	Shipton By Beningbrough, 780m west	Historic environment, landscape, biodiversity, socio-economics, health, hydrology, hydrogeology, agriculture, noise

ID	Development, Tier and status of consent	Local Authority	Location, Distance and Direction from Order Limits	Aspects with Potential for Significant Cumulative Effects
	feed bins, and an attenuation pond for surface water drainage. Site: 1.00 ha, Gross new internal floorspace: 2652 sq m Tier 1, consented			
35	2019/0547/EIA Proposed construction of a motorway service area Tier 1, decision awaited	Selby District Council	west side of A1(M), A63 junction, 200m west	All aspects scoped into ES (except traffic and climate change)
39	2021/0633/FULM: Installation and operation of a battery storage facility and ancillary development (Appeal reference: AP/2022/011/REF) Tier 1, consent granted on appeal	Selby District Council	Development adjacent to south of Monk Fryston Substation	All aspects scoped into ES (except traffic and climate change)
40	2021/0789/FULM: Construction of a zero-carbon energy storage and management facility including containerised batteries, synchronous condensers and associated infrastructure, access and landscaping. (Appeal reference: AP/2022/0032/REF) Tier 1, refused and appealed	Selby District Council	Development adjacent to south of Monk Fryston Substation	All aspects scoped into ES (except traffic and climate change)
42	2021/0927/COU: Change of use from an agricultural field to	Selby District Council	Towton, 2.3km east	Agriculture, Historic environment (to further assess potential for

ID	Development, Tier and status of consent	Local Authority	Location, Distance and Direction from Order Limits	Aspects with Potential for Significant Cumulative Effects
	a community park space Tier 1, consented			cumulative effects on setting of Towton Registered Battlefield).
64	19/01840/FULM: Erection of an energy storage facility with up to 42no. battery storage units, 21no. reservoir units and ancillary structures Tier 1, consented	City of York Council	Adjacent to south of Osbaldwick Substation	All aspects scoped into ES (except traffic and climate change)
71	14/02798/FULM (reclamation works, development platform), 15/00524/OUTM (100 dwellings, community uses, public open space) Tier 1, consented	City of York Council	Plantation Drive, York, 2.5km south	Landscape and visual, historic environment setting effects on receptors in York
72	21/02444/FULM: EIA application for extraction of clay and site restoration, Newlands Lane, Upper Poppleton Tier 1, awaiting decision	City of York Council	Newlands Lane, 1.8km south	Agriculture, Historic environment, landscape, biodiversity, socio-economics, health
85	NY/2021/0098/A27 Extension for application to Jackdaw Quarry to south of existing quarry. Tier 1, consented	North Yorkshire County Council	Jackdaw Crag Quarry, Moor Lane, Stutton, up to 500m east	Historic environment, landscape, biodiversity, socio-economics, health, hydrology, hydrogeology, agriculture, noise
88	NY/2017/0268/ENV: Consent to extend quarry to south (phase 5), NY/2019/0165/ENV: Waste recycling and restoration by infill (on phases 1 to 4, phase	North Yorkshire County Council	Newthorpe Quarry, 1km west	Historic environment, landscape, biodiversity, socio-economics, health, agriculture, hydrology, hydrogeology

ID	Development, Tier and status of consent	Local Authority	Location, Distance and Direction from Order Limits	Aspects with Potential for Significant Cumulative Effects
	5 excluded) – crushing/screening of materials on site – either for use in restoration or moved off site for recycling Tier 1, consented			
89	NY/2018/0009/FUL: Quarry restoration including extraction of remaining 30,000 tonnes of limestone and importation of 600,000 tonnes of construction waste to complete restoration and export of 300,000 tonnes of secondary aggregate Tier 1, awaiting decision	North Yorkshire County Council	Stutton, Tadcaster, 1.2km east	Historic environment, landscape, biodiversity, socio-economics, health, agriculture, hydrology
91	18/01884/OUTM (outline), 20/00710/REMM (RM): Mixed-use development of up to 379,729 m2 of floorspace Gross External Area (GEA) primarily comprising up to 2,500 homes (Class C3), between 70,000 m2 and 87,693 m2 of office use (Class B1a), up to 11,991 m2 GEA of retail and leisure uses (Classes A1-A5 or D2), hotel with up to 400 bedrooms (Class C1), up to 12,120 m2 GEA of non-residential institutions (Class D1) for expansion of the National Railway	City of York Council	York Central Leeman Road York, 5km south-east	Landscape and visual, historic environment setting effects on receptors in York

ID	Development, Tier and status of consent	Local Authority	Location, Distance and Direction from Order Limits	Aspects with Potential for Significant Cumulative Effects
	Museum, multi-storey car parks and provision of community uses all with associated works. Tier 1, consented			
94	ST14: Land West of Wiggington Road - to deliver a sustainable garden village of approximately 1348 dwellings (1200 during plan period) (55Ha) Tier 3 (Allocation in the City of York Local Plan Publication Draft, February 2018)	City of York Council	2.5km east (located 1.5km east of Skelton)	Historic environment, landscape, socio-economics, agriculture, health, biodiversity
99	Site allocation for residential development (TAD2: 105 dwellings) Tier 3 (Allocation in Selby District Council Local Plan, Preferred Options Consultation 2021)	Selby District Council	600m east, located on western edge of Tadcaster	Historic environment, landscape, biodiversity, socio-economics, health, hydrology, geology and hydrology, agriculture, noise
102	2021/1502/SCN: EIA Screening opinion for a 104Ha solar farm with battery storage Tier 3, EIA screening only (no application submitted)	Selby District Council	Adjacent to Order Limits, south of Tadcaster	All aspects scoped into ES (except traffic and climate change)
107	18/02659/OUT: Battery storage facility Tier 1, consented	City of York Council	100m east of Osbaldwick Substation	All aspects scoped into ES (except traffic and climate change)
108	22/00015/FULM: Demolition of existing buildings and construction of office and light industrial	City of York Council	370m north of Osbaldwick Substation	All aspects scoped into ES (except traffic and climate change)

ID	Development, Tier and status of consent	Local Authority	Location, Distance and Direction from Order Limits	Aspects with Potential for Significant Cumulative Effects
	buildings. Tier 1, awaiting decision			
109	NY/2022/0102/ENV: Magnesium limestone extraction, processing plant, site restoration with infilling with inert waste. Tier 1, awaiting decision	North Yorkshire County Council	Within/adjacent to Order Limits north of A63, Monk Fryston	All aspects scoped into ES (except traffic and climate change)

Assumptions

18.6.3 The following assumptions have been made in the assessment of cumulative effects:

- It is anticipated, as for the Project, that other developments will implement best practice measures during their respective construction phases which will help to mitigate adverse effects during construction and avoid potential cumulative effects should construction periods overlap with that of the Project.
- The assessment has been completed based on information relating to the other developments which is available within the public domain.
- It is assumed for the purposes of this assessment that the other developments will be at least partly operational by the time the Project is fully operational.
- The traffic data used in the assessment of air quality and noise effects associated with the Project includes consideration of the Project together with the other developments.
- Measures required to mitigate likely significant negative environmental effects arising from the other developments alone will be adopted as part of the implementation of those schemes.
- Proposed development reference 2021/0789/FULM (battery storage development south of the existing Monk Fryston Substation) was refused consent and is currently undergoing appeal. For the purposes of the CEA, it is assumed that this development will be granted consent in order to undertake a reasonable worst-case approach to the assessment.

Assessment by aspect

18.6.4 A summary is provided below by aspect of the likely cumulative effects from the Project in combination with other developments. Further detail is provided in the ES chapters (**Chapters 6 to 17, Volume 5, Documents 5.2.6 to 5.2.17**).

Landscape and visual

18.6.5 The developments which have the potential for significant effects in cumulation with the Project in relation to landscape and visual Effects comprise the following:

- ID13: An agricultural unit that was consented and under construction at the time of the Project LVIA field assessment at Audby Manor Farm, Shipton by Beningbrough (20/01004/FUL);
- ID39: Consented battery storage scheme close to the existing Monk Fryston Substation (2021/0633/FULM);
- ID40: A larger proposed battery storage scheme close to the consented battery storage project at the existing Monk Fryston Substation. The scheme was refused planning permission by Selby District Council and an Appeal has been lodged but had not been determined at the time of writing (2021/0789/FULM);
- ID35: A proposed motorway services scheme on the A1(M) near Lumby (2019/0547/EIA); and
- ID109: A proposed quarry development near Lumby.

18.6.6 The assessment of cumulative landscape and visual effects with the Project as a result of the five schemes set out above is contained in **Table 18.10** below.

18.6.7 Other developments that have been considered and scoped out of a detailed cumulative assessment are set out below.

18.6.8 A mixed use development (ID71), Plantation Drive, York (14/02798/FULM (reclamation works, development platform), 15/00524/OUTM (100 dwellings, community uses, public open space). This scheme has been scoped out of the cumulative LVIA as the proposed development would be surrounded by established built development to the north-west and located 2.6km south-east of the closest part of the Project with no potential for cumulative visibility of both schemes. The conclusion is supported by analysis of the ZTV in **Figure 6.5, Volume 5, Document 5.4.6**, noting that the ZTV does not account for off-site tree planting that would be retained around Poppleton Substation.

18.6.9 A mixed use development (ID91), York Central, Leeman Drive (18/01884/OUTM (outline), 20/00710/REMM (RM): up to 2,500 dwellings and office, retail, leisure, hotel and other uses). The scheme has been scoped out of the cumulative LVIA as it would be surrounded by established built development and is located ~5km south-east of the closest part of the Project scoped into the LVIA with no potential for cumulative visibility of both schemes. This conclusion is supported by analysis of the ZTV in **Figure 6.5, Volume 5, Document 5.4.6.**

18.6.10 The proposed extension at Jackdaw Quarry (NY/2021/0098/A27) (ID85) is scoped out as the permitted extension to the south of the existing quarry would not be visible from the receptors where there are also views of the Project including the public bridleway at Viewpoint 22 (**Figure 6.62, Volume 5, Document 5.4.6**) and nearby public rights of way and scattered residential receptors;

18.6.11 The proposed extension at Newthorpe Quarry (NY/2017/0268/ENV) (ID88) is located ~2.7km north-west of the pylon changes that are part of the Project near junction 42 of the A1(M). Whilst there would be some localised significant effects upon visual amenity as a result of the operation of the quarry, due to topography these would be very

localised in extent with no potential for overlapping with any significant effects identified as part of the Project, in the vicinity of the A63 corridor.

18.6.12 Stutton Quarry (NY/2018/0009/FUL) (ID89) application for completion of infilling the disused quarry that is located ~1.5km southeast of the Project with no potential for cumulative visibility. This conclusion has been informed by reference to the ZTV at **Figure 6.7, Volume 5, Document 5.4.6** and review in the field from nearby public rights of way.

18.6.13 A proposed housing allocation at Tadcaster (TAD2 105 dwellings) (ID99) is ~1.9km north-east of the Project and development of this parcel would further restrict limited visibility of the Project (Minor Adverse Effect) from established properties on the edge of Inholmes Lane and no cumulative effects are predicted.

18.6.14 Proposed housing east of Skelton as a 'Garden Village' (ST14: Land West of Wiggington Road 1348 dwellings, 55Ha) (ID94) is located ~2.2km east of the 275kV SP overhead line east of Skelton and ~2.5km southeast of the 400kV YN overhead line. With reference to nearby viewpoints 5, 6 and 13, the ZTV at **Figure 6.3, Volume 5, Document 5.4.6** and review in the field it is assessed that the separation distance of the housing site from the Project, height of typical residential development and likely significant landscape mitigation to the boundaries as identified in the Council's Topic Paper[11] would not result in any potential for significant cumulative landscape and visual effects.

18.6.15 Proposed solar farm development with battery storage (2021/1502/SCN) (ID102): The closest part of the Project to this proposed development comprises the existing 275kV Monk Fryston to Poppleton XC overhead line where reconductoring only is proposed. Landscape and visual effects from reconductoring have been scoped-out of the assessment in agreement with the Planning Inspectorate which accepted that like for like replacement of existing wires and pylon fittings would be unlikely to have significant landscape and visual effects (**Appendix 5.3.6A, Volume 5, Document 5.3.6A**). Therefore the only potential for significant effects would be from the proposed solar farm and there is no potential for significant cumulative landscape and visual effects.

18.6.16 Development at Osbaldwick ((ID64) 19/01840/FULM: Erection of an energy storage facility, (ID107)18/02659/OUT Battery storage facility and (ID108) 22/00015/FULM: Demolition of existing buildings and construction of office and light industrial buildings): Effects from the proposed changes at Osbaldwick Substation are scoped out of the assessment as the minor changes proposed are such that there is no potential for landscape or visual effects to occur. This approach has been agreed with the Planning Inspectorate (**Appendix 5.3.6A, Volume 5, Document 5.3.6A**). Therefore the only potential for significant effects would be from the proposed developments around Osbaldwick and there is no potential for significant cumulative landscape and visual effects.

[11] City of York Council (2021). Topic Paper 1: Approach to defining York's Green Belt Addendum (2021) Annex 5: Freestanding Settlements (online). Available at: http s://www.york.gov.uk/downloads/file/6445/ex-cyc-54b-topic-paper-1-annex-5-freestanding-sites (Accessed October 2022).

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Table 18.10 - Assessment of cumulative landscape and visual effects

Agricultural unit at Audby Manor Farm, Shipton by Beningbrough (20/01004/FUL)	
Consented poultry shed description and landscape context	The consented poultry shed and ancillary development was under construction at the time of the landscape and visual assessment field survey. Viewpoint 10 (**Figures 6.40 and 6.41, Volume 5, Document 5.4.6**) was taken from the public bridleway, approximately 350m to the northwest of the poultry shed. The existing view illustrates the consented development under construction with the external shell completed but with ventilation units along the roofline to be constructed (note workmen in high visibility jackets on the building). The baseline development and closest part of the Project are located within the Huby and Shipton Vale Farmland Landscape Character Area (LCA) (**Figure 6.15**) that is assessed to have a Medium sensitivity (**Table 5.3.6E.3** in **Appendix 5.3.6E, Volume 5, Document 5.3.6E**). Visual receptors in the surrounding landscape are limited in number, as set out below.
Landscape effects resulting from the addition of the consented poultry shed only	No formal landscape and visual assessment accompanied the planning application, presumably as no significant effects were considered likely. No tree or hedgerow planting would be removed, and the poultry shed and ancillary structures would have a modest height and close relationship to the existing poultry shed, located to the north. There would be glimpses of the roofline and nearby silos of the completed new poultry shed on the skyline, set above an intervening hedgerow from part of the public bridleway to the northwest. It is assessed that the magnitude of change upon landscape character beyond the field in which the proposals is located within (no public access) would be up to a Low level, very localised and experienced along parts of the public bridleway to the north and northwest of the proposals and a short section of Corban Lane to the south. The magnitude of change when combined with a Medium landscape sensitivity would result in a **Minor Adverse Effect** that is **Not Significant**
Visual effects resulting from the addition of the consented poultry shed only	Views of the proposed development would be restricted to the public bridleway to the west and northwest and a short section of Corban Lane to the south. In the context of the existing poultry shed, the restricted visibility of the consented shed under construction would result in a maximum Low magnitude of change that from a high sensitivity public right of way results in up to a **Moderate Adverse Effect** that is **Not Significant**, accounting for the context of similar development to the north.
Cumulative landscape effects resulting from the addition of the Project to a baseline that	Due to the presence of multiple field boundary hedgerows with trees between the poultry shed and the Project (the closest Project elements comprising the Shipton Tee CSECs and new pylons proposed at the northern end of the 400kV YN overhead line) and a separation distance of over 700m, there is no potential for any overlapping of potentially significant landscape character effects within the Huby and Shipton Vale

includes the consented poultry shed.	Farmland LCA or any adjoining LCA/Landscape character types (LCT). The perception of a cumulative increase in man-made built development resulting from a combination of the poultry shed and the new pylons as part of the Project would be available from localised sections of a public bridleway (Viewpoint 10 in **Figures 6.40 and 6.41, Volume 5, Document 5.4.6**). The effects upon the LCA from both developments, where they could be perceived in combination would not be significant i.e., there would be **no significant** cumulative landscape character effects.
Cumulative visual effects resulting from the addition of the Project to a baseline that includes the consented poultry shed.	With reference to the photomontages at Viewpoint 10 (**Figures 6.40 and 6.41, Volume 5, Document 5.4.6**), the proposed pylons as part of the 400kV YN overhead line would be perceived as small vertical man-made elements on the skyline, over 1.8km distant and set in the context of existing pylons in the wider view. The pylons would be visible directly above and to the side of the poultry sheds, in combination with ventilation shafts and grain silos on the skyline of the completed poultry shed. The addition of the Project would not raise the overall magnitude above a Low magnitude, resulting in a **Moderate Adverse Cumulative** effect that is **Not Significant**, given the separation distance and noting the established baseline presence of existing pylons to the north, that are located much closer to the public bridleway users in the wider view.
Battery Storage Facility (2021/0633/FULM) off Rawfield Lane. The proposals were screened as not requiring an EIA. Consent was granted at appeal.	
Battery storage development description and landscape context	The site is 0.48 hectares, located to the south of the existing substation and includes an access track to Rawfield Lane and mitigation planting. The containers housing the batteries would be doubled stacked with an overall height of ~6m and surrounded by a 2.4m high security fence. The battery storage scheme is surrounded by landscape proposals that form part of the Outline Landscape Mitigation Strategy plan for the Monk Fryston proposed Substation as illustrated in **Figure 3.12, Volume 5, Document 5.4.3**. The scheme and the nearby Project are both located within the West Selby Limestone Ridge Landscape Character Area, assessed as having a Medium sensitivity to change (Table 6E.8 in **Appendix 5.3.6E, Volume 5, Document 5.3.6E**)
Landscape effects resulting from the addition of the battery storage development only	The Inspector states at paragraph 18 of his report[12] that *'I find that the presence of the substation alone is the dominating factor in the locality and the wider landscape, and the substation largely creates the character of*

[12] The Planning Inspectorate (2022). Appeal Decision for APP/N2739/W/22/3290256 Land South of Monk Fryston Substation, Rawfield Lane, Monk Fryston, Selby (online). Available at:

	the immediate locality, and the proposal would sit in this context, on a considerably smaller site area, and smaller overall impact than the substation' Whilst the Inspector does not reach conclusions on the level and geographical extent of any landscape character effects it is clear with reference to the ZTV evidence within the LVIA submitted by the applicant and knowledge of the Site from field assessment of the nearby Project, that the magnitude of change would be no greater than a Very Low to Low level beyond the Order Limits, predominantly confined to a localised area of the landscape to the south of the battery storage scheme that includes part of the public footpath and Rawfield Lane. With a Medium landscape sensitivity, the effect beyond the Order Limits would be Minor Adverse and Not Significant, limited to a localised area of land to the south of the battery storage development and would be perceived from a section of the public footpath and Rawfield Lane near the crossing of the A1 (M) corridor and extending north to the existing substation.
Visual effects resulting from the addition of the battery storage development only	The Inspector concludes in his report[12] that *'visually, the site is screened to a good degree with the presence of existing vegetation and the substation itself'*, but also notes the potential for ' visual harm' to views experienced by users of the public right of way to the south of the proposal (the level of harm is not quantified). Users of the public right of way would have a High sensitivity and users of Rawfield Lane a Medium sensitivity (**Tables 5.3.6G.93 and 5.3.6G.108** in **Appendix 5.3.6G, Volume 5, Document 5.4.6G**). The magnitude of change would be Low or less from both receptors, with heavily filtered views of the containers in winter, set in the context of the existing substation (Viewpoints 23 and 26 in **Figures 6.63 and 6.67, Volume 5, Document 5.4.6)**. The resulting maximum effect (at Year 0 Operation) would be **Minor Adverse** and **Not Significant** for users of Rawfield Lane and Moderate Adverse, from a localised section of the public footpath to the south of the existing substation that would be **Not Significant** in the context of the established substation and existing double line of pylons that cross the public right of way.
Cumulative landscape effects resulting from the addition of the Project to a baseline that includes the battery storage scheme	The geographical extent of significant effects upon landscape character from the Project is predominantly confined within the Order Limits (**Table 5.3.6F.8** – **Appendix 5.3.6F, Volume 5, Document 5.3.6F**) as a result of the construction and operation of the proposed substation, noting the affected area overlaps the battery storage scheme. Beyond the Order Limits, enclosed by existing woodland, proposed earth mounding and proposed woodland, the magnitude of change upon landscape character to the south of the Project (where potentially cumulative effects between the battery storage scheme and the Project may be

https://publicaccess1.selby.gov.uk/PublicAccess_LIVE/Document/ViewDocument?id=D96B4258A93E48C19DA42E929DDED866 (Accessed October 2022).

	experienced) would be Low accounting for limited visibility of both schemes, and the overall cumulative effect on the West Selby Limestone Ridge Local LCA would be **Minor** and **Not Significant**.
Cumulative visual effects resulting from the addition of the Project to a baseline that includes the battery storage scheme	A Medium magnitude of change and a Moderate Adverse effect that would be Significant would be experienced as a result of the Project from Rawfield Lane during Operation Year 0; with the increased height of new pylons and the effective expansion of the existing substation, most clearly perceived from the northern end of Rawfield Lane (Viewpoint 25 – **Figures 6.65 and 6.66, Volume 5, Document 5.4.6**) where the battery storage scheme would not be visible. Views of the battery storage scheme in combination with the Project would be available from the south to users of Rawfield Lane travelling north (Viewpoint 26 – **Figure 6.67, Volume 5, Document 5.4.6**) in addition to sequential visibility of different elements of the Project. The battery storage scheme would not make a significant contribution to the overall magnitude of change and the visual impact of the Project in its own right only would be Significant i.e., there would be **no significant** cumulative effect. Views experienced by users of the public footpath (Viewpoint 23 in **Figures 6.63, Volume 5, Document 5.4.6**) of the Project and the battery storage scheme in combination would be available from a localised stretch of the footpath at this isolated location. The two schemes in combination would represent a Low magnitude and a **Moderate Adverse Cumulative Effect** that would be **Not Significant** in the context of the established substation and existing double line of pylons that cross the public right of way.
Battery Storage Scheme, Rawfield Lane (2021/0789/FULM). The proposals were screened by Selby District Council as not requiring an EIA. At the time of writing (October 2022) the application was subjection to an appeal by Hearing scheduled for November 2022. Reference is made to the LVIA submitted with the application, although assessment conclusions are reached independently from field assessment and relevant photoviewpoints prepared for the Project comprising Viewpoints 23, 26 and 27 (Figures 6.63, 6.67 and 6.68).	
Battery storage development description and landscape context	The site is 5 hectares, located to the south of the existing substation and includes an access track to Rawfield Lane and mitigation planting. The development would have a maximum height of 10.8m although majority of infrastructure would be 2.63m tall. The scheme would be bounded by existing planting along parts of the northern, western and eastern boundaries and new planting to the south. The scheme and the nearby Project are both located within the West Selby Limestone Ridge Landscape Character Area, assessed as having a Medium sensitivity to change (**Table 5.3.6E.8** in **Appendix 5.3.6E, Volume 5, Document 5.3.6E**)
Landscape effects resulting from the addition of the battery storage development only	There would be a significant direct effect on the landscape character of the battery storage development site itself, largely comprising arable land adjacent to belts of existing woodland planting that lie to the south of the existing Monk Fryston Substation. The geographical extent of a High to Medium magnitude of change and Major/Moderate to Moderate Adverse and Significant effect at Operation Year 0 would extend beyond the

	battery storage site south across open arable farmland, although the geographical extent of significant effects would be very localised and limited by a natural change in landform (Refer to Figure 7 Screened ZTV of the Arcus LVIA[13]). The establishment and growth of a native hedgerow and woodland planting along the southern edge of the scheme would limit residual significant effects upon landscape character to the footprint of the battery storage development only. The magnitude of change from the wider West Selby Limestone Ridge LCA including indirect effects experienced to the west and south would be Low to Very Low with a **Minor Adverse Effect** that is **Not Significant**.
Visual effects resulting from the addition of the battery storage development only	Users of the public right of way to the south of the Site would have a High sensitivity and users of Rawfield Lane a Medium sensitivity (**Tables 5.3.6G.93 and 5.3.6G.108** in **Appendix 5.3.6G, Volume 5, Document 5.3.6G**). The magnitude of change would be High to Medium at Year 0 in close proximity to the battery storage development (Viewpoint 23 in **Figure 6.63, Volume 5, Document 5.4.6**) but apart from this localised section of the footpath the proposals would typically form a very small part of the wider view that includes the existing substation and many pylons further afield (Viewpoints 26 and 27 in **Figures 6.67 and 6.68, Volume 5, Document 5.4.6**). The resulting maximum effect (at Year 0 Operation) would be Major Adverse and Significant for users of the public footpath along the southern boundary of the battery storage development and Minor Adverse and Not Significant, from parts of Rawfield Lane where the development would be perceived in the context of the established substation and pylons that are already represent dominant man-made elements in the view. At Year 15, following establish of the perimeter planting, views in winter of the nearby storage containers are predicted to be largely screened, resulting in a Low to magnitude of change and a **Moderate Adverse Effect** that is **Not Significant** as whilst the open nature of views north would be lost (including views of the existing substation) for a localised section of the footpath (less than 180m), open views across the rural landscape to the south would be unaffected.
Cumulative landscape effects resulting from the addition of the Project to a baseline that includes the battery storage scheme	The geographical extent of residual significant effects upon landscape character from the Project would be predominantly confined within the Order Limits as a result of the proposed substation (**Table 5.3.6F.8** – **Appendix 5.3.6F, Volume 5, Document 5.3.6F**). The localised Significant effects identified as a result of the battery storage scheme, as perceived from ~180m length of the public footpath (Viewpoint 23 in **Figure 6.63, Volume 5, Document 5.4.6**), would be seen in combination with the Project, noting changes to landscape character from the latter would only contribute a low magnitude of change and may not be perceived in the

[13] Arcus (undated). Screened ZTV, Figure 7. Monk Fryston Zero-Carbon Energy Storage and Management Facility Landscape and Visual Appraisal (online). Available at: https://publicaccess1.selby.gov.uk/PublicAccess_LIVE/Document/ViewDocument?id=AEFAA9E67AA041039FB1CE9141E61E9E (Accessed October 2022).

	context of the foreground battery storage development. The adverse effect upon landscape character at Year 0 is only Significant as a result of the battery storage scheme (that would be Significant regardless of the presence of the Project). The effects upon landscape character in the wider landscape, considering the context of the existing substation and pylons would Minor and Not Significant. The growth of landscape mitigation along the southern boundary of the battery storage scheme would result in a Low magnitude of change adjacent to the southern boundary at Year 15, screening views of the Project and **no significant residual cumulative effects** upon landscape character are predicted for the wider landscape beyond the footprint of both developments.
Cumulative visual effects resulting from the addition of the Project to a baseline that includes the battery storage scheme	Views of the battery storage scheme in combination with the Project would be available to the south from users of Rawfield Lane travelling north (Viewpoint 26 – **Figure 6.67, Volume 5, Document 5.4.6**) in addition to sequential visibility of different elements of the Project. Due to existing planting and the embankment to the west of the battery storage scheme the intermittent visibility of low level containers would not make a significant contribution to the overall magnitude of change and the visual impact of the Project in its own right would also be Not Significant. Therefore there would be **no significant cumulative effects**. Views experienced by users of the public footpath (Viewpoint 23 in **Figures 6.63, Volume 5, Document 5.4.6**) of the Project and the battery storage scheme would be available from a localised stretch of the footpath at this isolated location for ~180m, in combination, represent a High to Medium magnitude and a **Major Adverse Cumulative Effect** that would be **Significant** as a result of the battery storage scheme (noting effects would be Significant regardless of the presence of the Project). Following the growth of mitigation planting along the southern boundary of the battery storage scheme the views of the Project and the majority of the closer battery storage scheme would be screened from the public footpath.
Proposed motorway services on the A1(M) (2019/0547/EIA). Reference has been made to the submitted LVIA[14] including computer generated visualisations to inform the likely extent of significant landscape and visual effects and the extent of any cumulative effects with the Project.	
Proposed motorway services description and landscape context	The 5-hectare site located directly off the western roundabout at Junction 42 of the A1(M) and bounded by the A63 to the south the A1(M) to the east, an access road to a hotel to the west and planting on both sides of a farm track to the north. Reference has also been made to ZTVs of the Project at **Figures 6.8** and **6.9**

[14] Leeming Associates (2022). Proposed motorway service area MSA Selby fork Junction 42 A1(m) North Yorkshire. Landscape and Visual Assessment (LVIA). (online) Available at: https://publicaccess1.selby.gov.uk/PublicAccess_LIVE/Document/ViewDocument?id=5C9F8E854FF44409A5A0BAF31BC5C4B6 (Accessed October 2022).

	and Viewpoint 27 in **Figure 6.68 (Volume 5, Document 5.4.6).** The motorway services would be located in the same West Selby Limestone Ridge local LCA as the Project, assessed as having a Medium sensitivity to change (**Table 5.3.6E.8** in **Appendix 5.3.6E, Volume 5, Document 5.3.6E**).
Landscape effects resulting from the addition of the motorway services development only	The application site would be significantly affected given the proposed change from agricultural field to built development, however the impact on the West Selby Limestone Ridge LCA of Medium sensitivity, beyond the application site would be limited. The geographical extent of change would be limited by the modest height of the new built development and retention of much of the peripheral planting. The geographical extent where a Low to Very Low magnitude of change and a Minor Effect that is Not Significant is predicted to extend south and east of the site in the vicinity of Junction 42 of the A1(M) to include the A1(M) and A63 corridors and parts of the local PRoW network that are already heavily influenced by highway infrastructure, with views outward typically contained by hedgerow planting.
Visual effects resulting from the addition of the motorway services development only	Users of the A63 and A1(M) in close proximity to the Site of Medium sensitivity would experience fleeting views, comprising a Low magnitude of change and a Minor Adverse Effect that is Not Significant. Users of public rights of way located within or adjacent to the Site would experience Medium to High but very localised magnitude of change. PRoW users would be of High sensitivity and the changes would result in a Major to Major/Moderate Adverse effects that would be Significant during construction and Year 0, reducing to a Moderate Adverse Effect or lower that is Not Significant by Year 15 following the growth of the landscape mitigation scheme. The magnitude of change upon users of the public rights of way east of the A1(M) including Red Hill Lane would be Very Low resulting in a **Minor Adverse Effect** that is **Not Significant**.
Cumulative landscape effects resulting from the addition of the Project to a baseline that includes the motorway services scheme	The replacement of pylons along the A1(M) would have a limited impact relative to the baseline with localised removal and trimming back of vegetation southeast of junction 42 and replacement of pylons in a similar location with the new pylons ~15m higher than those removed. Given the low level nature of the motorway services and the separation by the A1(M) on embankment the overall magnitude of landscape change in the vicinity of junction 42 beyond the site of the motorway services scheme would be Low and the overall cumulative landscape effect on a Medium sensitivity landscape, from the presence of both schemes **Minor Adverse** and **Not Significant**.
Cumulative visual effects resulting from the addition of the Project to a baseline that includes the motorway services scheme	The replacement of existing pylons with taller pylons along the A1(M) corridor as part of the Project would be perceived by users of the A1(M), A63 and local PRoW as typically having a Low magnitude of change and a Minor adverse effect (Viewpoint 27 at **Figure 6.68, Volume 5, Document 5.4.6**). Given the Very Low magnitude of visual change as a result of the motorway services scheme beyond the perimeter and immediate vicinity of the Site it is predicted that cumulative effects of a sequential and potentially combined

	nature would occur with the overall magnitude of change not exceeding a Low level, with a Minor to Moderate Adverse effect that would be **Not Significant**, considering the presence of other pylons, unaffected by the Project, on high voltage lines to the east and west of the A1 (M).
Quarry scheme comprising Magnesium limestone extraction, processing plant, site restoration with infilling with inert waste. Tier 1, awaiting decision (NY/2022/0102/ENV): Reference has been made to the submitted LVIA[15].	
Quarry development description and landscape context	The site comprises two fields of arable farmland covering 17.5 ha, located west of junction 42 of the A1(M) and north of the A63 onto which existing (and proposed) access to the Site is obtained. Proposal comprises extraction of limestone utilising a mobile processing plant and other ancillary features (wheel wash, office, workshop, areas of parking and storage). Restoration of site would be near to pre-extraction levels and landcover would be reinstated to farmland and semi-natural habitats. Mitigation measures during construction include perimeter screen bunds and the mobile processing plant and other ancillary development would be located in the base of the quarry below ground level.
Landscape effects resulting from the addition of the quarry scheme only	The site is located within the West Selby Limestone Ridge LCA and Landscape of Local Landscape Importance (LILA). Given the relatively modest size of the site, the location of extractive activity below existing ground level and screening provided by perimeter bund, there would be no significant adverse effects upon the wider rural landscape character beyond the site boundary.
Visual effects resulting from the addition of the quarry scheme only	Receptors also scoped into the Yorkshire GREEN Project where the quarry scheme would have a Moderate or Moderate/Minor effect during the operational phase, and consequently the potential to make a notable contribution to potentially significant cumulative visual effects are users of the bridleway along Red Hill Lane, residents of Lumby, Peckfield Lodge, Monk Fryston Lodge and Pollums House Farm, and users of the A63 and Rawfield Lane.
Cumulative landscape effects resulting from the addition of the Project to a baseline that includes the quarry scheme	The replacement of pylons along the A1(M) would have a limited impact relative to the baseline with localised removal and trimming back of vegetation south-east of junction 42 and replacement of pylons in a similar location with the new pylons ~15m higher than those removed. Given the low-level nature of the quarry scheme, largely below ground level and the separation by the A63 corridor and perimeter screen mounds there would be no overlap of significant landscape character effects during any phase of the quarry scheme

[15] David Jarvis Associates (2022). Stone cliff aggregates. Proposed extraction of limestone with restoration back to existing ground levels through backfill with inert materials on land off the A63, Lumby, North Yorkshire. Landscape and visual impact assessment (online) Available at: https://onlineplanningregister.northyorks.gov.uk/Register/PlanAppDisp.aspx?recno=11568 (Document Tab, page 3). (Accessed October 2022).

	and the Project. The overall cumulative landscape effect on a Medium sensitivity landscape, from the presence of both schemes would be **Minor Adverse** and **Not Significant**.
Cumulative visual effects resulting from the addition of the Project to a baseline that includes the quarry scheme	Users of PRoW along Red Hill Lane would experience a Low magnitude of change and a Moderate adverse effect as a result of the Project that would be Not Significant. Partial visibility of the quarry would also result in localised Moderate adverse effects during operation. The addition of the Project would not raise the overall magnitude of change to a level where the combined visual effect would be Significant i.e. the cumulative effect would be **Not Significant**. A similar conclusion is reached with respect to nearby high sensitivity receptors in Lumby. The Project would be barely discernible from Peckfield Lodge (very low magnitude) and consequently whilst combined visibility cannot be ruled out with the quarry scheme the cumulative effects would be **Not Significant**. Residents of Monk Fryston Lodge (the farmhouse only) and Pollums House Farm would experience views of the Project that would be Significant (only during the construction phase for the farmhouse at Monk Fryston Lodge). The quarry scheme would have restricted visibility from these receptors and would have a low magnitude of change and consequently any visual effects would only be significant as a result of the Project and cumulative effects would be **Not Significant**. Views from the A63 and Rawfield Lane would be significant as a result of the Project during construction and the early years of Operation before mitigation planting becomes established. The operation of the quarry scheme would be largely screened by perimeter bunding and whilst some non-significant effects upon visual amenity may occur from the A63 and Rawfield Lane, sequential cumulative visibility with the Project would be fleeting in nature and the cumulative effect **Not Significant.**

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Historic environment

18.6.17 Cumulative effects on heritage assets can arise either because of:

- loss of or disturbance to heritage assets or areas of heritage interest arising from construction or other activities related to more than one development; or
- increased harm to the setting of a heritage asset as a result of more than one development.

18.6.18 The CEA short list (**Table 18.9**) has identified a number of residential and mixed use developments in and around Tockwith (ID 2 to 5, 8 and 10), approximately 2.6km to 3.6km from the Order Limits which have the potential for cumulative effects, in combination with the Project, on Marston Moor Registered Battlefield. In this area the works being undertaken as part of the Project would comprise reconductoring of the existing Monk Fryston to Poppleton XC 275kV overhead line. As the overhead line is already present in the landscape, no permanent significant adverse effects are predicted to arise as a result of change to setting of the registered battlefield as a result of Yorkshire GREEN and consequently no adverse cumulative effect is anticipated from the Project and the developments consented and/or proposed around Tockwith. During construction **Chapter 7: Historic Environment, Volume 5, Document 5.2.7** has concluded that adverse effects would arise only through very limited disturbance during construction and that the setting of the asset would not be affected. This disturbance is predicted to affect only previously disturbed areas of the battlefield and would be of such negligible magnitude that no cumulative adverse effect would arise. (**Section 7.22, Volume 5, Chapter 7: Historic Environment, Volume 5, Document 5.2.7**).

18.6.19 Development ID13, an agricultural unit in Shipton by Beningbrough 780m west of the Order Limits, would not result in significant cumulative effects. The agricultural character, low height and location of this development adjacent to existing agricultural structures means that it is not considered that it would give rise to any change to setting of heritage assets that would also be affected by the Project.

18.6.20 A number of developments are proposed in the area around the proposed Monk Fryston Substation (ID 35, 39, 40, 109). The character and location of the proposed developments further from the substation (Lumby motorway services on the A1(M) (ID35) and mineral extraction development (ID109)) mean that it is not considered that they would give rise to any change to setting of heritage assets that would also be affected by the Project. The ES for the mineral extraction development[16] concludes the following for heritage assets which have also been assessed as part of the Yorkshire GREEN EIA:

- Steeton Hall (Scheduled monument and Grade I listed gatehouse): Setting effects would be mitigated through the implementation of a bund around the extraction area and therefore although short-term minor adverse effects could occur at the start of the operational phase, effects would lower to no effect post-restoration. The assessment in **Chapter 7 Historic Environment (Section 7.39, Volume 5, Document 5.2.7)** concludes no significant effects on this asset given the separation distance between the Project and the asset. At this location the Project comprises reconductoring to the existing XC overhead line and most views of and from these assets are confined to shorter distances, with longer views towards the existing XC

[16] Avison Young on behalf of Stone Cliff Aggregates Ltd (2022). Limestone Quarry Development – Lumby. Avison Young; Toronto.

overhead line restricted by topography and planting including hedgerows and mature trees. Therefore, significant cumulative effects would not occur.

- Grade II Listed Monk Fryston Lodge: no setting effects would occur given the lodge is separated from the mineral extraction development by a number of un-designated buildings contained within the farmstead. **Chapter 7, Volume 5, Document 5.2.7 (Section 7.43)** also concludes no significant effects on this asset and any change would be of negligible magnitude and therefore significant cumulative effects would not occur.

18.6.21 The battery storage developments proposed around the existing Monk Fryston Substation (ID 39, 40) are unlikely to result in significant cumulative effects. The Planning Officer's comments[17] (development ID39, 2021/0633/FULM) from Selby District Council in relation to the planning appeal for this development states "*Although a separate Heritage Impact Assessment has not been submitted, the Heritage Assets have been considered within the Planning Statement with the application and the development is not considered to affect the setting of these assets. The Council's Conservation Officer comments that the location of the existing substation to the north of this site will significantly reduce the impact of the presence of this facility in the land surrounding the listed building. Additionally, tree cover and topography is likely to screen from view the installations, or the installation will be seen in the context of the existing facility. If this is the case, the impact on the setting of the listed building* [Grade II Monk Fryston Lodge] *is likely to be very low / low (and therefore the impact on significance of the listed building would be negligible).*" For development ID40 (2021/0789/FULM) the Heritage Statement[18] states that due to the presence of hedgerows and tree-lined field boundaries, there is limited to no visibility from the heritage assets in its study area to the north, east and south of the proposed development. Intervisibility would be further limited by the implementation of a landscape mitigation plan that enhances field boundaries within and around its study area so that the cultural significance of the designated heritage assets is unaffected. This indicates that at most, any change to the setting to the Grade II listed Monk Fryston Lodge from developments ID39 and 40 would be of negligible magnitude and screened from this receptor by the existing Monk Fryston Substation and existing and proposed trees and hedgerow. It is not considered that the possible audibility of construction noise during some phases of substation construction would interact with the potential visibility of other developments and therefore no adverse significant effect is predicted to arise during the construction of the Project (**Section 7.43, Chapter 7, Volume 5, Document 5.2.7**). As no lasting effects on Monk Fryston Lodge are predicted to arise following the completion of construction, it is not considered that a cumulative adverse effect would arise during operation of the Project.

18.6.22 No adverse effects are predicted to arise as a result of change to setting of Towton registered battlefield caused by the Project and consequently no adverse cumulative effect is anticipated from the proposals for a community park space (ID42) in this area.

[17] Selby District Council (2021). Appendix A – Case Officers Report (online). Available at: https://publicaccess1.selby.gov.uk/PublicAccess_LIVE/Document/ViewDocument?id=48EF33A864ED4873A7265201E0C673D6 (Accessed October 2022)

[18] Arcus (2021). Monk Fryston Zero-Carbon Energy Storage and Management Facility Heritage Statement: Cultural Heritage Report Number: 20160. (online) Available at: https://publicaccess1.selby.gov.uk/PublicAccess_LIVE/Document/ViewDocument?id=B17DC340794D469099C913F1EE48787F (Accessed October 2022)

18.6.23 Proposed works to the existing Stutton, Newthorpe and Jackdaw quarries (ID85, 88, 89) are not anticipated to present sufficient change in the baseline of any heritage assets affected by Yorkshire GREEN to give rise to any discernible cumulative effect.

18.6.24 A number of mixed-use developments and allocations are proposed around York (ID71, 91, 94) and Tadcaster (99). The nature and location of these proposed developments means that they are not anticipated to give rise to any adverse effects to heritage assets that would be affected by the Project. These developments would not disturb archaeological sites or features that would also be disturbed by the proposed development, and are sufficiently distant from heritage assets that may be affected by change in their setting arising from Yorkshire GREEN that no cumulative effect is anticipated.

18.6.25 A number of developments are also proposed around Osbaldwick Substation (ID64, 107, 108). No heritage assets in the area around Osbaldwick would be affected by the minor works proposed at Osbaldwick Substation and none have been scoped in to the assessment. Therefore, significant cumulative effects from Yorkshire GREEN combined with the proposed developments are unlikely.

18.6.26 An EIA screening request for 104Ha solar farm with battery storage (2021/1502/SCN) has been made to Selby District Council. While this proposed development would be located in relatively close proximity to the Project, the overhead line is already present and the proposed reconductoring would not present sufficient change in the setting of heritage assets in this area to give rise to any adverse effect. No adverse effect is predicted to arise from the construction and operation of Yorkshire Green on Towton battlefield or the Medieval manorial complex, garden and water management features, St Mary's chapel, and a linear earthwork forming part of the Aberford Dyke system (NHLE 1020326). Consequently, no adverse cumulative effect is anticipated to arise.

Biodiversity

18.6.27 Information submitted in support of the proposed developments in **Table 18.9** in and around Tockwith (ID 2 to 5, 8 and 10), in summary and where available, indicates the following with regards to baseline ecological conditions and mitigation proposed as part of those developments.

- Development ID2: Significant adverse impact on ecological receptors is unlikely[19].
- Development ID3 and ID4: The proposed development sites support moderately species rich grassland, broad-leaf woodland and open mosaic on previously developed land[20]. No evidence of protected species was noted, and reptile surveys[21] did not record any reptiles. Hedgehog may be present. The design retains the woodland, and creation of new wildflower habitats mitigate for the loss of open mosaic on previously developed land and grassland.

[19] Paul Chester and Associates, (2020). Land at Church Farm, Tockwith. Updated Ecological Walkover Survey and Assessment. PCAJ174/UWS/V2.
[20] Brooks Ecological (2018). Preliminary Ecological Appraisal Report. Southfield Lane, Tockwith. R-3559-01. Brooks Ecological; Leeds.
[21] Brooks Ecological (2018). Reptile Survey. Southfield Lane, Tockwith. R-3559-02. Brooks Ecological; Leeds.

- Development ID5: The proposed development site supports species-poor semi-improved neutral grassland, hedgerows, and mature scattered trees[22]. The habitats on site are largely sub-optimal for notable and protected species, while bat surveys did not record evidence of bats with very low activity across the site[23].
- Development ID8: The proposed development site supports habitat of low ecological value, with higher value habitat such as woodland and hedgerow largely being avoided[24] . No otters were recorded during the survey[25], and the bat activity surveys suggest the site is of importance to low numbers of common species[26]. Mitigation is not considered necessary as there is a net gain due to the design of the scheme.
- Development ID10: The proposed development site supports moderately species rich grassland, broad-leaf woodland and open mosaic on previously developed land[20]. No evidence of protected species was noted, and reptile surveys did not record any reptiles[21]. Hedgehog may be present. The design retains the woodland, and creation of new wildflower habitats mitigate for the loss of open mosaic on previously developed land and grassland.

18.6.28 None of the above developments were subject to EIA and therefore there is no assessment of significance of effects. However, based on the available baseline information, the need for these proposed developments to comply with legislation and planning policy and that, where required, mitigation measures will be implemented as part of these developments it is considered that no significant adverse effects are likely. **Chapter 8: Biodiversity (Volume 5, Document 5.2.8)** concludes the Project would have no significant adverse effects on biodiversity. These developments are between 2.6km and 3.6km west of the Project. If any of the construction periods for these developments overlapped with the construction phase for the Project (which comprises the reconductoring of the 275kV Monk Fryston to Poppleton XC overhead line at the nearest location to Tockwith) significant cumulative adverse effects from construction works (noise, lighting, dust) are considered unlikely taking into account the intervening distance and implementation of standard construction management measures. Significant cumulative adverse permanent effects are also considered unlikely taking into account intervening distance, baseline conditions at the proposed development sites and embedded measures and mitigation proposed as part of the Project and proposed developments respectively.

18.6.29 Proposed development site ID13 (agricultural shed) is surrounded by arable land and pasture that are common and widespread and are considered to be of low intrinsic biodiversity value[27]. The Preliminary Ecological Assessment (PEA) for this development sets out recommendations for mitigation such that there would be no net loss to biodiversity. Taking this into account, the distance between the proposed development and Project Order Limits (780m), embedded measures within the Project and that

[22] Brooks Ecological (2014). Ecological Appraisal Land off South Field Lane, Tockwith. R-2083-01. Brooks Ecological; Leeds.
[23] Brooks Ecological (2015). Bat Survey. Land off South Field Lane, Tockwith. R-2083-02. Brooks Ecological; Leeds.
[24] Brooks Ecological (2018). Preliminary Ecological Appraisal Report. Marston Business Park, Tockwith. R-3214-01. Brooks Ecological; Leeds.
[25] Dryad Ecology (undated). Otter Survey Report. Dryad Ecology; York.
[26] Dryad Ecology (undated). Bat Survey Report. Dryad Ecology; York.
[27] Mowbrey Partnership (2020). Preliminary Ecological Appraisal. Audby Manor Farm, Shipton By Beningbrough, North Yorkshire.

Chapter 8 Biodiversity (Volume 5, Document 5.2.8) concludes no significant effects indicates that no significant cumulative effects are likely.

18.6.30 Baseline surveys for Development ID 35 note that Lumby Meadow, a deleted SINC, is within the site of this proposed development, but the species data obtained from the survey did not meet the requirements set by the site selection guidelines to be designated a SINC[28]. No evidence of protected species was recorded during survey work, but some common bird species were noted. The ES assessed the residual impacts upon ecological receptors from minor adverse to minor beneficial and no significant effects and no cumulative effects were identified[29]. Given the distance between the proposed development (200m west) to the Project, which at the closest location comprises works around Monk Fryston Substation, the presence of the A1(M) between the Project and the proposed development, baseline conditions and proposed mitigation for the proposed development, embedded measures included as part of the Project and that **Chapter 8: Biodiversity (Volume 5, Document 5.2.8)** concludes no significant effects, significant adverse cumulative effects are unlikely.

18.6.31 Of the two proposed developments located south of Monk Fryston Substation, the site of proposed development ID 39 mostly comprises arable land, grazed or mown amenity/semi -improved grassland, species poor hawthorn hedgerow with large gaps, scrub, and woodland. Habitats are largely considered to be of low value to wildlife and provide very limited value in terms of habitat or connectivity in the landscape[30]. Proposed enhancements as part of the development would result in a biodiversity net gain of 53.92% for habitats and 194.20% for hedgerows. The proposed development falls within the Project Order Limits, with the battery storage facility to be positioned within improved grassland, but outside the Project working area. Access to the proposed development would be through poor semi-improved grassland and broadleaved woodland/scrub. The proposed development Tree Protection Plan[31] indicates that there would be no tree loss as a result of the proposed development access.

18.6.32 Construction of the proposed development is expected to commence prior to the Project with a temporal overlap in 2024, however the construction working area of the Project and proposed development do not overlap. Although the Project and proposed development could impact on the same ecological receptors, this is restricted to the temporary loss of improved grassland, and the permanent loss of a ~165m section of species-poor defunct hedgerow as a result of the Project that the proposed development will also bisect for access. There should be no impact of the Project on the habitat creation and reinstatement proposed as part of the proposed development. Thus, it is considered there will be a negligible effect with no permanent significant adverse cumulative effects.

18.6.33 For proposed development ID40, a small area of semi-improved neutral grassland, hedgerow and scrub would be lost as a result of the proposed development[32] but the

[28] Smeeden Foreman (2019). Ecological Assessment. Selby Fork, North Yorkshire. Smeeden Foreman; Harrogate.
[29] Smeeden Foreman (2022). Second Addendum to the Environmental Statement. Selby Motorway Service Area, Junction 42 off A1(M). Smeeden Foreman; Harrogate.
[30] Avian Ecology (2021). Ecological Assessment. Monk Fryston Battery Storage Facility. Avian Ecology, Lower Stretton.
[31] Arbtech 2021). Tree Protection Plan, Arbtech TPP 01. Arbtech; Chester.
[32] Arcus (2021). Ecological Impact Assessment. Monk Fryston Zero-Carbon Energy Storage and Management Facility. Arcus; York.

Ecological Impact Assessment concludes that there would be no significant adverse ecological impacts in the absence of mitigation. Habitat creation and enhancements including native hedgerow, woodland and scrub planting, swale and wildflower grassland are proposed providing significant benefits to ecological features present on site and in the local area. Reptile and GCN eDNA surveys indicate the likely absence of reptiles and the presence of GCN in a pond. It is estimated the habitat enhancements and creation will result in a gain of 15% habitat units and 81.37% hedgerow units.

18.6.34 The site boundary of the proposed development and the working area of the Project would not overlap, with the zero-carbon energy storage to be positioned immediately south of the Project's working area. Based on the landscape and biodiversity mitigation plans[33], it is considered therefore that the habitat creation and reinstatement proposals for the proposed development can be implemented regardless of what phase the Project is at.

18.6.35 Any habitats to be temporarily lost as a result of the Project will be reinstated upon completion of the works. The proposed landscape strategy (**Figure 3.12, Volume 5, Document 5.4.3**) has taken into account the layout, design and proposed ecological planting for proposed development ID39. The Project and other proposed developments at Monk Fryston Substation could impact on the same ecology receptors, with construction works occurring at the same time, however impacts are only expected on ecologically low value habitats such as improved grassland and species-poor defunct hedgerow. Thus, it is considered that significant adverse cumulative effects are unlikely.

18.6.36 No ecological reports are available for proposed development ID42. However as this comprises the change of use of an agricultural field to a community park and is 2.3km east of the Project at its closest point, significant cumulative adverse effects are unlikely.

18.6.37 Baseline reports for proposed development ID64 located south-east and adjacent to Osbaldwick Substation indicate that impacts within its site would be restricted to the permanent loss of areas of semi-improved and marshy grassland and possibly the mature white poplar, which offer some local ecological interest and biodiversity value[34] but only low impacts on biodiversity receptors are envisaged. No evidence of protected species was recorded, although some common bird species were noted. Native species planting is proposed which would be secured by way of planning condition. Given the baseline results, proposed mitigation and that the works proposed as part of the Project at this location are limited (installation of a new circuit breaker and isolator along with associated cabling, removal and replacement of one gantry and works to one existing pylon mostly within operational land) significant cumulative adverse effects are unlikely.

18.6.38 No ecological information is available for proposed development ID107, a small-scale battery storage development located east of Osbaldwick Substation. The site layout plan indicates hedgerow planting will be provided as part of the proposed development and as it was granted consent in 2018 it is assumed that construction phases will not overlap. Given the minor nature of the Project works at Osbaldwick Substation and proposed mitigation, significant cumulative effects are unlikely.

18.6.39 Proposed development ID108 comprises demolition and existing and replacement offices and light industrial premises. The proposed development will not directly impact

[33] Arcus (2021). Monk Fryston Zero-Carbon Energy Storage and Management Facility. Landscape and Biodiversity Mitigation Plan. Arcus; York.
[34] Avian Ecology (2019). Ecological Assessment. Land at Osbaldwick, York. Avian Ecology, Lower Stretton.

on identified habitats of wildlife value being largely restricted to hardstanding[35], and there is unlikely to be a significant effect on bats from additional lighting. No evidence of protected species have been recorded, although some common bird species noted. Given the nature of the proposed development and baseline conditions, distance to the site (370m north), minor nature of the Project at this location and the implementation of standard construction management measures significant adverse cumulative effects are unlikely.

18.6.40 The ES for proposed development ID71, a mixed use development on the north-western edge of York, assesses the residual impacts following implementation of mitigation of the development as either negligible or beneficial impact of slight significance on ecological receptors[36]. An updated ecological appraisal concludes there are no changes to the level of significance of impacts[37]. Given these conclusions and the distance to the Project (2.5km) and implementation of standard construction management measures and embedded measures for both the Project and proposed development, it is considered that significant adverse cumulative effects would be unlikely.

18.6.41 The EIA screening report[38] for proposed development ID72 (Newlands Lane Quarry) states that there is an absence of protected habitats and species and that it is unlikely there would be any significant effects upon biodiversity. Furthermore, ecology is not considered or assessed within the ES[39]. On this basis and given the distance of this proposed development from the Project (1.8km south) it is considered unlikely that significant adverse cumulative effects would occur.

18.6.42 No ecology information is available for proposed development ID85 (reserved matters for extension to Jackdaws Quarry) other than a badger survey as part of planning conditions which did not record any evidence of badger. Significant cumulative adverse effects during the construction phase of the Project, which is likely to overlap with the operation of the quarry extension are considered unlikely given the implementation of embedded measures and distance to the quarry extension to the south of the current quarry workings (500m south-east).

18.6.43 The ecological impact assessment for proposed development ID88 (extension to Newthorpe Quarry) assesses that following the implementation of mitigation, compensation and enhancement works, the proposed quarry development will in the medium to long term have a positive effect upon habitats of County Value[40] . Significant cumulative adverse effects during the construction phase of the Project, which is likely to overlap with the operation of the quarry are considered unlikely given the implementation of embedded measures and distance to the quarry (1km west).

18.6.44 The ecological impact assessment for proposed development ID89 (quarry extraction and restoration, Stutton, Tadcaster) concludes that following the implementation of

[35] MAB Environment and Ecology Ltd (2021). Ecological Impact Assessment. Shouksmith Properties LTD Osbaldwick. Rev 1. MAB Environment and Ecology Ltd; Thirsk.
[36] Rapleys LLP (2014). Chapter 11. Ecology and Conservation – York Former British Sugar Site and Former Manor School Link Road Site. Rapleys; London.
[37] Arcadis (2020). Ecological Appraisal. British Sugar; York
[38] MEWP (2019). Report to Accompany a Request for the EIA Screening Opinion of the Local Planning Authority.
[39] MEWP (2021). Environmental Statement Volume 1 – Written Statement.
[40] RDF Ecology (2019). Ecological Impact Assessment. Newthorpe Quarry, Sherburn in Elmet, North Yorkshire Waste Recycling and restoration by Infill. RDF Ecology; Rotherham.

mitigation, compensation and enhancement works, there will be short term negative ecological impacts at the local level, with long-term ecological impacts likely to be negligible, with the potential for a minor positive impact as a result of the creation of a new ecologically beneficial wetland habitat and the slowing down of the process of natural succession across the site[41]. Significant cumulative adverse effects during the construction phase of the Project, which is likely to overlap with the operation of the quarry are considered unlikely given the implementation of embedded measures and distance to the quarry (1.2km east).

18.6.45 Only an EIA screening report is currently available for proposed development ID102 (Solar Farm). This outlines that significant ecological effects as a result of the proposed development are unlikely. Ecology surveys are ongoing and will inform the final design of the proposed development as well as any mitigation measures that may be required. The EIA screening report states that there will be a substantial net positive effect on habitat resources and biodiversity, exceeding the minimum 10% that will be sought under the Environment Act[42]. This proposed development is adjacent to the Order Limits, where the Project comprises an access road to existing pylons XC493, XC494 and XC495 on the existing 275kV Monk Fryston to Poppleton XC overhead line south of Tadcaster. Project works at this location would comprise reconductoring of the existing overhead line. With embedded measures in place no significant effects on biodiversity receptors are predicted as a result of the Project. Should the construction works for the proposed development and the Project overlap, construction effects are likely to be very localised, temporary and limited in nature and minimised through standard management measures and therefore significant cumulative adverse effects are unlikely.

18.6.46 Proposed development ID109 (Lumby Quarry) falls partially within the Order Limits and would result in the loss of arable land, considered to be of low ecological value. Higher ecological value habitats along boundaries will be enhanced and retained for the duration of the proposed development, and will only be indirectly impacted through noise, vibration and visual disturbance. Impacts to habitats and species are likely to be temporary, albeit long term (19 years) due to the retention and reinstatement of habitats post-works. The proposed development would install screening bunds seeded with a grass mix, supplemented with tree and hedgerow planting along the frontage of the A63[43]. Advance planting would be undertaken during the planting season from November 2022 to March 2023, subject to granting of planning permission, to ensure any planting has been established prior to the proposed development commencing on site. It is assumed that quarry operational activities to extract limestone will be ongoing simultaneously as the Project is undergoing construction, which would comprise realignment and reconductoring of the existing 275kV Monk Fyrston to Poppleton XC overhead line north and south of the A63 in this area. Although the quarry planning application boundary falls within the Order Limits all quarry works appear to be located outside the Order Limits, with the closest element of the proposed development comprising soil bunds for screening.

18.6.47 Although the habitats would be modified through the creation of the quarry, the proposed boundary habitat enhancements would improve the biodiversity value of the site. A BGN calculation predicts a 34% biodiversity net loss of arable habitats due to the

[41] Middleton Bell Ecology (2018). Ecological Appraisal. London Road, Stutton. Middleton Bell Ecology; Sheffield.
[42] Arcus (2021). EIA screening report. Hayton House Solar Farm with Battery Storage. Arcus; York.
[43] Avison Young (2022). Lumby Quarry – Supporting Statement and EIA. Avison Young; Toronto.

15-year delay in creation of these habitats otherwise there would be a 10% net gain. There would also be a 84% biodiversity net gain of hedgerows[44] . It is not clearly stated in the information submitted in support of the planning application whether there would be any significant adverse effects arising from the other development at Lumby.

18.6.48 The advanced planting and installation of screening bunds as part of the proposed development would result in the creation of habitats of higher ecological value than is currently present (i.e. the baseline) in areas closest to the Project. Given indicative timescales it is assumed that the screening and vegetation on the bunds will have had 1-2 years to grow and mature by the time the Project commences construction works. Thus, there is the potential that some areas of the boundary planting along the A63 would need to be temporarily removed to facilitate the Project construction works and re-instated post construction. Thus, whilst it is considered in the short term there will be significant adverse cumulative effects until the planting is re-established, in the long term this will reduce to a negligible effect.

18.6.49 There is no ecological information available for the two site allocations considered in the CEA: ID 94 (ST14 Land West of Wiggington Road sustainable garden village of approximately 1348 dwellings) and ID99 (site allocation for residential house (TAD2: 105 dwellings). These developments once bought forward for planning consent would need to comply with relevant biodiversity legislation and planning policy and would need to put in place measures to mitigate effects. This combined with the distance to the Project (ID94 2.5km east and ID99 600m east) and the conclusions of the **Chapter 8: Biodiversity (Volume 5, Document 5.2.8)** that significant effects are not likely indicate that no significant cumulative adverse effects are likely.

Hydrology

18.6.50 The CEA assesses the combined effects of the Project with other developments on the same hydrology or flood risk Receptor and the contribution of the Project to those impacts. For all developments assessed it is assumed that good industry practice measures for runoff and silt management and pollution prevention will be successfully implemented during construction such as those set out in Pollution Prevention Guidance notes and CIRIA's Environmental Good Practice on Site.

- Agricultural building development (ID13): The proposed development is located on the border of the Hurns Gutter (source to River Ouse) and New parks Becks (source to Huby Burn) waterbody catchments. and is only 1ha in extent. The location also falls within the KUOIDB district, although is located approximately 0.4km west of the nearest IDB adopted watercourse, known as the Moor Gutter. The Project Order Limits also fall in close proximity (<0.1km) to this watercourse. The FRA[45] incorporates flood risk management measures and sets out the surface water management approach for the site, which proposes an outfall to the Moor Gutter and incorporates the use of attenuation basins. The FRA states that discharge will be equivalent to greenfield runoff rates. As such it is expected that surface water and flood risk will be suitably managed on-site. On this basis it is determined that there is no potential for significant cumulative effects to arise, between the Project and this development.

[44] JBA Consulting (2021). Biodiversity Net Gain (Draft). Lumby Quarry Development. JBA Consulting; Wallingford.
[45] Ian Pick Associates Ltd. (2020). Flood Risk Assessment. Ian Pick Associates Ltd; Yorkshire.

- Lumby Motorway Services (ID35): This development comprises 5Ha and is within the Selby Dam waterbody catchment (also overlapped by the Order Limits). The development proposed comprises a previously undeveloped land area of approximately 5ha[46] , which is very small in comparison to the waterbody catchment (3959ha[47]). There is limited hydrological connectivity between the proposed development site and any surface waterbodies, which are more than 1km away (as is also the case with the Project Order Limits in this area). The planning application documents indicate the proposed development lies entirely within Flood Zone 1 and has no significant hydrological features in the vicinity. The planning application documents make reference to a Drainage Strategy and the implementation of SuDS, which indicates relevant measures will be implemented and surface water runoff from the completed development would be attenuated within the site and discharged at rates to be agreed with the LLFA as appropriate. On this basis there is no potential for significant cumulative effects to arise.
- The two proposed developments at Monk Fryston Substation (ID39, ID4) are both battery storage facilities and cover a combined area of 5.5 ha immediately to the south of the existing Monk Fryston substation and its proposed extension. They are located within the Aire from River Calder to River Ouse waterbody catchment. The proposed impermeable area for both developments is approximately 0.5ha. Outline drainage strategies have been produced for both developments demonstrating how surface runoff from these areas can be managed to greenfield rates using SuDS techniques[4849]. On this basis it is determined that there is no potential for significant cumulative effects to arise between the Project and the proposed developments.
- Developments around Osbaldwick Substation (Energy storage facilities (ID64, ID107), office/light industrial development (ID108): All three developments lie within the Tang Hall/Old Foss Beck waterbody catchment, which is also overlapped by the Order Limits at Osbaldwick Substation. Combined all three proposed developments comprise an area of less than 3ha compared to the overall area of the Tang Hall/Old Foss Beck waterbody catchment (>5000ha). The proposed works at the Osbaldwick Substation associated with the Project are located largely within the existing Substation area, as such limited land take is required. Subsequently it is expected that these works will have negligible hydrological effects. A number of documents have been submitted in support of these applications which indicate that discharges

[46] Bowcliffe. (2019). Environmental Impact Assessment, Motorway Service Area, Selby Fork: Volume One Main Text. (Online) Available at: https://publicaccess1.selby.gov.uk/PublicAccess_LIVE/Document/ViewDocument?id=587AEDE5910211E9BDBF005056B348EC (Accessed 27 July 2022)
[47] Environment Agency. (2021). Catchment Data Explorer (online). Available at: https://environment.data.gov.uk/catchment-planning/ (Accessed October 2022).
[48] KRS Environmental (2021). Monk Fryston Battery Storage Facility, Surface Water Drainage Assessment. Report for Axis (online). Available at: https://publicaccess1.selby.gov.uk/PublicAccess_LIVE/Document/ViewDocument?id=CED5E124BECA11EB8ABF005056B337CF (Accessed 13 October 2022)
[49] Arcus Consultancy Services (2021). Outline Sustainable Drainage Strategy, Monk Fryston Zero Carbon Energy Storage and Management Facility. Report for UKPA EnergyMF Ltd, Version 3-1 (online). Available at https://publicaccess1.selby.gov.uk/PublicAccess_LIVE/Document/ViewDocument?id=74E03B48DB1611EBA5C9005056B348EC (Accessed 13 October 2022).

would be released at greenfield runoff rates[50] or provide details of drainage design [51] [52] [53] [54] which conclude no significant effects would occur with the proposed drainage design in place. On this basis it is determined that there is no potential for significant cumulative effects to arise between the Project and the developments.

- Jackdaw Quarry (ID85): The proposed site comprises an area of approximately 6ha, which is small in comparison to the waterbody catchment (7123ha). The site itself is located approximately 1.1km to the east of the Cock Beck. There are no significant hydrological receptors in close proximity to the site. It is assumed that appropriate high quality environment management practices would be put in place including appropriate measures to manage surface water runoff and potential pollution risk as set out in the Controlled Water Risk Assessment (2013)[55]. On this basis it is determined that there is no potential for significant cumulative effects to arise between the Project and the development.
- Solar Farm development (ID102): The proposed solar farm screening area covers an area of approximately 100ha, which is small in terms of the wider Cock Beck catchment (7123ha). An EIA Screening Report was undertaken for the site in December 2021[56] , which concluded that the development would have no significant effects to hydrology receptors. The Screening Report sets out that a FRA will also be undertaken to support the application, which will ensure allowance for climate change is considered and will inform the final design. On this basis it is determined that there is no potential for significant cumulative effects to arise between the Project and the development.
- Mineral extraction development, Monk Fryston, (ID109): The site comprises an area of 17.9ha, which is considered to be small in comparison to the Selby Dam waterbody catchment which covers approximately 3959ha. The nearest watercourses to the Project and development sites are tributaries to the River Aire and Selby Dam, both of which are more than 1km away. Therefore, connectivity between the development and surface water receptors is limited. The development application[57] sets out that the site is entirely located within Flood Zone 1, as with the Project Order Limits. The application also establishes that surface water on-site will be managed by a soakaway, and that foul water will not be discharged to an existing

[50] REFORD Consulting Engineers Limited. (2020). Drainage Strategy. REFORD Consulting Engineers Limited; Preston.
[51] EWE Associates Ltd. (2020). Drainage Assessment. EWE Associates Ltd; Lincoln.
[52] Grierson., D. (2018). Supporting Statement.
[53] Geo Environmental Engineering. (2019). Preliminary Environmental Risk Assessment. Geo Environmental Engineering; North Shields.
[54] Flood Risk Management Limited. (2021). Detailed Flood Risk Assessment. Flood Risk Management Limited; Hessle.
[55] ESI Ltd. (2013). Jackdaw Crag Quarry: Controlled Water Risk Assessment. (Online). Available at: https://onlineplanningregister.northyorks.gov.uk/Register/PlanAppDisp.aspx?recno=11275 (Accessed 9 August 2022)
[56] Arcus. (2021). EIA Screening Report: Hayton House Solar Farm with Battery Storage. (Online). Available at: https://publicaccess1.selby.gov.uk/PublicAccess_LIVE/Document/ViewDocument?id=23D21662F27A4EDC85F72E7CF2A8526A (Accessed 9 August 2022)
[57] Stone Cliff Aggregates Ltd. (2022). Application For Planning Permission. (Online) Available at: https://onlineplanningregister.northyorks.gov.uk/Register/PlanAppDisp.aspx?recno=11568 [Documents tab, page 1]. (Accessed 9 August 2022).

drainage system. On this basis it is determined that there is no potential for significant cumulative effects to arise between the Project and the development.

- Land allocation TAD2 (ID105): The site will comprise approximately 104 dwellings, based on this information the scale of the development is likely to be small (<3.5ha) in comparison to the area of the Wharfe from Collingham Beck waterbody catchment (4072ha). The site profile[58] indicates it is currently an undeveloped greenfield site, which is located entirely within Flood Zone 1. The Selby Local Plan requires that applications are supported by a detailed FRA including flood risk mitigation measures. In addition, surface water runoff from the completed development should be attenuated within the site and discharged at rates to be agreed with the LLFA as appropriate. On this basis it is concluded that there is no potential for significant cumulative effects to arise.

18.6.51 On the basis of the above information cumulative effects in relation to hydrology would not be significant.

Geology and hydrogeology

18.6.52 Those developments which fall within the geology ZoI in **Table 18.9** have the potential to result in cumulative effects with the Project, either through introduction of a new contaminative source, mobilisation of an existing contaminative source, introduction of a new sensitive Receptor or through a combined impact on the same Receptor.

18.6.53 For ground conditions with respect to land contamination, UK legislation and planning policy requires all developments to be suitable for their proposed use in which risks to human health and controlled waters from land contamination (also risks from geohazards and damage to geodiversity sites) have been appropriately managed. It is therefore assumed that the developments within the geology ZoI comply with legislation and planning policy regarding the management and control of ground contamination. On this basis significant cumulative effects are unlikely.

18.6.54 Significant cumulative effects on aquifer recharge are similarly unlikely, given the nature of the proposed developments and hydrogeological setting of the area within which they are located. With regards to the proposed development at Jackdaw Quarry (ID85) and Newthorpe Quarry (ID88) significant cumulative effects on aquifer recharge are similarly unlikely, as whilst the quarry works may involve dewatering, the Project will have negligible effect on groundwater levels in the aquifer so any effect would relate only to the quarry applications (and would be regulated through the planning process).

- Agricultural development, Shipton by Beningbrough (20/01004/FUL) (ID13). This development is a proposed free range egg laying facility. A contaminated land assessment was not undertaken in support of the planning application, however, assuming that the development complies with legislation regarding the management and control of ground contamination, then significant cumulative effects would be unlikely.

- Proposed motorway services on the A1(M) near Lumby (2019/0547/EIA) (ID35): The ES concludes that in relation to ground conditions, the assessment of available data has indicated that there would not be expected to be any significant contamination present affecting the soil or groundwater at the site for this proposed development.

[58] Selby District Council. (2021). Draft Local Plan: Individual Site Profiles. (Online). Available at: https://www.selby.gov.uk/sites/default/files/Documents/Individual_Site_Profiles_29_January_2021.pdf (Accessed 9 August 2022).

In addition, the development is not anticipated to result in any significant impacts to mineral resources, soils, bedrock or hydrogeology during either the construction or operational phases[59]. Assuming this development complies with legislation regarding the management and control of ground contamination, then significant cumulative effects would be unlikely.

- Energy storage projects (2021/0633/FULM (ID39), 2021/0789/FULM (ID40)) south of the existing Monk Fryston Substation: Proposed development ID39 Based on the available information, the geo-environmental assessment for this development concludes that no particular constraints to the proposed development with regards to ground contamination have been identified and it is concluded that the site is suitable for the proposed use with regards to ground contamination. [60]. The findings of the Phase 1 Land Contamination Desk Study for proposed development ID40 conclude that the risk from the presence of contamination on the site is moderate/low without mitigation. Mitigation proposed includes site investigation into ground conditions including soil, groundwater sampling and ground gas monitoring. Recommended planning conditions, should this application be granted consent on appeal, are that a remediation scheme should be submitted prior to the site development.[61] Assuming these developments comply with legislation regarding the management and control of ground contamination, then significant cumulative effects would be unlikely.
- Potential minerals development (NY/2022/0102/ENV) (ID109): The ES for this proposed development states that mineral will be extracted above the groundwater table only and dewatering of the site is not required. No significant effects are identified, with the inclusion of measures to prevent potential effects on groundwater quality in the event of an accidental spill or leak of hydrocarbons during the operation of the quarry. The ES[16] concludes that with these in place the magnitude of risk is negligible with a significance of 'None'. Assuming this development complies with legislation regarding the management and control of ground contamination, then significant cumulative effects would be unlikely. Significant cumulative effects on aquifer recharge are similarly unlikely, given the nature of the proposed developments and hydrogeological setting of the area.
- Proposed development in the vicinity of Osbaldwick Substation (two energy storage projects (19/01840/FULM (ID64), 18/02659/OUT, (ID107)), and proposed office/industrial development (22/00015/FULM, ID108). No baseline reports in relation to geology or contaminated land were submitted in support of the energy storage projects although the committee reports for both including planning

[59] RSK Geosciences (2022). Addendum to the Environmental Statement, Chapter 17 – Ground condition assessment (online) Available at: https://publicaccess1.selby.gov.uk/PublicAccess_LIVE/Document/ViewDocument?id=AE3F7EE220DF44B284E873B387B703CC (Accessed October 2022).

[60] Smith Grant Environment Consultancy LLP (2021). Proposed battery storage facility, land to the south of National Grid's Substation, Rawfield Land, Monk Fryston. Stage 1 Geo-environmental assessment (online). Available at: https://publicaccess1.selby.gov.uk/PublicAccess_LIVE/Document/ViewDocument?id=5BB4123DE26C474389ED8A3A5A86D367 (Accessed October 2022)

[61] Arcus (2021). Phase 1 land contamination desk study (online) Available at: https://publicaccess1.selby.gov.uk/PublicAccess_LIVE/Document/ViewDocument?id=B17DC340794D469099C913F1EE487893 (Accessed October 2022).

conditions in relation to unexpected contaminated land. A risk assessment[62] for the office development indicated that the site posed very low to negligible contamination risks to end users and adjacent sites. Assuming that the developments comply with legislation regarding the management and control of ground contamination, then significant cumulative effects would be unlikely.

- Extensions or additional works at existing quarries at Jackdaw Quarry, Stutton (NY/2021/0098/A27) and Newthorpe Quarry (NY/2017/0268/ENV). A detailed risk assessment[55] for Jackdaw quarry concluded there would be no significant effects in the event of a hydrocarbon release. The hydrogeology assessment[63] submitted in support of the Newthorpe quarry application also concluded that there would be no significant effects with mitigation measures in place. Assuming that the developments comply with legislation regarding the management and control of ground contamination, then significant cumulative effects would be unlikely. Significant cumulative effects on aquifer recharge are similarly unlikely, as whilst the quarry works may involve dewatering, the Project will have negligible effect on groundwater levels in the aquifer so any effect would relate only to the quarry applications (and would be regulated through the planning process).
- Proposed housing allocation at Tadcaster (TAD2 105 dwellings, ID99). Limited information is available as this comprises an allocation. However, assuming that the development complies with legislation regarding the management and control of ground contamination, then significant cumulative effects would be unlikely.
- Proposed 104Ha solar farm development with battery storage, North Aberford (2021/1502/SCN, ID102). Limited information is available for this proposed development but assuming that the development complies with legislation regarding the management and control of ground contamination, then significant cumulative effects would be unlikely.

Agriculture and soils

18.6.55 Those developments which fall within the agriculture ZoI in **Table 18.9** have the potential to result in cumulative effects with the Project as a result of the loss of Best and Most Versatile (BMV) land as well as a result of disturbance and loss of soils.

18.6.56 Other developments which have the potential for significant effects in cumulation with the Project in relation to Agriculture and Soils comprise the developments shown in **Table 18.11**.

[62] Geo Environmental Engineering, November 2019, Phase 1: Desk Top Study Report, (Preliminary Environmental Risk Assessment). Geo Environmental Engineering; North Shields.
[63] S M Foster Associates Limited (2017). Hydrological and Hydrogeological Impact Assessment. S M Foster Associates Limited; Boston Spa.

Table 18.11 – Developments considered for inter-project cumulative effects

ID	Development and Tier	Local Authority	Location, Distance and Direction from draft Order Limits	ALC Breakdown*	Permanent and Temporary land loss or soil disturbance.
2, 3, 4, 5, 8, 10	Developments located in and around Tockwith 19/01734/FULMAJ (63 dwellings, 2.3Ha); 18/04528/FULMAJ (39 dwellings, 1.43Ha; 18/04529/FULMAJ (landscaping, 1.43Ha); 17/04919/FULMAJ (74 dwellings, 2.93Ha, 18/01802/OUTMAJ (mixed use, 6.7Ha); 18/04395/REMMAJ (80 dwellings). Tier 1	Harrogate Borough Council	Tockwith, 2.6 to 3.6km west	Grade 2 – 6.7 ha Subgrade 3a – 1.7 ha Subgrade 3b – 1.7 ha	Permanent loss.
13	20/01004/FUL Construction of an additional free range egg laying unit dimensions 127.5m x 20.8m, with an eaves height of 3.7m and a ridge height of 6.528. The development includes additional infrastructure of 2 feed bins, and an attenuation pond for surface water drainage. Site: 1.00 ha, Gross new internal floorspace: 2652 sq m Tier 1	Hambleton District Council	Shipton By Beningbrough, 780m west	Grade 2 – 1.0 ha	Permanent loss but utilised for agriculture.
35	2019/0547/EIA Proposed construction of a motorway service area Tier 1	Selby District Council	west side of A1(M), A63 junction, 200m west	Subgrade 3b – 5.2 ha	Permanent loss.
39	2021/0633/FULM: Installation and operation of a battery storage facility and ancillary development Tier 1	Selby District Council	Development adjacent to south of Monk Fryston Substation	Grade 2 – 0.5	Permanent loss.

ID	Development and Tier	Local Authority	Location, Distance and Direction from draft Order Limits	ALC Breakdown*	Permanent and Temporary land loss or soil disturbance.
40	2021/0789/FULM: Construction of a zero-carbon energy storage and management facility including containerised batteries, synchronous condensers and associated infrastructure, access and landscaping. Tier 1	Selby District Council	Development adjacent to south of Monk Fryston Substation	Grade 2 – 5.0 ha	Permanent loss.
42	2021/0927/COU: Change of use from an agricultural field to a community park space Tier 1	Selby District Council	Towton, 2.3km east	Grade 2 – 1.7 ha	Could be reinstated to agricultural land in the future. Temporary loss.
64	19/01840/FULM: Erection of an energy storage facility with up to 42no. battery storage units, 21no. reservoir units and ancillary structures Tier 1	York City Council	Adjacent to south of Osbaldwick Substation	Other – 1.3 ha	Non-agricultural soil disturbance.
85	NY/2021/0098/A27 Extension for application to Jackdaw Quarry to south of existing quarry. Tier 1	North Yorkshire County Council	Jackdaw Crag Quarry, Moor Lane, Stutton, up to 500m east	Grade 2 - 2.82 ha Subgrade 3a – 0.6 ha Subgrade 3b – 0.6 ha	Permanent loss, restoration plan may include soil storage and reuse/ reinstatement.
88	NY/2017/0268/ENV: Consent to extend quarry to south (phase 5), NY/2019/0165/ENV: Waste recycling and restoration by infill (on phases 1 to 4, phase 5 excluded) – crushing/screening of materials on site – either for use in restoration or	North Yorkshire County Council	Newthorpe Quarry, 1km west	Grade 1 – 1.1 ha Grade 2 – 2.1 ha Subgrade 3a – 1.25 ha	Permanent loss, restoration plan may include soil storage and reuse/ reinstatement.

ID	Development and Tier	Local Authority	Location, Distance and Direction from draft Order Limits	ALC Breakdown*	Permanent and Temporary land loss or soil disturbance.
	moved off site for recycling Tier 1				
89	NY/2018/0009/FUL: Quarry restoration including extraction of remaining 30,000 tonnes of limestone and importation of 600,000 tonnes of construction waste to complete restoration and export of 300,000 tonnes of secondary aggregate Tier 1	North Yorkshire County Council	Stutton, Tadcaster, 1.2km east	Grade 2 – 3.2 ha Subgrade 3a – 0.8 ha Subgrade 3b – 0.8 ha	Permanent loss, restoration plan may include soil storage and reuse/ reinstatement
94	ST14: Land West of Wiggington Road - to deliver a sustainable garden village of approximately 1348 dwellings (1200 during plan period) (55Ha) Tier 3	York City Council	2.5km east (located 1.5km east of Skelton)	Subgrade 3a 27.5 ha Subgrade 3b – 27.5 ha	Permanent loss.
99	Site allocation for residential development (TAD2: 105 dwellings) Tier 3	Selby District Council	600m east, located on western edge of Tadcaster	Grade 2 – 3.5 ha	Permanent loss.
102	2021/1502/SCN: EIA screening request for 104Ha solar farm with battery storage	Selby District Council	Adjacent to Order Limits, access road to XC493/494/495 south of Tadcaster	Grade 2 – 54.4 ha Subgrade 3a – 2.77 ha Subgrade 3b 43.4 ha	Long term temporary, may also be Used for grazing during operational phase.
107	18/02659/OUT: Outline application seeking approval for the layout and appearance of an energy storage facility with up to 25 battery storage units along with ancillary structures including	York City Council	100m east of Osbaldwick Substation	Other - 0.64 ha	Non-agricultural soil disturbance.

ID	Development and Tier	Local Authority	Location, Distance and Direction from draft Order Limits	ALC Breakdown*	Permanent and Temporary land loss or soil disturbance.
	switchgear, transformer, standby emergency generator and 2 no. containers enclosed with steel palisade fencing and screened with landscaping				
108	22/00015/FULM: Erection of 1no. three storey office building (use class E) and 2no. two storey light industrial buildings (use classes E, B2 and B8) together with parking and new access arrangements following demolition of existing buildings (resubmission)	York City Council	370m north of Osbaldwick Substation	Other – 0.7 ha	Non-agricultural soil disturbance.
109	NY/2022/0102/ENV: Extraction and processing of magnesian limestone, the installation and operation of a low-level aggregate processing plant with ancillary buildings and restoration by infilling of the void space with inert waste to original ground levels	North Yorkshire County Council	Land off A63 Lumby, North Yorkshire, LS25 5LD	Grade 2 – 17.9 ha	Permanent loss, restoration plan may include soil storage and reuse/ reinstatement.

**Calculated using Provisional ALC mapping and Post-1988 mapping. Areas provisionally mapped as Grade 3 have assumed a 50/50 split between Subgrade 3a/3b.*

18.6.57 The cumulative developments listed in **Table 18.11** comprise a total of 135.2 ha on BMV agricultural land (ALC Grades 1, 2 and 3a) and 83.9 ha on non-BMV land (Grades 3b, 4 and 5). In terms of magnitude of effects individually, developments:

- less than 5.0 ha in size or where land may be reinstated to agricultural use in the future would constitute a minor magnitude of change (IDs 2, 3, 4, 5, 10, 13, 56, 39, 42, 64, 65, 85, 88, 89,99, 102 and 107);
- between 5 and 20 ha where land would be permanently lost from agricultural use would constitute a moderate magnitude of change (IDs 8, 35, 40 and 86); and
- more than 20 ha where land would be lost permanently from agricultural use would constitute a major magnitude of change (ID94).

18.6.58 The assessment of effects on agriculture and soils considers three types of effect: 1) loss of BMV land; 2) loss of soil resource; and 3) damage to the soil resource (**Chapter 11: Agriculture and soils, Volume 5, Document 5.2.11**).

18.6.59 Taking into account the above scale and magnitude of effects on BMV land from the other proposed developments considered in the CEA and the sensitivity of the soils in the region, which is between medium and very high sensitivity, overall there would be a significant adverse cumulative effect on BMV agricultural land.

18.6.60 The proposed developments are predominantly the type of development which would result in large volumes of surplus soils being produced, leading to the loss of soil resource which cannot be confirmed to be re-used sustainably within the region. The impact on soil resources is therefore likely to also be a cumulative significant effect with less than 25% of soil resources retained on sites.

18.6.61 Assuming that all proposed developments follow the best practice mitigation measures that are industry standard it is expected that the damage to soil resources would be similar to that of the Project, (i.e. the risk of damage would be reduced to a level where there is no change in soil resource quality, or there would be a temporary/reversible change to less than 25% of soil resources, (equivalent to damage done by typical farm machinery traffic)). Therefore, it is considered that there would be no significant cumulative adverse effects in terms of damage to soil resources.

Air quality

18.6.62 Those developments which fall within the air quality ZoI in **Table 18.7** have the potential to result in cumulative effects with the Project as a result of construction dust effects. As outlined in **Section 18.4**, air quality effects from construction traffic emissions are accounted for in the future traffic growth predictions factored into the traffic modelling.

18.6.63 Significant cumulative dust effects for the various developments close to the existing Monk Fryston Substation (ID35, 39, 40, 109) are not likely. The ESs for both the A1(M) motorway services[64] and proposed minerals development[16] conclude no significant effects (negligible effects) in relation to air quality, including dust, and set out measures to mitigate dust effects. This combined with the Project's **CoCP** (**Appendix 5.3.3B, Volume 5, Document 5.3.3B**) measures and conclusions in **Chapter 13: Air Quality (Volume 5, Document 5.2.13**) that there would be no significant effects (negligible risk) with embedded measures in place indicates significant cumulative effects are unlikely from these developments. It is assumed for the proposed energy storage projects, that standard construction management measures would mitigate potential cumulative dust effects should the construction phase for these developments overlap with the construction of the Project.

18.6.64 For the developments proposed around Osbaldwick Substation (ID64,107, 108) significant cumulative effects are also not likely. The Project comprises minor works in and around Osbaldwick Substation and therefore significant dust effects are unlikely and have been scoped out of the assessment. It is assumed that standard construction management measures would mitigate potential cumulative dust effects should the

[64] Astrum Planning Ltd (2022). Environmental Statement: Main Document (Addendum; Volume 2). Proposed Construction Of A Motorway Service Area, Assocaited [sic] Highway Improvement Works And Other Assocaited [sic] Infrastructure At Land At Lumby, Lumby South Milford, Leeds, West Yorkshire, LS25 5LE. (online) Available at: https://publicaccess1.selby.gov.uk/PublicAccess_LIVE/Document/ViewDocument?id=AE3F7EE220DF44B284E873B387B7038C (Accessed September 2022)

construction phase for these developments overlap with the works at Osbaldwick Substation.

18.6.65 Proposed development ID85 comprises a reserved matters application to extend Jackdaw Quarry further south. The quarry is located south of the A64 and Section D: Tadcaster Area. Western parts of the quarry are adjacent to the Order Limits in Section E where works as part of the Project would comprise reconductoring the 275kV Monk Fryston to Poppleton XC overhead line. The quarry extension would be southwards and therefore the working on the extended area would be further from the existing overhead line. Although the original ES for this proposed development is no longer available, a dust management scheme has been implemented by way of planning condition for the works and the wider quarry works already form part of the baseline environment. The assessment for the Project has scoped-out construction dust effects for Section E, given the nature and short-term duration of the works in the section and the ES (**Chapter 13: Air quality, Volume 5, Document 5.2.13**) has concluded dust effects are not likely to be significant at Section D: Tadcaster Area. Taking into account these factors significant cumulative effects are unlikely.

18.6.66 It is assumed that standard construction management measures would mitigate potential cumulative dust effects should the construction phase for the proposed solar farm development (ID102) overlap with the overhead line reconductoring works in Section E. Furthermore, dust effects from the works proposed in Section E have been scoped-out of the assessment. Therefore, significant cumulative effects are unlikely.

Noise and vibration

18.6.67 Those developments which fall within the noise ZoI in **Table 18.9** have the potential to result in cumulative effects with the Project as a result of construction and operational effects. Noise effects from construction traffic emissions are accounted for in the future traffic growth predictions factored into the traffic modelling.

18.6.68 Proposed development ID35 (A1(M) motorway services) would be located on the opposite and east side of A1(M) from the Project; traffic noise from which is likely to mask any construction noise from the Project for receptors on the east side of the A1(M). The Noise Sensitive Receptors (NSRs) (travellers encampment) considered in the assessment in **Chapter 14: Noise and vibration (Volume 5, Document 5.2.14)** in this area are more than 300m from the proposed development so are unlikely to be impacted by construction noise from both the Project and the proposed development should construction phases overlap. The noise impact assessment[65] for the proposed development identifies no significant operational traffic or operational activity noise effects.

18.6.69 The noise impact assessment for proposed development ID39 (battery storage facility)[66] concludes no significant effects, with mitigation in place, from construction or operation. The operational noise levels from the proposed development are predicted to be below

[65] RSK Acoustics (2022) Selby Motorway Service Area, Junction 42 Off A1(M) Noise Impact Assessment (online). Available at https://publicaccess1.selby.gov.uk/PublicAccess_LIVE/Document/ViewDocument?id=3FD338486A73424EB98233A339B8A66E (Accessed 30 September 2022)

[66] Noise and Vibration Consultants Ltd. (2021). Noise Impact Assessment For Battery Storage Facility (BSF) (online). Available at: https://publicaccess1.selby.gov.uk/PublicAccess_LIVE/Document/ViewDocument?id=5BB4123DE26C474389ED8A3A5A86D316 (Accessed 30 September 2022)

residual sound levels and achieve WHO night time noise levels of 34 dB L_{Aeq} (day and night) at Monk Fryston Lodge and 32 dB L_{Aeq} (day and night) at Pollums House Farm (600m north-east). The assessment of construction noise levels indicates that construction noise from the proposed development would not exceed residual noise levels for the receptors assessed and be well within the threshold values set out in BS5228[67]. Daytime noise levels during the construction of the Project are estimated to be below background noise levels for those receptors closest to proposed development ID39. The substation noise levels for the proposed Monk Fryston Substation are predicted to be below background noise levels. Given that for both the proposed development and the Project all noise levels would be below background levels and well below relevant threshold values significant cumulative adverse effects are unlikely.

18.6.70 The noise impact assessment[68] for the energy storage facility (proposed development ID40) predicts the operational noise rating level to be below background (30dB L_{Aeq} at Monk Fryston Lodge). There is no assessment of construction noise provided with the planning application, however, assuming the development incorporates standard construction management measures, cumulative effects are unlikely should construction works for both projects overlap. For the reasons stated above for proposed development ID39 significant cumulative adverse effects are unlikely.

18.6.71 The noise assessment[69] for proposed development ID 64 of operational noise from the energy storage facility at Osbaldwick indicates very low level impacts during both daytime and night time at the nearest noise sensitive receptors (NSRs) (mostly below background noise levels). Boundary noise limits for the facility have been proposed. Given this, and that the Project proposals at Osbaldwick are minor and not expected to alter operational noise, significant cumulative operational noise effects are unlikely. There is no assessment of construction noise for the proposed development, however the design and access statement indicates a six month construction period. Assuming the development incorporates standard management measures, and given the minor nature of the works at Osbaldwick Substation, significant cumulative effects are unlikely should construction works for both projects overlap.

18.6.72 No detailed noise assessment is available for the reserved matters application for the extension to Jackdaw Crag Quarry (proposed development ID85), however, planning conditions are set out which require noise levels which the development has to achieve at the nearest NSRs and a noise management plan to be implemented. With these measures, and taking into account that the Project works at this location comprise reconductoring of the existing XC overhead line, which would be of short duration with no change in operational noise effects, significant cumulative effects are unlikely.

18.6.73 Limited information is available for the new housing allocation in Tadcaster (proposed development ID 99), as it is a site allocation only. There is a single existing residential property 170m east of the XC overhead line and 300m west of the allocated site. The Project proposal at this location comprises reconductoring of the existing overhead line with no change in operational noise levels. The construction (reconductoring) works

[67] British Standards Institute (2014). BS5228-1:2009+A1:2014 `Code of practice for noise control on construction and open sites. BSI; London.
[68] Arcus (2021). Noise Impact Assessment, Monk Fryston Zero-Carbon Energy Storage and Management Facility (online). Available at: https://publicaccess1.selby.gov.uk/PublicAccess_LIVE/Document/ViewDocument?id=74E03B3ADB1611EBA5C9005056B348EC (Accessed 30 September 2022)
[69] ITP Energised (2019). Osbaldwick Energy Storage Facility Noise Assessment. ITP Energised; Bristol.

would be of a short-term duration. Significant cumulative noise effects are unlikely should the construction works for the Project in this area overlap with the construction works for this development. Furthermore, it is assumed construction management measures would be implemented for the housing development which would also minimise cumulative effects.

18.6.74 Limited information is available for proposed development ID102, a proposed solar farm (EIA screening request[42] only). The screening assessment indicates no significant construction or operational noise effects are likely and can be managed through standard construction management measures. As Project works at this location comprise reconductoring of the XC overhead line, which would be of short duration with no change in operational noise effects, significant cumulative operational noise effects would not occur. The construction period for the Tadcaster CSECs may overlap with the construction period for the solar farm. However, these developments are approximately 3km apart and although both construction sites may be audible at NSRs between the two, it is very unlikely that cumulative impacts would be significant.

18.6.75 No noise assessment has been conducted for proposed development ID107 at Osbaldwick Substation, however, the planning statement[70] indicates no adverse noise effects given the distance to the nearest NSR (250m) and measures proposed to mitigate noise. It is assumed that the proposed development would be constructed prior to the Project and therefore no overlap in construction phases are likely. In addition, the proposed works for the Project at Osbaldwick are minor and short-term and assessed as not significant. Therefore, significant cumulative noise effects are unlikely.

18.6.76 There is no noise assessment or information available for proposed development ID108 which relates to redevelopment of existing office/industrial premises. It is assumed the development will implement standard management measures during construction and as an office development would not generate significant levels of noise during operation. Given that the proposed works for the Project at Osbaldwick are minor and short-term and assessed as not significant it is likely that cumulative effects would not be significant.

18.6.77 The noise chapter in the ES for proposed development ID 109 (Lumby Quarry[16]) sets out noise predictions at Pollums House farm for operation (2023 to 2032). For the majority of time, works would take place within the quarry which would have a barrier effect, however predictions have been given for when works take place at the rim of the quarry. The ES states that the predicted sound levels at dwellings during these phases would be within the temporary 70 dB L_{Aeq} limit allowable for up to 8 weeks per year for exactly this type of activity, and for the vast majority of the time would also remain within the 55 dB(A) limit. Noise levels at Pollums Farm House are predicted to be 56-57 LAeq when quarry activities are at the rim of the quarry. It is concluded that the operations at the proposed Lumby Quarry comply with the normal requirements set out in the NPPF for workings between the hours of 0700 and 1800. Receptors at Pollums House Farm are predicted to not experience a significant effect from the Project construction works during daytime hours (Monday to Friday 07.00 to 19.00 and Saturday 07.00-13.00, noting the quarry would also be restricted to daytime hours) and predicted noise levels (62dB LAeq) would be below threshold limits (65dB LAeq) and very similar to background noise levels (see **Table 14.22, Chapter 14: Noise and vibration, Volume 5, Document 5.2.14**). Therefore, should quarry operations and Project construction

[70] The Energy Workshop (2018). Application for Planning Consent to Create a Storage Compound to Site Containers for Energy Storage Associated Access Road and Landscaping. The Energy Workshop; Huddersfield.

work overlap noise levels would still be within the threshold level and cumulative significant adverse effects are unlikely.

18.6.78 The construction and dismantling of overhead lines and pylons at the Monk Fryston Traveller site would dominate at this NSR (i.e. noise from the quarry would not be audible above the noise from the Project works) during these temporary construction activities as part of the Project. However works would be of a short duration (less than two weeks to dismantle/construct each pylon, refer to **Chapter 14: Noise and vibration, Volume 5, Document 5.2.14**). Therefore, significant cumulative noise levels are unlikely to arise from the quarry and the overhead line works in combination (as the noise from the Project would dominate during this period)

Health

18.6.79 Based on the information set out in **Table 18.9**, the other developments which have been identified for further assessment, of potential effects in cumulation with the Project in relation to health and wellbeing, comprise the following.

- A proposed battery storage scheme close to the consented battery storage project (2021/0633/FULM) and the existing Monk Fryston Substation (2021/0789/FULM); and
- A proposed limestone extraction and processing plant, Lumby (NY/2022/0102/ENV).

18.6.80 The following developments have been scoped out of a detailed cumulative assessment based on the conclusions regarding cumulative effects in relation to landscape and visual, traffic and transport, air quality, noise and vibration and socio-economics.

- An agricultural unit, that was consented and under construction at the time of writing in October 2022, at Audby Manor Farm, Shipton by Beningbrough (20/01004/FUL, ID13);
- A consented battery storage scheme close to the existing Monk Fryston Substation (2021/0633/FULM, ID39);
- A proposed motorway services scheme on the A1(M) near Lumby (2019/0547/EIA, ID35);
- A battery storage project adjacent to Osbaldwick Substation (19/01840/FULM, ID64);
- An extension to Jackdaw Quarry (NY/2021/0098/A27, ID85);
- A site allocation for residential housing (TAD2, Selby District Council, ID99);
- A potential 104Ha solar farm with battery storage (2021/1502/SCN, ID102);
- A proposed limestone extraction and processing plant, Lumby Quarry (NY/2022/0102/ENV, ID109);
- A battery storage project 100m east of Osbaldwick Substation (18/02659/OUT, ID107); and
- A proposed commercial/industrial development in Osbaldwick (22/00015/FULM, ID108).

18.6.81 For the proposed battery storage scheme, south of the existing Monk Fryston Substation (2021/0789/FULM, ID40) **Chapter 6: Landscape and Visual Amenity, Volume 5, Document 5.2.6** identifies a significant cumulative effect on users of a

PRoW (Viewpoint 23 in **Figure 6.63, Volume 5, Document 5.4.6**) but notes that the effect would be significant regardless of the presence of the proposed development. Furthermore, no likely significant cumulative effects are identified in **Chapter 13: Air Quality, Volume 5, Document 5.2.13 and Chapter 14: Noise and Vibration, Volume 5, Document 5.2.14**. Therefore, the cumulative effect on air quality, noise and neighbourhood amenity as a determinant of health and wellbeing is assessed to be neutral.

Socio-economic

18.6.82 For the receptors within the Local Study Area (as set out in **Chapter 16: Socio-economics, Volume 5, Document 5.2.16**), there are no other developments within the short list in **Table 18.9** which overlap with the Order Limits for the Project and would impact the Local Study Area receptors and therefore no cumulative direct effects can occur.

18.6.83 Where receptors within the Local Study Area experience some level of indirect amenity effects, potential for cumulative effects do arise. No effects were identified on:

- the Marron, Poppleton or Duttons fishing lakes;
- Rawcliffe Bar Country Park;
- Hazlewood Castle Hotel;
- The Crooked Billet Inn;
- Mosaic Business services; or
- Any of the PRoWs identified in the Tadcaster or Monk Fryston local study areas.

18.6.84 Therefore no cumulative effects on these receptors could occur with the other developments identified in **Table 18.9**.

18.6.85 The remaining Local Study Area receptors are discussed in the following sections.

North west of York Study Area

18.6.86 Within the North west of York study area, the following receptors are all identified as experiencing visual, noise and/or air quality effects.

- Beningbrough Hall;
- National Cycle Route 65;
- Yorkshire Ouse Walk;
- Forest of Galtres golf Club;
- York Footgolf;
- PRoWs 10/115/2/3, 11/8/20 and ORPA near Newlands Farm; and
- Woodstock Lodge wedding venue.

18.6.87 No cumulative effects from other development listed in **Table 18.9** on these receptors have been identified in relation to landscape and visual, noise and vibration and air quality effects and therefore no cumulative socio-economic effects on these receptors.

Tadcaster Study Area

18.6.88 Within the Tadcaster study area, the following receptors are all identified as experiencing visual, noise and/or air quality effects.

- National Cycle Route 665;
- Ebor Way; and
- Bowcliffe Hall.

18.6.89 No cumulative effects from other development listed in **Table 18.9** on these receptors have been identified in relation to landscape and visual, noise and vibration and air quality effects and therefore no cumulative socio-economic effects on these receptors.

Monk Fryston Study Area

18.6.90 Within the Monk Fryston study area, the following receptors are all identified as experiencing visual, noise and/or air quality effects.

- Squires Café and Caravan Park;
- Steeton Hall Gateway;
- Sherburn Willows nature reserve;
- Fairburn Ings nature reserve;
- Ledsham Bank nature reserve;
- Milford Plants garden centre;
- Monk Fryston Hall Hotel;
- Byram nurseries;
- Lumby garden centre;
- South Milford Hotel; and
- Milford Hotel

18.6.91 No cumulative effects from other development listed in **Table 18.9** on these receptors have been identified in relation to landscape and visual, noise and vibration and air quality effects and therefore no cumulative socio-economic effects on these receptors.

Wider Study Area

18.6.92 Within the Wider Study Area the economic effects of the Project have been considered. The shortlisted cumulative developments in **Table 18.9** will all bring about a certain level of economic benefits, from either their construction and/or operational phases and would also place some demand on local accommodation. Given the more substantial economic benefits of the Project would occur during the construction phases, the short listed cumulative developments would need to see their economic effects substantially occurring during the same period (late 2024 to 2027/28) in order to bring about significant cumulative socio-economic effects. Not all of the short listed development includes information on economic effects, presumably as they are not of a scale to be a consideration in the decision making process, nor do all have information about when their construction or operational phases are likely to occur. It does not appear that economic effects were a major factor in any of the decision making for any of the

approved schemes on the cumulative short list. Given the need for project effects to overlap, and for the effects to be of a level that cumulatively add up to a position of significance, it is not considered that the Project would lead to significant economic effects, either beneficially or adversely when undertake cumulatively with the other developments identified.

18.7 Assessment: Intra-project cumulative effects

18.7.1 **Table 18.10** provides a summary of the significance of intra-related effects from the Project. The table summarises effects where different aspects have identified the same receptors and indicates the presence of likely cumulative significant effects. In all cases, the likely effects take into account the embedded environmental measures in respect of the aspects for the construction and operation phases.

18.7.2 Table symbology is as follows:

- NS = no significant effects;
- S = significant effects;
- +ve = beneficial significant effects;
- -ve = adverse significant effects;
- N/A = not applicable;
- HAM09, YOR05 = refers to equivalent noise receptor (see **Chapter 14: Noise and vibration, Volume 5, Document 5.2.14**).

Table 18.12 - Common receptors and preliminary significance of identified effects

Receptor	Noise and vibration	Air Quality	Landscape and Visual	Historic Environment	Biodiversity	Hydrology, hydrogeology, geology	Traffic	Socio-economics
Section A: Osbaldwick Substation								
Receptors around Osbaldwick	NS	N/A	N/A	N/A	N/A	N/A	NS	N/A
Section B: North-west of York Area								
Beningbrough Hall	N/A	N/A	NS	NS	N/A	N/A	N/A	NS
Residents of Shipton-by-Beningbrough (HAM08, 09)	NS	NS	NS	NS	N/A	N/A	NS	NS
Residents of Skelton (YOR07)	NS	NS	NS	NS	N/A	N/A	NS	NS
Residents of Overton (HAM11)	NS	NS	S-ve (construction) to S+ve (operation)	NS	N/A	N/A	NS	NS
Woodstock Lodge Wedding Venue (YOR04)	NS	NS	S-ve	NS	N/A	N/A	N/A	S-ve
Hall Moor Cottages (YOR05)	NS	NS	S-ve	N/A	N/A	N/A	N/A	N/A
Hall Moor Farm (South) (YOR05)	NS	NS	S-ve	NS	N/A	N/A	N/A	N/A

Receptor	Noise and vibration	Air Quality	Landscape and Visual	Historic Environment	Biodiversity	Hydrology, hydrogeology, geology	Traffic	Socio-economics
Overton Grange, Glenroyd Cottages (HAM10)	NS	NS	S-ve	NS	N/A	N/A	N/A	N/A
New Farm Cottages (YOR06)	NS	NS	S-ve	N/A	N/A	N/A	N/A	N/A
Dwellings, Stripe Lane (YOR07)	NS	NS	S-ve	N/A	N/A	N/A	NS	N/A
Agricola, north of Newlands Farm (HAM04)	NS	NS	NS	N/A	N/A	N/A	N/A	N/A
Newlands Farm (HAM05)	NS	NS	NS	N/A	N/A	N/A	N/A	N/A
National Cycle Route 65, Overton Road	N/A	NS	S-ve	N/A	N/A	N/A	NS	NS
Public Rights of Way	N/A	N/A	S-ve	N/A	N/A	N/A	NS	NS
River Ouse	NS	NS	S-ve (construction). NS (operation)	N/A	NS	NS	NS	NS
Section C: Moor Monkton to Tadcaster								
Residents of Moor Monkton (HAR01)	NS	NS	S-ve (construction). S+ve (operation)	NS	N/A	N/A	NS	N/A

Receptor	Noise and vibration	Air Quality	Landscape and Visual	Historic Environment	Biodiversity	Hydrology, hydrogeology, geology	Traffic	Socio-economics
Section D Tadcaster Area								
Red Brick House Farm (SEL09, 10)	NS	NS	S-ve (construction), NS (operation)	N/A	N/A	N/A	N/A	N/A
Squires Café and Caravan Park	NS	NS	N/A	N/A	N/A	N/A	N/A	S-ve
Steeton Hall	N/A	N/A	N/A	NS	N/A	N/A	N/A	NS
Section F Monk Fryston Area								
Monk Fryston Lodge East (SEL20-22)	NS	NS	S-ve (construction), NS (operation)	NS	N/A	N/A	N/A	N/A
Pollums House Farm (SEL19)	NS	NS	S-ve	NS	N/A	N/A	N/A	N/A
Travellers encampment (SEL16, 17)	NS	NS	N/A	N/A	N/A	N/A	N/A	N/A
Sherburn Willows Nature Reserve Fairburn Ings Nature Reserve Ledsham Bank Nature Reserve	N/A	N/A	N/A	N/A	NS	N/A	N/A	NS

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18.7.3 **Table 18.12** indicates that there is the potential for significant intra-project related effects at the following receptors.

- Woodstock Lodge Wedding Venue: This receptor is assessed to experience both significant visual and socio-economic effects, as it is a business as well as a visual receptor. During construction guests of the venue would experience views of the new YN 400kV overhead line undergoing construction. During operation there would be permanent effects from view of the pylons along the new overhead line. No significant noise effects are predicted during construction or operation, with construction noise levels predicted to be below the relevant assessment thresholds. However, given the long-term operational effects, cumulative effects are considered to be significant.
- Users of National Cycle Network Route 65 would experience significant visual effects from construction activity. Whilst noise levels have not been assessed specific to this receptor there is the potential that users of the route (and the alternative route that will be implemented during construction) may experience some noise effects whilst passing the construction compounds. Significant traffic and transport effects are not likely as an alternative route would be provided so users could avoid travelling along Overton Road which would be used by construction traffic. Therefore, although users of this route would be experience significant visual effects, as an alternative route is provided to avoid use of Overton Road and any increased noise levels would only be experienced for a short section of route whilst passing the construction compound, cumulative effects would not be significant.
- The River Ouse would experience a number of effects during construction. Part of the landscape character (Ouse Floodplain Landscape Character Area) is assessed to experience localised significant effects during construction from the works proposed along the river. However the permanent removal of part of the existing overhead line would result in beneficial (not significant) effects during operation. Likewise visual effects on the users of the footpaths along the river and using the river itself for recreation would experience significant adverse effects during construction but beneficial (not significant) effects during operation. Scaffolding would need to be put in place over the river as part of the works. Navigation rights along the River Ouse would be temporarily suspended during construction works. However, construction works would take place overnight within an 8 hour period and the suspension of navigation rights would only be in place for a maximum of one hour at a time during this period. Therefore this is unlikely to affect people's ability to navigate the river during daytime hours. No significant effects in relation to biodiversity, hydrology or water quality are likely within embedded environmental measures in place. Given the relatively short duration of construction works and beneficial effects during operation and that people can still use the public footpaths and river during daytime hours during construction cumulative effects are considered to be not significant.
- Pollums House Farm: This receptor would experience significant visual effects during construction due to the coppicing of woodland screening and the presence of a temporary construction compound and diversion. Visual effects during operation would also be significant due to the presence of the realigned existing overhead line, as well as the proposed Monk Fryston Substation beyond the existing substation. No significant noise or air quality effects are likely during construction or operation, with embedded measures in place. Therefore overall, it is considered that cumulative effects would not be significant.

- Travellers encampment: Individually the different types of construction noise effects and vibration effects at this receptor are not considered significant, but in cumulation a significant cumulative effect is likely as a worst case. The socio-economic assessment has identified that no significant effects are likely. Overall, it is considered that there could be significant short-term cumulative effects during construction.

18.8 Significance conclusions

18.8.1 In relation to inter-related cumulative effects, it is considered that the following significant effects could occur in cumulative with other development.

- Battery Storage Scheme, Rawfield Lane (2021/0789/FULM, ID40). Views experienced by users of a local public footpath (of the Project and the battery storage scheme would be available from a localised stretch of the footpath at this isolated location for ~180m, Following the growth of mitigation planting along the southern boundary of the battery storage scheme the views of the Project and the majority of the closer battery storage scheme would be screened from the public footpath.
- Lumby Quarry, Monk Fryston (NY/2022/0102/ENV, ID109): Short term significant adverse cumulative effects are likely in relation to biodiversity until the planting proposed as part of the quarry development is re-established. In the long term this will turn into reduce to a negligible effect which would be not significant.
- Combined effects of all the development considered in the assessment is likely to result in a significant effect in respect of the loss of Best and Most Versatile Land and loss of soil resources.

18.8.2 In relation to intra-relative effects, it is considered that the following receptors are likely to experience significant cumulative effects from different types of effects.

- Woodstock Lodge Wedding Venue during construction and operation.
- Travellers encampment at Monk Fryston during construction due to its proximity to potential noise and vibration effects.

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National Grid plc
National Grid House,
Warwick Technology Park,
Gallows Hill, Warwick.
CV34 6DA United Kingdom

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