Nottinghamshire County Council

Local Impact Report – Steeple Renewable Project

Nottinghamshire County Council

Contents

1. Introduction

1.1. Nottinghamshire County Council (NCC) has prepared this report in accordance with the advice and requirements set out in the Planning Act 2008 and the Nationally Significant Infrastructure Projects: Advice for Local Authorities published by the Planning Inspectorate in August 2024.

1.2. The guidance states that when the Planning Inspectorate decides to accept an application for a Development Consent Order (DCO) it will invite the relevant local authorities to prepare a Local Impact Report (LIR). The LIR should give details of the likely impact of a project on the local authority's area and should indicate where the local authority considers that the proposed development would have a positive, negative or neutral effect on their area.

1.3. The LIR may include any topics that the local authority considers to be relevant to the impact of the development within its administrative area and is a means by which its existing body of knowledge and evidence on local issues can be fully and robustly reported. It is intended to be a technical assessment of impact and does not attempt to conclude on the acceptability of the proposals. The LIR therefore neither sets out objection or support for the application.

1.4. In producing the LIR, the County Council has not sought the views of local parish councils and local interest groups as to any particular matters that should be reflected in the report because the parish councils and other local interest groups have the opportunity, through the consultation process, to make their observations direct to the Planning Inspectorate.

1.5. The LIR only covers matters and issues where NCC has a statutory function or holds expertise at an officer level, supplemented by external advice as needed. The topics covered are listed below. For all other matters not listed below, NCC will defer to Bassetlaw District Council (BDC), including matters relating to compliance with their local development plan:

- Historic Environment – Built
- Historic Environment - Buried
- Biodiversity
- Landscape and Visual
- Waste Management
- Traffic and Transport
- Public Rights of Way
- Local Flood Risk

1.6. Unless otherwise specified, the LIR only relates to the proposed development insofar as it affects the administrative area of Nottinghamshire.

1.7. For each matter above, the LIR will outline the key local issues relevant to the part of the proposal that is located within Nottinghamshire and the extent to which the applicant addresses the issues by reference to the application documentation, including the Environmental Statement (ES) and associated appendices and management plans. The LIR will comment on the effect they would have on the area, either positive, negative or neutral and the magnitude of that effect.

1.8. The County Council is a host authority to the proposed Steeples Solar Farm project. It has prepared this Local Impact Report in light of its statutory responsibilities, especially in respect of being the local highway authority including responsibility for rights of way, lead local flood authority, planning authority for mineral and waste development and as the managers of the Historic Environment Record, employing a County Archaeologist function. It is also providing comments on landscape and visual matters through its landscape service linked with its highway agency Via East Midlands.

1.9. The County Council and its controlling administration has long supported the transition of Nottinghamshire's legacy of power stations alongside the River Trent to becoming creators and suppliers of green energy. Nottinghamshire through its coal industry in the 20th Century supplied coal fired power stations and has a proud legacy of the energy industry and electrical installations within the Trent Valley. Local communities have benefited from employment within the energy sector and it is the County Councils ambition that the Trent Valley continues to be at the forefront of clean green energy development, using the existing power stations as the basis.

1.10. For this reason the County Council worked with Bassetlaw District Council to successfully bid for West Burton to be the home of the testing and scaling of the STEP approach to nuclear fusion in the UK. Proposals are currently being prepared for this project to be subject to consultation before submission through the nationally significant infrastructure project regime in 2028.

1.11. The site of the former Cottam power station to the south of the Steeples site is set for transformation into the UK's first nuclear-powered data centre campus. The Cottam data centre project will use Small Modular Reactors to provide clean power for data centres at the site.

1.12. The East Midlands Combined County Authority and the East Midlands Mayor are supporting the concept of a Super Cluster of sites along the Trent Valley from Gainsborough to Newark to assist in marketing the area as a hub for future green energy projects.

1.13. We cite these projects to illustrate that there are already projects likely to happen and supported by either national or local government which will impact on the locality and the Steeples project must be considered considering the overall impact of the widespread developments planned to take place. It cannot be viewed entirely in isolation.

1.14. The new administration of the County Council, elected in May 2025 continues to be pro-environment, pro the creation of secure, affordable and safe energy. It continues the stance of the previous administration in being against the development of large amounts of agricultural land for ground mounted solar. For large-scale solar farms that are NSIPs, the national policy statement for renewable energy infrastructure advises that such solar farms should be sited on previously developed and non-agricultural land.

1.15. The County Council administration takes issue with the concept of "net zero" the legally binding target to reach net zero greenhouse gas emissions by 2050 which is driving the Governments aim of delivering clean power by 2030 through low carbon power sources producing most electricity generation in Great Britain.

1.16. This approach is the basis for the explosion in projects for large solar developments in Lincolnshire and Nottinghamshire within easy access to the grid connections at the former power

stations. The approved Gate Burton, Cottam, West Burton and Tillbridge solar projects at nationally significant infrastructure (NSIP) projects in Lincolnshire involve underground cabling to the Nottinghamshire power stations. At present in addition to Steeples, there are NSIP proposals at North/South Clifton (One Earth Solar Farm) and west of Newark (Great North Road). This is in addition to the many solar developments approved by the local planning authorities through the normal planning application process. We are showing the extent of all these projects on a composite plan which is appended to this Local Impact Report Appendix 1. The cumulative impact of this growing list of approved projects will change the face of the wider Trent Valley area and impact on the way the valley is perceived. Whilst there have always been elements of non-agricultural industry in the Nottinghamshire countryside, these proposals are resulting in the wholesale transformation of green fields into glass and steel. We acknowledge that such projects are seen as temporary and reversable but the impact on local people will be felt for several generations.

1.17. In addition to the many solar projects in this area, the Trent Valley is also proposed to accommodate a new power line promoted by National Grid Energy Transmission (NGET) connecting land north of the Humber with High Marnham power station which will directly cross the site of the Steeples renewable project to the west of Sturton le Steeple. It appears to the County Council that the two projects are in conflict, and the promoters have reached no satisfactory agreement over the compatibility of their proposals.

1.18. We consider that the Steeples project could potentially prejudice delivery of the NGET power line project which may be seen as a higher priority since it is important to have power lines to distribute energy from offshore low carbon production sites into the country. Other energy developments should work around such developments.

1.19. These opening remarks serve to illustrate the wider impact of this proposal with others. Local residents have asked for a strategic plan to guide future developments. The present Bassetlaw Local Plan does not adequately reference the many new projects which are emerging. The County Council wishes to work constructively with Bassetlaw District and local residents to create a planning framework to help guide and manage the multiplicity of projects coming forward in this corner of Nottinghamshire.

1.20. We understand that Bassetlaw DC have not submitted relevant representations to date regarding the Steeples solar project, and we are unsure if they are planning to submit a Local Impact Report. We have therefore sought to be as comprehensive as possible to identify the significant impacts of this project from our perspective and seek to safeguard our local communities.

2. Project Proposal

2.1. The Proposed Development is defined under sections 14(1)(a) and 15(2) of the Planning Act 2008 as a NSIP, as it consists of construction of an onshore generating station in England exceeding 50 megawatts (MW). Associated development (e.g., PV module mounting infrastructure, inverters and transformers) and other ancillary works are also proposed as part of the Proposed Development.

2.2. The order limits of the Steeples Renewable Project consist of approximately 898ha of land comprising of predominantly agricultural land. The site includes also includes part of the existing West Burton Power Station site covering the area around the existing 400kV substation, and a number of local roads:

- Sections of Wheatley Road; Station Road; Gainsborough Road, and Wood Lane in the north-western portion of the Site; and
- Littleborough Road, and Common Lane, in the eastern portion of the Site.

2.3. The nearest settlement to the Site is Sturton le Steeple. There is a network of roads located both within the Site and adjacent to the boundary. The River Trent lies adjacent to the eastern boundary of the Site.

2.4. To allow sufficient flexibility for the final design to be confirmed post consent, the applicant has applied the principles of the 'Rochdale Envelope' to inform the environmental assessment work. This involves the technical assessments being undertaken and based on a defined 'envelope' within which the project will be delivered, featuring maximum and minimum design parameters, so that an assessment of the reasonable 'worst case scenario' can be undertaken. Each environmental topic has used the worst-case parameters within the 'Rochdale Envelope' to determine the potential for significant effects and identify suitable mitigation measures.

2.5. It is currently anticipated that the earliest the Proposed Development will commence commercial operation is the year 2029. It is anticipated that sections of the Proposed Development will commence their electricity generation in stages, rather than await completion of the Proposed Development before any renewable energy enters the National Grid.

2.6. The operational life of the Proposed Development is to be up to 40 years and decommissioning is therefore estimated to take place no earlier than the year 2069. Decommissioning is expected to span approximately 18 months – two years and will be undertaken in one phase.

3. Relevant Planning History

3.1. NCC is the Minerals and Waste Planning Authority for Nottinghamshire and is therefore responsible for determining planning applications for such developments. NCC is also responsible for determining applications submitted for its own developments.

Background to Development Proposal

3.2. Planning permission was originally granted for the development of a sand and gravel quarry including the construction of a new access road and erection of processing plant, ancillary buildings and a wharf facility with restoration to agriculture, woodland and water areas for amenity and nature conservation after-uses at Sturton le Steeple in October 2008 under reference 1/46/06/00014.

Table 1 - Planning History Nottinghamshire County Council, Applications of Note

Application Reference	Site	Development Description	Distance from Project (km)	Application Status
1/46/06/00014/	Land to the north & east of Sturton le Steeple	The extraction of sand & gravel, construction of new access, erection of processing plant, ancillary buildings & wharf facility. Restoration to agriculture, woodland & water areas for amenity & nature conservation end uses.	Within site limits	Granted October 2008 In March 2012 planning permission was granted under reference 1/46/11/00002/R to extend the implementation deadline set out within the original consent to 8 March 2017.
1/46/11/00002/R	Land to the north & east of Sturton le Steeple	Application to extend the time limit for implementation of sand and gravel extraction, previously granted under planning permission 1/46/06/00014	Within site limits	Granted March 2012
1/16/00354/CDM	Land to the north & east of Sturton le Steeple	to enable the quarry access road to be constructed in two stages: • The initial stage of developing the quarry	Within site limits	Granted May 2016

		access road relates to the construction of a 500m section of bound surface adjacent to Gainsborough Road (and the remainder of the haul road laid with stone) and for the use of this road for the removal of the first 100,000 tonnes of mineral from the site. • The second stage, which has not yet been constructed, includes the full surfacing of the haul road along its entire length.		
1/16/00354/CDM		Vary conditions 8 and 11 of planning permission 1/46/11/00002/R to enable the quarry access road to be constructed in two stages. The initial stage incorporates the construction of a 500m section of bound surface adjacent to Gainsborough Road which shall be used for the removal of the first 100,000 tonnes of mineral, thereafter the		Granted May 2016 - The 2016 planning permission was implemented in September 2016 through the construction of the first 500m section of the haul road with a bound surface, but the full length of the road in stone surfacing was not constructed. A small quantity of mineral was extracted in March 2017 and utilised for site engineering

		second stage shall provide for the full surfacing of the haul road along its entire length for the removal of the remaining mineral in the permitted reserve.		purposes, but no mineral has yet been removed from the site.
1/20/00605/CDM		to defer the restoration obligations imposed under Condition 68 of planning permission 1/16/00354/CDM to delay the submission of a revised restoration scheme for the quarry until after the 15th April 2022. A further s73 permission was granted in April 2022 to again afford more time for mineral extraction and postpone early restoration.		June 2020
1/22/00047/CDM		Variation of the trigger date of conditions 67 and 68 to 31 December 2024 to afford sufficient time for additional surveys, to secure all necessary approvals under non-planning regimes and		This is now the operational permission. Non-material amendments have been approved with respect to completing the rest of the access road. This has now been built out. Other

		implementation works to take place prior to extraction recommencing		preparatory works are ongoing at this time, including the construction of the main processing plant.

4. Planning Policy Context

4.1. The Secretary of State (SoS) is required to have regard to any relevant national policy statement (NPS), amongst other matters, when deciding whether to grant a DCO. Where there is a relevant NPS in place DCO applications are determined in line with Section 104 of the Planning Act 2008.

4.2. The following NPSs are considered relevant to the determination of this DCO Application and set out the assessment principles for judging impacts of energy projects:

- EN-1 - National Planning Policy Statement for Energy
- EN-3 – National Planning Policy Statement for Renewable Energy Infrastructure
- EN 5 – National Planning Policy Statement for Electricity Networks Infrastructure

4.3. The Development Plan Framework for the impacted area of Nottinghamshire includes the:

- Bassetlaw Local Plan 2020-2038 (May 2024)
- Nottinghamshire and Nottingham Waste Local Plan (September 2025)
- Nottinghamshire Minerals Local Plan (March 2021)

4.4. The subsequent section on the assessment of impacts will refer to relevant national and local policies, as far as they relate to the matters which are covered within this LIR. Other relevant polices from the development plan framework will be referred to within the district council LIR.

5. Assessment of Impacts

This section of the report provides comments from specialist service areas on the technical assessments within the Environmental Statement (ES) submitted with the application and the likely impacts of the proposed development upon Nottinghamshire, focussing on the issues relevant to NCC.

5.1. Built Heritage

5.1.1. Local Policy:

Bassetlaw Local Plan 2020-2038 (May 2024)

- Policy ST40: The Historic Environment
- Policy 41: Designated and Non-Designated Heritage Assets

5.1.2. National Policy:

• Section 5.9 of EN-1 (Historic Environment) acknowledges that the construction, operation and decommissioning of energy infrastructure has the potential to result in adverse impacts on the historic environment above, at and below the surface of the ground (5.9.1);

• Sections 5.9.9 to 5.9.15 lays out requirements for the ES assessment to provide a description of the significance of the heritage assets affected by the proposed development and the applicant should ensure that the extent of the impact of the proposed development on the

significance of any heritage assets affected can be adequately understood from the application and supporting documents;

• Sections 5.9.16 to 5.9.21 presents requirements for mitigation of development impacts on archaeology identified within the order limits.

• Additional guidance for Renewable Infrastructure and Cultural Heritage is presented at Sections 2.10.107 to 2.10.119 of EN-3 and expands slightly on guidance from EN-1.

• Section 2.10.112 and Footnote 94 of EN-3 require assessment to be include information on the Historic Environment Record (HER) and the results of pre-determination evaluation and that this in turn should inform design of the scheme.

General Issues

5.1.3. **Setting of Littleborough SAM:** The amended details show that the area around the Littleborough Roman Town Scheduled Ancient Monument (SAM) has now been removed from the project. This is very much welcomed as it would help to preserve most of the significance of the SAM. The detached area to the west of the proposal site, north of Caddow Wood, has also been removed. As illustrated on the contour map on my previous comments, that area was considerably higher (above sea level) than the surrounding landscape so development on that site was likely to have a considerable impact. Again, the removal of that site is welcomed.

5.1.4. **Setting of Crow Tree Farm listed building:** Land South of Station Road and west of Crow Tree Farm (Appendix 2) there is a public footpath which goes in a NW to SE direction, which affords views towards 3 prominent local landmarks in the village, all listed, namely the curtilage-listed former agricultural building range next to Crow Tree Farmhouse (now called Oak Barn, Crow Tree Barn and Millers Barn), West End Farm (including its curtilage-listed barns), and the Church of St Peter & St Paul. The open views along this footpath form a key part of the setting of those Listed Buildings, especially the church, and the addition of solar within that immediate area would fail to preserve their setting. It is therefore recommended that the area to the north of the dotted line shown on the attached plan be removed from the proposal, so as to better preserve the setting of those important Listed Buildings.

5.1.5. **Setting of grouping of listed buildings along Main Street North Leverton:** in the land adjacent Manor Grove (Appendix 3), North Leverton there is a public footpath that runs through this site. The open countryside contributes to the rural setting of the heritage assets along Main Street, and it is therefore recommended that this area be taken out of the proposal.

5.1.6. NCC also has concerns relating to the impact on the wider setting outside of the 3km boundary, which includes North Leverton Windmill.

5.1.7. Regarding the LVIA provided with the application we have the following observations:

- The viewpoints and photomontages, taken as a whole, do not provide for a very thorough appreciation of the visual impacts that will be experienced as a result of the solar panels and the proposed screen planting. There are some particularly significant

long views of open Trent Valley landscape that take in various listed buildings (in particular the churches and windmill), the proposed solar scheme will be quite visible in these views and it is hard to imagine how moving through this landscape the appreciation of the rural character of the area will not be negatively impacted. As a result the present distinctively rural, agrarian landscape setting of the Heritage Assets within the valley views will all be harmed.

- The cumulative impact assessment is lacking a ZTV that includes the Gate Burton solar scheme to the east.
- The cumulative impact assessment lacks a thorough examination of moving through and within the surrounding Trent Valley area and the photo montages do not address the potential for various parcels of solar, BESS and other industrial development to be intervisible within views that include designated Heritage Assets.

5.1.8. Regarding the Cultural Heritage chapter and assessment of impacts on setting:

- Burton Chateau grade II* listed building sits on elevated land close to the river Trent on the Lincolnshire (West Lindsey) side of the valley. The development will be visible within the design landscape views from this heritage asset (which was deliberately located within the design landscape of Gate Burton Hall). These views are included in those presented on the Landmark Trust's booking website for Burton Chateau and highlights the importance of the Trent Valley rural, agrarian landscape in promotion of the area to visitors. We disagree with the removal of this asset from thorough examination of impacts on its setting.
- North Leverton Windmill, grade II* listed building is a very significant local tourism and educational resource. The assessment of the impact on the setting of the windmill provided in the ES Cultural Heritage chapter is not a fair representation of the role of the Trent Valley landscape in the appreciation of the windmill as a heritage asset and it does not recognise the significant landmark status of the windmill in the wider landscape views, within which it is a distinctive and very well recognised element of the rural character of the area.
- Impacts on the setting of North Leverton Windmill are likely to be at the highest end of 'less than substantial harm' category with regards to the NPPF.
- The solar scheme has the clear potential to impact on financial viability and thereby on the 'optimum viable use' of both North Leverton Windmill as a visitor destination and to a lesser extent Burton Chateau as a holiday let, thereby causing direct harm to both of these grade II* designated heritage assets. Without the evidence to prove otherwise, we would consider this impact to fall into the 'substantial harm' category with regards to the NPPF.

5.2 Buried Heritage

Local Policy – Bassetlaw Local Plan

- Policy ST40: The Historic Environment
- Policy41: Designated and Non-Designated Heritage Assets

National Policy

5.2.1. National Policy Statement for Energy (EN-1) (2023), Section 5.9 Historic Environment

- Section 5.9 of the acknowledges that *the construction, operation and decommissioning of energy infrastructure has the potential to result in adverse impacts on the historic environment above, at and below the surface of the ground* (5.9.1);
- Sections 5.9.9 to 5.9.15 lays out requirements for the ES assessment to provide a description of the significance of the heritage assets affected by the proposed development and the applicant should ensure that the extent of the impact of the proposed development on the significance of any heritage assets affected can be adequately understood from the application and supporting documents;
- Sections 5.9.16 to 5.9.21 presents requirements for mitigation of development impacts on archaeology identified within the order limits.

5.2.2. National Policy Statement for Renewable Energy Infrastructure (EN-3) (2023)

- Additional guidance for Renewable Infrastructure and Cultural Heritage is presented at Sections 2.10.107 to 2.10.119 and expand slightly on guidance from EN-1.

- Section 2.10.112 and Footnote 94 require assessment to be include information on the Historic Environment Record (HER) and the results of pre-determination evaluation and that this in turn should inform design of the scheme.

5.2.3. It is the Council's position that to properly assess the impact of a development upon archaeology, the applicant should provide sufficient desk-based research, non-intrusive survey and intrusive field evaluation to adequately understand the archaeological resource within the scheme and detail the proposed development impacts upon it. This is necessary to design an agreeable Archaeological Mitigation Strategy (AMS) to limit as far as possible the proposed development impacts. The Environmental Statement (ES) must present the full range of findings from this archaeological work and provide an evidential basis for at least an Outline AMS (OAMS) for consideration at Examination.

5.2.4. The scheme proposes significant solar development over a large area of north Nottinghamshire covering approximately 888 hectares and in known areas of high archaeological potential and sensitivity as recorded on the Nottinghamshire Historic Environment Records (NHER). Within the Order Limits, these include numerous known late Iron Age and Roman settlements, sited either side of a major Roman road (Margary 28a) that branched off from Ermine Street and provided an alternative route around the Humber, avoiding the unreliable ferry crossing. The road fords the River Trent at Littleborough at the eastern end of the site and bisects it along the full length to exit north-west of Sturton le

Steeples. Significant medieval settlement remains are also known within and around the Order Limits, one of which is protected under the Ancient Monuments and Archaeological Areas Act 1979. It is highly likely that numerous unknown Roman and potentially other period sites are present within the Order Limits.

5.2.5. The applicant has submitted an Environmental Statement in support of the application and considers archaeology at Chapter 9, Cultural Heritage (APP-067). Supporting appendices have also been submitted and comprise:

- Cultural Heritage Technical Baseline (APP-122)
- Magnitude Surveys Geophysical Survey Report (APP-123)
- Archaeological Mitigation Statement (APP-124)
- Outline Written Scheme of Investigation for Pre-Determination Trial Trenching (APP-125)
- Outline Written Scheme of Investigation for Post-Consent Archaeological Works (APP-126)

5.2.6. The applicant's submission relies primarily upon desk-based work and non-intrusive geophysical survey (solely magnetometry). While this has identified several areas of high archaeological potential, the full extent, state of preservation, depth, date and significance of the archaeology has not been established in any meaningful way and the approach to date is significantly flawed in this regard.

5.2.7. For solar development, we would expect by Examination for the areas of high archaeological potential and for areas of high ground impact to have been subject to trial trench evaluation. This is necessary to adequately record the extent, presence/absence, state of preservation, depth, date of the archaeological remains present and is the only means to properly establish **significance** which is key to EIA assessment. It is also key to designing an appropriate Archaeological Mitigation Strategy and Footnote 94 of EN-3 is very clear in asserting that: ***The results of pre-determination archaeological evaluation inform the design of the scheme and related archaeological planning conditions*.**

5.2.8. **The applicant has recently undertaken limited trial trench evaluation of the BESS and substation compounds comprising 16 trenches. While this is welcomed, the overwhelming majority of the site remains un-evaluated and in a state where the applicant does not understand the archaeological resource sufficiently to assess the proposed development impact.**

5.2.9. The pre-determination trenching is confined to the BESS and substation area and does not include other areas of infrastructure such as new roads/tracks, cable trenching for both for connecting rows of panel arrays and for grid connection, or for landscaping and ecological management areas. It also fails to include the areas of archaeological sensitivity that their own assessment work has identified.

5.2.10. The applicant's Archaeological Mitigation Strategy (AMS) presented at APP-124 is therefore based on insufficient data and is not a reliable document for basing a comprehensive mitigation strategy. The documentation suggests that solar schemes are flexible and that detailed assessment at the application stage is therefore unnecessary (Rochdale Envelope), however this is not support by current guidance, particularly NSIP Projects – Advice Note Nine

(5.2): ***'Implementation of the Rochdale Envelope assessment approach should only be used where it is necessary and should not be treated as a blanket opportunity to allow for insufficient detail in the assessment. Applicants should make every effort to finalise details applicable to the Proposed Development prior to submission of their DCO application. Indeed, as explained earlier in this Advice Note, it will be in all parties' interests for the Applicant to provide as much information as possible to inform the Pre-application consultation process.'*** And The Infrastructure Planning (Environmental Impact Assessment) Regulations 2017: ***'The EIA must identify, describe and assess in an appropriate manner…the direct and indirect significant impacts of the proposed development on…material assets, cultural heritage and the landscape.'*** (Regulation 5 (2d))

5.2.11. The AMS presents 4 areas of high archaeological potential identified in the geophysical survey report. It proposes that these areas are removed from development. In principle we strongly support this approach, however the data these exclusion areas are based upon are necessarily limited due to a lack of trial trench evaluation. Experience from numerous sites in the County show that geophysics results usually only provide a partial view of the extent of archaeological remains and often fail to identify significant archaeology at all. The full extent of these areas would be established more accurately when combined with trial trenching results. The applicant's own report recognises the limitation of using geophysics as the sole prospection technique at section 7.1. While we support the use of exclusion for these areas, the full extent and nature of the archaeological remains have yet to be sufficiently determined.

5.2.12. Further, no provision has been made for intrusive evaluation of any other areas of high potential identified in the desk-based and non-intrusive work presented. The geophysics report records 8 areas of archaeological potential and only 4 have been addressed in the AMS. Further scrutiny of the report also shows that not all potential anomalies have been presented in the interpretation section. For instance, probable enclosures are shown in the greyscale plots in Figure 9 & 10 (western side of the map) but are not shown on the interpretation at Figure 11. Further, many of the greyscale plots show enhanced disturbance, possibly from green waste or changes in geology, across large parts of the site (see Figures 15 & 18) which will have likely obscured any archaeological remains present. In such instances, evaluation trenching is necessary to assess archaeological potential.

5.2.13. The Outline Written Scheme of Investigation for Post-Consent Archaeological Works presented at APP-126 is incredibly vague and of little value due to the lack of trial trench evaluation to date. We strongly refute the statements at Sections 2.4, 2.6 and 2.7 and cite again Advice Note Nine and guidance in EN-3 including Footnote 94 as well as the sections that that applicant has quoted which do indeed mention field evaluation. Field evaluation is 'necessary' in areas where no previous disturbance may have removed it (historic quarrying) to prospect as well as characterise archaeology. The applicant's interpretation of Policy is simply incorrect and highly irresponsible in relation to managing risk to the development.

5.2.14. In many sections of the post consent (OWSI) that applicant states that 'no confirmed evidence' for each period has been identified or makes assumptions upon dates for features without sufficient evidence to support it. This is entirely down to their flawed and insufficient approach. In general, you are unlikely to identify something if you don't look for it. This is not an acceptable approach to any assessment.

5.2.15. The approach presented in the post consent OWSI can be summarised as 'we'll determine the scope of work later'. This provides considerable risk to the applicant or their successors when implementing the consented scheme. However, NCC do agree with sections 5.4 relating to separate WSI's for each phase of work, section 5.5 relating to contingency trenching and section 5.7 relating to likely requirements for mitigation work. The work will also need an Archaeological Clerk of Works to have oversite of work on the ground and to liaise between the developer's delivery team, consultant, archaeological contractor and relevant stakeholders.

Proposed Impacts

5.2.16. Chapter 9 assesses impacts upon archaeology from section 9.7.3 onwards. This section is necessarily very general due to the lack of assessment information as discussed earlier. The area identified in the desk-based work (*Segelocum* Roman town) and the 4 areas identified in geophysical survey have been removed from development which is welcomed. An appropriate management strategy for these areas will need to be presented in detail, however the impact from development in these areas is considered **low**. Until further field evaluation has been carried out, and the archaeological resource has properly defined and understood, and an appropriate and detailed Archaeological Mitigation Strategy designed, the impact from intrusive ground development where it encounters archaeology will be **significant, adverse** and **negative.**

5.2.17. Section 9.7.12 asserts that there will be no direct impacts, however this fails to address concerns around mid-life refits and maintenance and should be considered further.

5.2.18. Section 9.7.23 considers decommissioning and makes assumptions on significance of archaeological remains that cannot be supported by the level of assessment work to date. As with the construction phase, until further field evaluation has been carried out, and the archaeological resource has properly defined and understood, and an appropriate and detailed Archaeological Mitigation Strategy designed, the impact from intrusive ground works associated with decommissioning where it encounters archaeology will be **significant, adverse** and **negative.**

<u>Proposed Mitigation</u>

5.2.19. Chapter 9 presents an outline strategy for mitigation and enhancement from Section 9.8 onwards. This is necessarily vague and general due to a lack of proper assessment except for the 4 areas identified in the geophysics and the *Segelocum* Scheduled Monument.

5.2.20. Section 9.8.2 provides for trial trenching both pre and post determination. None of this has been undertaken to date and we would expect all the sensitive areas identified and high impact areas to be completed for Examination. To reiterate, until this has been completed, the applicant cannot provide an accurate assessment of archaeological potential or significance.

5.2.21. Once a proper trenched evaluation has been undertaken, we would broadly support the measures suggested in Sections 9.8.3, 9.8.4 and 9.8.5, although the specific details for mitigation work will need to be agreed.

5.2.22. We broadly support the proposals for the operational phase (Sections 9.8.6 and 9.8.7) but would include further measures for areas where ground works are necessary for refit and maintenance and have not already been included in assessment or mitigation work prior to construction. **We would also seek to remove any Permitted Development rights in areas that have not been properly assessed or been subject to mitigation work or measures.**

5.2.23. We also welcome the approach to preservation areas during decommissioning (Section 9.8.9), but would also seek additional work in areas that have not already been included in assessment or mitigation work prior to construction.

Conclusions

5.2.24. The Council has profound concerns regarding the approach that the applicant has taken to archaeology on this site. It lies in an area for particular archaeological potential relating to Roman and later settlement, being bisected by a major Roman road. Numerous significant sites have been recorded around it, including extensive remains on the new quarry adjacent and to the north-east of order limits.

5.2.25. The evidence presented to date relies on limited data that has not been investigated adequately to provide any indication on the actual significance of the archaeology present. Currently the applicant can make no reliable statements on significance, extent, date, state of preservation or depth of any of the archaeology that they themselves have identified through non-intrusive work. This is a highly flawed approach and does not meet the basic requirements of planning policy or guidance, or indeed that of the professional standards expected.

5.2.26. The limited data presented indicates the presence of significant archaeology across the site, but does not yet provide sufficient site-specific detail on the nature of much of it and therefore cannot assess the development impacts upon it. Further, it does not yet offer an agreeable programme of mitigation work to offset those impacts, although the high-level strategies discussed may be appropriate once the archaeological resource is properly understood.

5.2.27. In our experience of sites of this size and potential impact, trenching results are necessary to test the reliability of the geophysics results and are also essential for effective project risk management if the DCO is granted. Failing to adequately evaluate a site of this nature could lead to unnecessary destruction of heritage assets, potential programme delays or delivery issues and excessive cost increases that could otherwise be avoided.

5.2.28. Where insufficient assessment has been undertaken and excluding the 5 areas already removed from development, the Council's position must be that the development will have a **significant, adverse and negative impact** on the archaeological resource when encountered within the Order Limits.

5.2.29. The wording of an appropriate archaeological DCO requirement will depend on the level of assessment work that has been completed by the close of Examination. We recommend that if some evaluation trenching is still outstanding, then wording similar to that for the recently approved Mallard Pass scheme would be appropriate. It is likely that the implementation of further post-consent assessment work and mitigation work will be complicated and we are

currently working with Solar Energy UK and the Chartered Institute for Archaeologists to formulate appropriate requirement wording in such instances.

5.2.30. This position will alter when the applicant completes an acceptable programme of pre-determination evaluation, presents an agreeable programme for post-consent evaluation and assessment work and is able to submit their detailed and properly informed AMS for Examination.

5.3 Biodiversity

5.3.1. The following comments are a summary of the concerns NCC have regarding the ecology impacts (including Biodiversity Net Gain) of the Proposed Development, having reviewed all documents submitted as part of the application for DCO EN010163 – Steeple Renewables Project Examination Library in relation to ecology and BNG. Further comment will be provided at a later stage of the assessment process.

Ecology

5.3.2. We have some concerns in relation to the proposed enhancements, namely the works which will be undertaken to complete the enhancements in the biodiversity mitigation areas as further species surveys have largely been omitted from the biodiversity areas, which may be impacted by these proposed enhancement works i.e. works to watercourses, other habitat creation works.

5.3.3. Clarification is required on the methodology used for the aquatic invertebrate surveys, as only one survey occasion was completed for each waterbody. This approach does not seem sufficient as one survey occasion for each waterbody is very limiting and any environmental conditions i.e. such as the drought this year may impact the results or provide an inaccurate overview of the species present.

5.3.4. The Environmental Statement (ES) chapter considered that both mink and water vole are present in low numbers at the site, yet no mitigation or enhancements specifically for these species has been provided, other than watercourse enhancements, which form part of the BNG works. We would like to see some enhancements proposed specifically for water vole, such as the commitment to the control of mink (an invasive non-native species) and possibly some of the waterbodies enhanced specifically for water vole.

5.3.5. The ES chapter states "*The design of the Proposed Development is such that no direct impacts on habitat that could be used by roosting or nesting barn owl will be affected. The need for further survey will be assessed once the construction detail and timing are known, and if the risk of disturbance of a barn owl becomes a possibility".* At this stage the construction detail and timing should be known and therefore the requirement for further surveys.

5.3.6. We require further clarification on badger setts as the impact assessment and mitigation and enhancement sections within the ES Chapter contradict each other. In addition, we would like to see proposed mitigation for this species i.e. buffer zones and gaps in fences with the current known badger setts/evidence of badger (e.g. mammal paths) mapped on a plan. Mammal gaps should also benefit other species observed at the site such as brown hare.

5.3.7. No impact assessment for this invasive species has been provided. We would like to see some mitigation as part of the enhancements for these species – e.g. the removal and control of Canadian waterweed. Over time this species could naturally spread into other watercourses across the site, and we would be keen to remove this issue before it becomes a wider ecological issue across the site and local area.

5.3.8. We have concerns about the proposals for the directional drilling proposed underneath the watercourses as no assessment for this appears to have been provided in the ES for the likely impacted species i.e. fish.

5.3.9. We also have concerns about impacts on skylarks. The ES chapter estimates that mitigation, as set out in the Skylark Mitigation Strategy, will mitigate approximately 55% (against the 2023 total of 105 territories) to 64% (against the 2024 total of 90 territories) of the territories to be displaced by the proposal solar infrastructure. This is assessed as an ***adverse residual effect significant at a Local level***, as well as an ***adverse cumulative effect significant at the Local to District level.*** It is indicated that some further habitat creation will provide 'secondary biodiversity benefits' including providing nesting habitat for skylark, as listed in para 4.8 of the Skylark Mitigation Strategy, which will further increase the total number of post-development skylark territories, but this is not quantified. It would be useful to attempt to do this, whilst recognising the constraints in doing so. Nevertheless, it is apparent that a residual impact on this Red Listed (but still widespread) species would remain.

5.3.10. We require more information in relation to the Decommissioning proposals, whilst appreciating that not all impacts are known at this stage. We would like to understand the level of monitoring and surveying proposed to inform the impacts prior to decommissioning. In addition, we would want to see that no decommissioning works are undertaken within nesting bird season and this secured, as the mitigation for ground nesting skylark should increase the number of territories and nests across the site.

5.3.11. We would also like some indication about expectations for the Site once the decommissioning has been undertaken, such as whether it will put back into its original use and whether areas such as the grassland margins around the solar arrays and mitigation areas be lost.

5.3.12. In relation to the outline CEMP – there are a few sections in the ecology table which state "*These measures are described within the outline CEMP".* These statements and the lack of details within this document need to be reviewed and updated, as currently the outline CEMP does not provide enough details. In addition there are the following issues which need rectifying/adding to the proposed mitigation:

- The proposed nesting bird surveys, should they be required in nesting bird season, must be undertaken by a suitably qualified and experienced ecologist.
- In relation to reptiles and amphibians, a directional two-phase cut (with 24 hours left between the two cuts) of the suitable vegetation should be undertaken rather than just progressive removal. This more precautionary approach should be undertaken as no reptile surveys were undertaken and therefore the distribution and populations of any reptiles at the site is currently unknown.
- Specific hand searches for reptiles, amphibians and hedgehogs should be undertaken immediately prior to any dense vegetation removal works, i.e. hedgerows, tussocky

grassland, scrub etc where these species could utilise as refuge or hibernation/breeding sites. This must be undertaken by a suitably qualified and experienced ecologist.

- A buffer plan for the entire site should be made available for review. This would make the buffers easier to understand and implement for the contractor prior to the start of the construction works.
- A 'dark corridor plan' should also be produced, where no artificial lighting will be present (temporary or permanent) to protect light-sensitive (i.e. potential bat roosts, barn owl roosts, badger setts etc.).

5.3.13. In relation to the outline LEMP, there are details missing within this document, with sections stated to be provided in detail as part of the final LEMP. We will review and provide further comments on this document once all details are known, but currently we broadly agree with the outline creation and management prescriptions provided. In addition, we would like to see proposals for areas of tussocky grassland to benefit amphibians and reptiles but also provide more barn owl foraging habitat across the Site.

5.3.14. Further, having reviewed the Figure 6.9 Landscape and Ecological Mitigation Strategy plans, it is noted that some changes have been made to the Eastern Mitigation Area to reflect discussions held in March 2025, particularly in relation to the floodplain grazing marsh area to the north of Littleborough Lagoon. However, a number of further suggestions have not been adopted, and an explanation for this is required. In particular, it was requested that:

- The two scrub blocks should be removed from the 'inverted V' grassland areas in the centre of the Eastern Mitigation Area, to maximised the likelihood of ground nesting birds, including species such as Lapwing, using this area. The scrub can be relocated to peripheral areas.
- Consideration be given to consolidating grassland areas in the Eastern Mitigation Area into one larger block on the eastern side of this area to give ecological benefits as well as potentially simplifying management.

<u>Biodiversity Net Gain</u>

5.3.15. Biodiversity Net Gain (BNG) as it is not a mandatory requirement for NSIPs, and a BNG metric spreadsheet was not available for review at the time of the most recent submission; therefore, more detailed comments will be provided at a later stage.

5.3.16. The BNG proposals and approach to the assessment is well considered and detailed with relevant justifications provided where necessary. Overall, there is proposed to be a net gain for all habitat types, which is to be expected for a solar scheme. There are a couple of clarifications which we would like provided in relation to APP-114 6.3.7 Appendix 7.12 Biodiversity Net Gain, Chapter 5:

- *Individual trees are not recorded separately within the baseline value as they will be retained, except for potentially irreplaceable (veteran) trees, which have been precautionarily listed within the SBM (see irreplaceable habitats subsection in section 4*). Does this mean that any individual trees other than the "irreplaceable" trees have not been included, or that any trees within hedgerows have not been included?
- Hedgerow assessment – we agree with the desk-based approach in principle, but would like clarification if the hedgerows which are to be impacted (i.e. areas removed for access)

were also subject to condition assessments? Section 5 reads as if only the hedgerows with five or more species were surveyed, which might not include those to be directly impacted.

- In addition to the above clarifications, we would like more details in relation to the proposed watercourse enhancements as currently it's not clear what enhancements are proposed at which watercourses and whether they will further impact protected species.

5.4 Landscape and Visual

5.4.1. Local Policy:

- Bassetlaw Local Plan
    - o Policy ST35: Landscape Character

5.4.2. National Policy

- EN-1 confirms that all energy infrastructure projects will have adverse effects on landscape and that projects need to be designed carefully, taking account of the potential impact on the landscape and the aim should be to minimise harm to the landscape, providing mitigation where appropriate. The applicant should carry out a landscape and visual impact assessment and report it in the ES, including cumulative effects, with reference to any local character assessments.
- Further guidance in relation to solar farms is provided in EN-3 which places emphasis on effective screening, including through native hedges, trees and woodlands.

5.4.3. AAH Consultants (AAH) has been commissioned to prepare a review of the Landscape and Visual (L&V) elements of the application documents on behalf of NCC and BDC. The review is presented as a report and is set out in Appendix 4. It provides comments on the presentation of the L&V Chapter of the ES, the methodology and scope of assessment, the appraisal of landscape and visual baseline and effects and the mitigation and design of the project.

5.4.4. This section of the LIR provides an overall summary and conclusion on the suitability of the Landscape and Visual elements of the DCO Application and whether they are sufficient to support an informed decision. This includes the adequacy of the LVIA, reviewed in accordance with the Landscape Institute Technical Guidance Note 1/20 (10 Jan 2020): Reviewing Landscape and Visual Impact Assessments (LVIAs) and Landscape and Visual Appraisals (LVAs). It also includes recommendations for further information that should be provided to assist in the examination of the DCO Application. However, it is recommended that the full report appended to the LIR is read to understand the wider context and reasoning for the conclusions.

5.4.5. The LVIA and the associated figures, appendices and documents provide a thorough analysis of the Development and is appropriate to the scale and context of the Site. The process of assessment is thorough and well explained in the volumes, which include a clear summary of findings and identification of significant effects on the landscape and visual baseline. There are some parts of the assessment that we have highlighted issues with, which are summarised below.

<u>Summary and Conclusions on the LVIA</u>

5.4.6. By virtue of its scale and massing, we judge that the Development would result in Significant adverse effects on landscape features, local landscape character and visual amenity during all key phases (construction, early operation, and at year 15). The proposals would fundamentally alter the character of the Site and its immediate surroundings, replacing open, agricultural fields with extensive solar infrastructure. This represents a substantial and long-term change to the openness, tranquillity, and rural character of the area.

5.4.7. The LVIA and supporting documentation are generally proportionate to the scale of the Development and demonstrate compliance with GLVIA3 and relevant Landscape Institute guidance. The assessment is clearly structured, with separate consideration of landscape and visual receptors, and has been prepared by a competent practitioner. However, a number of methodological, baseline and interpretative issues limit the robustness of the conclusions reached.

5.4.8. While the methodology broadly reflects GLVIA3, there are inconsistencies in how Significance is defined when compared with the wider ES methodology. Professional judgement is relied upon throughout, but justification for value and susceptibility, and ultimately sensitivity, and magnitude judgements is limited for both landscape and visual receptors. Greater transparency is also required in explaining how thresholds of Significance have been applied, and in clarifying whether the LVIA has assessed a genuine worst-case scenario under the Rochdale Envelope approach.

5.4.9. The landscape baseline description is relatively cursory, with limited analysis of key landscape features and perceptual qualities. The omission of explicit assessment of land use change, from open arable farmland to large-scale solar infrastructure, represents a significant gap, given that we judge this is the most fundamental alteration to landscape character. While beneficial effects are claimed for new planting at Year 1 and Year 15, we seek additional information on these points, as these are likely more accurately described as mitigation, rather than true enhancement. We judge that the scheme would result in Significant adverse landscape effects at construction, operation and decommissioning, with long-term changes to local landscape character that should be considered effectively permanent.

5.4.10. The visual assessment identifies a range of receptors, but again transparency on the value and susceptibility of these receptors is lacking. Significant adverse visual effects are identified at construction and early operation, particularly for PROW users and those on the local road network. However, we disagree with the LVIA's conclusion that all significant effects dissipate by Year 15, as the mitigation planting itself alters the baseline character of views, often foreshortening open vistas and potentially introducing new, landscape elements that may appear out of character in this landscape. We also consider that several residential properties within 500m will experience adverse effects that would likely be judged as Significant, whereas the LVIA does not identify any Significant visual effects to residents in properties.

5.4.11. Whilst the LVIA concludes no significant cumulative effects, we consider the scale of renewable and grid-related projects in Nottinghamshire and Lincolnshire presents a substantial risk of cumulative and sequential change at regional levels. Large-scale solar and energy

infrastructure are likely to become defining characteristics of the regional landscape, altering openness, tranquillity, and perceived rural character. Sequential effects for PROW and road users are of particular concern, with repeated experiences of large-scale solar resulting in a diminished capacity to tolerate change.

5.4.12. The iterative design process is referenced, but buffers, or offsets, to sensitive visual receptors appear limited. Mitigation planting is relied upon heavily to reduce adverse effects, but this in itself has the potential to be out of character in this open arable landscape. The Outline Landscape and Environmental Management Plan (OLEMP) provides a framework for future detailed designs and management of the scheme, but long-term commitments (well beyond 5 years) to establishment, monitoring and replacement planting must be secured. Without this, the predicted Year 15 reductions in effects cannot be relied upon.

5.5 Minerals and Waste Management

5.5.1. Local Policy:

- Nottinghamshire and Nottingham Waste Local Plan (2025)
    - SP1 – Waste Prevention and Re-use
    - SP8 – Safeguarding Waste Management Sites

5.5.2. National PolicyEN-1 states that proposals should ensure that sustainable waste management is implemented through the waste hierarchy and that disposal of waste should only be considered where other waste management options are not available. The applicant should set out the arrangements that are proposed for managing any waste produced and should include information on how re-use and recycling will be maximised in addition to proposed waste recovery and disposal.

5.5.3. It is recognised that the applicant has addressed the comments made by the County Council previously in terms of recognising that the Nottinghamshire Minerals Local Plan (adopted March 2021) forms part of the suite of development plans for the Local Area. However, there is still no reference to the Nottinghamshire and Nottingham Waste Core Strategy and emerging Nottinghamshire and Nottingham Waste Local Plan within the Planning Statement, despite the applicant indicating it has been included within their response to point five in the Consultation Report: Appendix Part H. Neither Plan, or its relevant policies, are referenced within paragraph 6.14 as suggested nor within Appendix C (labelled as Appendix D within the Planning Statement) titled Local Policy Accordance Table. As detailed in our previous response in January, the County Council consider that the application is in accordance with Policy SP1, as it seeks to manage waste high up the waste hierarchy as possible, and Policy SP8 as there are no safeguarding concerns. It would be appreciated if this could be added within the Planning Statement to demonstrate the applicant has considered them.

5.5.4. The County Council previously highlighted that the Eastern area of the proposed site lies within the Mineral Safeguarding and Consultation Area for sand and gravel, with the allocated and permitted quarry of Sturton le Steeple also nearby. To ensure the safeguarding of the quarry and mineral resource, the County Council asked the applicant to prepare a Minerals Resource Assessment, something which other similar DCO applications have provided. The applicant however has not submitted a Minerals Resource Assessment but included a section in their

Planning Statement under section 6.11 for mineral safeguarding. The County Council consider that this not sufficient due to reasons set out below.

5.5.5. Firstly, paragraphs 6.11.2 to 6.11.10 in the Planning Statement do not mention the permitted and allocated Sturton Le Steeple quarry nor discuss how the application has considered and assessed potential impacts on the quarry in terms of its operation and restoration. Sturton Le Steeple is allocated under Policy MP2c of the Nottinghamshire Minerals Local Plan and is one of several sites that ensure a steady and adequate supply of sand and gravel in Nottinghamshire to meet expected demand over the Plan period (2036). The quarry has planning permission for extraction (1/22/00047/CDM) until December 2035, with operator Holcim looking to commence extraction in 2026. Considering the resource in the area and the delay in extraction commencing, it is likely that the quarry life will extend beyond 2035 and so will be present at the start of the DCO applications life, if permitted. The County Council believe that the applicant should assess the potential effects of the proposal on the quarry and provide assurance that it will not impact the quarry's operation nor its agreed restoration. This is of particular importance as the applicant proposes to use the quarry's access road, which is due to be removed when the quarry is restored. Whilst the applicant notes that they will work with the quarry operator to avoid any potential conflicts in relation to the access road, further evidence and so reassurance should be provided through a minerals resource assessment.

5.5.6. Secondly, the applicant has indicated in section 6.11 of the Planning Statement that the mineral resource (across the wider project area) will not be sterilised due to limited ground disturbance and that it is of a temporary nature meaning that the resource will be available following the decommissioning of the site. The County Council recognise that the nature of development would not physically sterilise the resource but, as detailed in our previous response, the mineral present could be sterilised from an economical and practical sense. If Sturton quarry was to close and be restored, following extraction of its currently permitted mineral reserves, prior to the decommissioning of the DCO proposal, then the access road and processing plant will have been removed from the quarry site, which are considerable financial investments. Once removed it is therefore unlikely that future proposals and extensions for mineral extraction in the locality would be brought forward following decommissioning of the solar farm due to the cost of re-establishing such infrastructure. It is also questionable whether the proposed biodiversity mitigation area, which falls in the mineral safeguarding area, would be fully removed at the decommissioning stage as it would be well established after the expected 40-year lifespan. If this was retained, again this would make future extraction of the resource unlikely due to potential biodiversity loss. Therefore, the applicant should have considered the potential for sterilisation of minerals from an economical viewpoint as well as the actual physical sterilisation of the mineral.

5.5.7. The County Council believe that the applicant should have prepared a minerals resource assessment for the application, with this the standard practice for similar DCO applications in the area which have been, partly or fully, in a mineral safeguarding area. The mineral resource assessment should assess the effects the application may have on the resource and the quarry site, considering the points raised above. This would ensure any potential effects on minerals have been fully considered and mitigated where necessary.

5.5.8. It is therefore concluded that the impact of the proposal on minerals resource is **uncertain** at this stage, pending completion of the recommended assessment work, but it has the potential to have a negative impact on minerals safeguarding if appropriate measures are not taken to address impacts on the mineral resource and Sturton Le Steeple quarry.

5.5.9. As per the applicant's response in point 5 of the Consultation Report: Appendix Part H to the County Council comments, the applicant has assessed the impacts on waste within Chapter 17 of the Environmental Statement under Miscellaneous Issues. The Outline Construction and Environmental Management Plan (ES Volume 2, Appendix 4.1) and the Outline Decommissioning Plan (ES Volume 2, Appendix 4.2) then provide further information on how waste will be managed.

5.5.10. These documents detail that the applicant will seek to minimise waste, maximise re-use and recycling opportunities and so follow the waste hierarchy, which the Council supports. At the decommissioning phase, it is therefore assumed that 60 – 89% of all anticipated waste streams will be recycled or recovered, with a new industry to recycle or refurbish to PV modules expected to emerge in the future. The assessment therefore concludes that the impacts are not significant.

5.5.11. However, as previously raised by the Council, whilst the scenario that the waste is recycled or recovered is preferable, the recycling capacity facilities to do this for the PV panels is not established, particularly at the scale that will be needed when considering the cumulative impacts of several solar farm schemes in this area expected to finish around a similar time. This issue is recognised in the recently published Solar Roadmap: United Kingdom Powered by Solar (June 2025) by the Department for Energy Security & Net Zero. Without the development and establishment of sufficient solar panel recycling facilities, this would lead to a large volume of waste in the area at the time that requires disposal. Other similar schemes, for example One Earth, have within their assessment of waste considered an absolute worst-case scenario whereby the waste is not able to be recovered or recycled. They have also considered the local and regional existing landfill capacity to understand potential significance impacts. Whilst the Outline Decommissioning Plan notes that forecasting future landfill capacity is difficult and that disposal of waste to landfill is the worst- case scenario, which the Council agrees with, there is though no detailed assessment of the significance of impact in this worst-case scenario, in relation to application and for cumulative effects, nor the recognition of the growing national issue around the limited landfill capacity. In Nottinghamshire particularly there is a lack of non-hazardous landfill capacity as identified in Table 11 of the new Nottinghamshire and Nottingham Waste Local Plan. As raised in paragraph 5.58 and paragraphs 7.38 – 7.41 of the emerging Plan, due to underlying geology of the area and wider environmental constraints, the scope to provide hazardous and non-hazardous capacity in Nottinghamshire is extremely unlikely. This therefore stresses the importance of considering the absolute worst- case scenario.

5.5.12. The County Council therefore considers that the assessment of the impact on waste is not sufficient, with it not as detailed as others undertaken by similar schemes. It is considered that the assessment should have considered local and regional landfill capacity and assessed an absolute worst-case scenario. This again helps to stress the importance of developing recycling facilities and so capacity to enable the recovery and recycling of solar panels, for this project

and others within the area, to prevent significant cumulative impacts on declining landfill capacity.

5.5.13. It is therefore concluded that the impact on waste management is **uncertain** at this stage, pending completion of the recommended assessment work, but that the project has the potential to have a negative impact upon future landfill capacity if capacity to enable the recovery and recycling of solar panels is not developed.

5.6 Traffic and Transport

Transport Assessment

5.6.1. The Highway Authority (HA) has been working closely with the applicant's specialist transport consultant for several months and has helped to steer and develop the proposed strategy and approach to delivering the project.

5.6.2. The Transport Assessment (TA) aligns with NPPF principles by providing a detailed evidence base, considering strategic and local highway authority input and proposing mitigation through the Outline Construction Traffic Management Plan (OCTMP).

5.6.3. However, in certain aspects the TA does not align with our expectations of what a TA should include to understand the impact of the scheme. Firstly, The TA references pre-application discussions with authorities but lacks detail on broader community consultation, especially regarding traffic impacts on villages like Sturton-le-Steeple and North Leverton. Secondly the TA assumes worst-case traffic scenarios but does not clearly demonstrate how mitigation measures (e.g., minibus use, staggered shifts) will be enforced or monitored, which may affect deliverability. Thirdly while the routing proposed avoids sensitive areas, the report does not fully address cumulative impacts from other committed developments in the area, which gives rise to concerns.

5.6.4. In addition, the TA focuses on vehicle routing and mitigation but does not explore opportunities for walking, cycling, or public transport use by the workforce or during operation. The site is rural and inherently vehicle-dependent. While routing is optimised, the TA does not demonstrate how travel demand is reduced beyond basic scheduling.

5.6.5. Although the TA concludes that impacts are temporary and manageable, it relies heavily on assumptions (e.g., off-peak scheduling, minibus use) without robust enforcement mechanisms.

5.6.6. The TA and the associated Addendum requires further work before the HA is satisfied. The defined route from the A1 to the site using the strategic road network and main road network links is agreed in principle by NCC. The County Council has identified specific queries concerning the proposed 20 Nr field accesses/cross-over points/new entrances for the overland haulage routes that affect the adopted public highway. These are detailed in Appendix 5 and the applicant is asked to address the comments marked in red.

5.6.7. One significant area that is far from agreed is how the applicant have carried out the construction related traffic analysis and presented the data to demonstrate overall impact along the designated HGV delivery route and key junctions. The HA is liaising with applicant to inform them of what needs to be done to provide more clarity on this issue.

Outline Construction Traffic Management Plan

5.6.8. The County Council as HA has assessed (OCTMP) the is broadly happy with the conclusions for this project and my full comments are attached for the record. Pegasus have submitted a further addendum to the OCTMP to the County Council. The document looks a reasonable framework to help reduce construction-related transport disruption and safeguard public safety, but we not in a position to agree a statement of common ground (SoCG), as further clarity and transparency is required about some points.

5.6.9. In summary, for the OCTMP there are a few minor issues in respect of how the works programme will integrate with the normal Highways Permits and Licensing system to carry out works in the public highway. The document is also quite light about provisions for the HA to request reviews to arrangements when problems are encountered or how liaison about programme and street works will be organised with VIA EM Ltd – NCC's Highway Service Partner, but may have a significant impact is there is no explicit commitment for the main contractor to carry out remedial work if construction transport related damage occurs during the 2 year contract.

5.8. In terms of how the works programme for constructing this project will integrate with the highway permit system, the County Council has previously agreed wording for inclusion in another Solar DCO which meant that street works would be subject to NCC's Permit Scheme. This appears to have been omitted from the DCO for this project and the County Council is seeking this in terms of general comments on the DCO.

5.9. The County Council understands that the DCO will grant powers which negate the need for S278 agreement related to altering the highway layout and construct accesses. However, this should not circumnavigate the LHA's technical approval process. The County Council has raised this in terms of other solar NSIP projects and the applicant confirmed that the technical approval process should be described within the OCTMP and, in complying with the CTMP, they would need to secure a technical approval and also cover our costs.

5.10. The County Council wishes to confirm that this is covered in the OCTMP for Steeples. Likewise, with TTROs, whilst the DCO grants power to the developer to impose these (subject to our approval), the procedure for notification etc. should also be agreed/described within the OCTMP, further detailed comments on the OCTMP is contained within Appendix 6.

5.7 Public Rights of Way

5.7.1. The Definitive Map for the site plan of Steeple Renewables Project highlights that there are at least 35 Public Rights of Way (PRoW) that cross the areas identified on the interactive map

site. There are additional RoW adjacent to development areas that are also likely to be impacted.

5.7.2. The correct legal alignment of the public right of way can be checked by carrying out an official search, contact row.landsearches@nottscc.gov.uk. Inaccuracies or misalignments of the routes on a legal diversion may result in two paths being legally recorded, generating further inaccuracies and problems. Public Rights of Way (PROW) are the minor highway element of the public highway network and are afforded the same level of protection and control as the major highway network (i.e. all classes of roads in including motorways). They are a material condition in the planning process and due attention should be made to the treatment of them in the application for development.

5.7.3. They form part of the sustainable transport network that has links to healthy living, reducing carbon footprints, safe non-motorised links to local facilities, so it is important ensure that they are linked to the other networks and are of a good design that encourages safe use.

5.7.4. Paragraph 105 of the National Planning Policy Framework (NPPF) states that planning policies and decisions should protect and enhance PROW including taking opportunities to provide better facilities for users. Paragraph 117 states applications should prioritise pedestrian and cycle movements and create places that are safe, secure and attractive, minimising the scope for conflicts between users and vehicles.

5.7.5. There are also links with the Nottinghamshire Joint Health and Wellbeing Strategy 2022-2026 to reduce obesity through exercise and ensure opportunities are available in the local area and for general living; and Nottinghamshire Sustainable Community Strategy 2010-2020 which is developed in conjunction with all districts to provide opportunities for safe walking and cycling links and to reduce vehicle use.

5.7.6. Partnership working with NCC under Local Transport Plan 2011 – 2026 to promote safe non-motorised routes, connectively and economic growth. Encouraging developers to engage fully in utilising the available PRoW network by upgrading facilities in conjunction with good design principles will help to deliver on these policies.

5.7.7. It is rare that the impact on the PRoW network would provide a reason to refuse planning permission, however development can have a major impact on the quality of the route. A change in type of user or frequency as a result of the development needs to be accepted by the developer and consideration of the location, amenity and construction of the path as a result. This can all be accommodated appropriately using good design principle from the start to enhance the public willingness to use and make use of the PRoW network to achieve the policy aims of sustainable and safe transport corridors linking to the wider network, health and wellness of the local population, provision of good amenity and enjoyment.

5.7.8. The Preliminary Environmental Information Report (PEIR) does acknowledge that there are several PRoW across the site but perhaps does not fully appreciate the breadth of the network in that area. Overall the developer shows good consideration and appreciation of how the development will affect PRoW in the area.

5.7.9. The developer should work with the Rights of Way team on the next stages of design to ensure the following measures and conditions are met:

- Correct route of public rights of way: Note that it is the responsibility of the developer to ensure that their application takes account of the legally recorded route and width of any public rights of way as recorded in the definitive map and statement. This may differ from the line walked on the ground and may mean there are more than one route with public access. The legal width of public rights of way may be much wider than the habitually walked or ridden width. The correct legal alignment of the public right of way can be checked by carrying out an official search, contact row.landsearches@nottscc.gov.uk

- Protection from breaks in public rights of way and vehicle crossings/use of public rights of way: Many public rights of way are valuable as access corridors and as continuous wildlife and landscape corridors. As a matter of principal, PRoW should remain unbroken and continuous to maintain this amenity and natural value. Crossing PRoW with roads or sharing PRoW with traffic significantly affects wildlife movements and the function of the PRoW as a traffic free and landscape corridor. Road crossings of PRoW should be considered only as an exception and in all cases, provision must be made for wildlife access and landscape, and with safe high quality crossing facilities for walkers, cyclists and equestrians according to the legal status of the PRoW. Vehicle access should not be taken along PRoW without appropriate assessment and speed, noise, dust and proximity controls agreed in advance with Nottingham County Council (NCC).

- Protection, Mitigation and Improvements of routes: Public rights of way through the site need to be integrated with the development and provided to a standard to meet the pressures caused by the development. Assessments of current condition need to be undertaken along with proposals for onsite mitigation and improvement measures. This may include upgrades to some footpaths to enable cycling or horse riding and better access for commuters or people with lower agility. If new links across the network are created developer must understand the difference between dedicated and permissive routes. All of the above measures need to be agreed in advance with. All necessary PRoW mitigation and improvement measures onsite need to be undertaken prior to occupation to ensure public amenity is maintained.

- Protection of public rights of way and users: Routes must remain useable at all times during a development's construction lifecycle. This means temporary or permanent surfacing, fencing, structures, standoffs and signing need to be agreed with NCC Countryside Access and provided prior to the commencement of any construction and continue throughout. Access provision for walkers, cyclists and horseriders as vulnerable road users needs to be maintained. This means ensuring noise, dust, vehicle etc impacts are prevented. A detailed plan on keeping the public safe during construction will be required.

- Temporary obstructions and damage: No materials, plant, vehicles, temporary structures or excavations of any kind should be deposited / undertaken on or adjacent to the PRoW that obstructs the PRoW whilst development takes place. Avoidable damage to PRoW must be prevented. Where this takes place repairs to original or better standard should be completed withing 24hrs unless a longer repair period is authorised by NCC.

- Route alterations: The development should be designed and implemented to fit in with the existing public rights of way network. No changes to the public right of way's legally recorded direction or width must be made without first securing appropriate temporary or permanent diversion through separate legal process. Note that there are legal mechanisms to change PRoW when it is essential to enable a development to take place. But these mechanisms have their own process and timescales and should be initiated as early as possible – usually through the local planning authority. Any proposals for temporary closure/diversion need to have an accessible, level, safe and reasonably direct diversion route provided with necessary safety fencing and stand-off to ensure public amenity is maintained for the duration of the disturbance. Within the PEIR it states that a PROW Management Plan will be provided as well as liaising with NCC Rights of Way.

- Gates / right of way: Any gates provided in association with the development shall be set back from the public right of way or shall not open outwards from the site across the public right of way.

- Bridges / drainage: Any bridges that are on site should be assessed prior to development. Any changes/improvements should be discussed with NCC, and where appropriate the EA and IDB. Flood levels should have been assessed and local drainage issues considered. Development should not further worsen drainage issues but should seek to improve them.

- Structures/ Furniture (Gates etc): Any new structure on existing RoW will requires authorisation of the highway authority and can only be made under certain criteria. If a structure is required for the control of stock, then only a gate will be approved.

- Hedges/screening: Existing boundaries and hedgerows are the responsibility of the landowner to ensure they do not obstruct a PRoW. Where additional hedges/natural vegetation is proposed e.g. to shield the public from glint or glare, to coincide with new boundaries or to enhance existing boundaries, a lifetime management regime needs to be agreed with Nottinghamshire County Council as local Highway Authority to ensure that public access is not impeded when the vegetation screen is established or during the development or hedge/screen's lifecycle.

- Biodiversity Net Gain: Care should be taken not to include the surface of a PRoW in BNG calculations. Any planting should take place at suitable distances from PRoW. Making sure that they do not enclose or encroach the PRoW. With particular attention to the change in surface and canopy cover as vegetation matures e.g. not planting on the very edge of the PRoW. A management regime should be agreed with NCC.

- Enclosure: The PEIR documents have acknowledged that there will be a visual impact on sections of PRoW. If the line of the right of way is to be enclosed by hedging or fencing, for example to provide security for solar PV arrays, then there should be a 'corridor' (minimum width to be discussed) provided or the recorded width, whichever is the greater. Fencing should not have barbs, razor wire or palisade fencing within the line of the right of way and visual amenity should be maintained. The enclosed path and the hedge/fencing needs to be maintained to provide the full corridor width for the duration of the development.

- Surface: Surfaces of PRoW must not be disturbed or changed without prior discussion with NCC. For example: a previously grass surfaced path must not have hardstanding laid across without consent.

- Noise and vibration: Consideration should be given the impact of construction, demolition, traffic and BESS facilities on different user groups. Paying special attention to PRoW used by horse riders and the potential of spooking horses. The existing PEIR does acknowledge that it will detail a more thorough survey of the impact on users at a later stage, it is encouraged that special attention is given to where the bridleways and restricted byways pass through the site.

- Offsite mitigation: A contribution may be requested to secure off-site improvements to mitigate the loss of visual amenity and to provide alternatives or extensions of routes in the locality. This could include use of the space between the panels and the field edges (shade zone) which could provide a good opportunity for additional access.

- Information: The developer could consider the installation of a solar powered information board where the right of way enters the site. This will provide information on the wildlife on the site as well as providing information on the power output and how many houses it is supplying at any one time.

5.8 Local Flood Risk

5.8.1. Nottinghamshire County Council (NCC) commissioned AECOM to review the applicant's flood risk assessment and drainage strategy for the Steeple Renewables project (NSIP EN010163). The review evaluates the flood risk assessment (FRA) and surface water drainage strategy, examining their methodologies and consistency with relevant policies and guidance such as the NPPF/PPG, Defra's Non-statutory SuDS Standards, CIRIA C753, and Nottinghamshire County Council's (NCC) Local Flood Risk Management Strategy (LFRMS) Part 5.2. It also assesses the potential impact on local flood risk, considering surface water, ordinary watercourses, and groundwater.

5.8.2. The scope of this review therefore covers the following documentation:

• APP-011 – Site Layout
• APP-066 – ES Chapter 8 (Hydrology, Hydrogeology, Flood Risk and Drainage) – relevant to surface water drainage and flood risk
• APP-117 to APP-119 – Flood Risk Assessment
• APP-120 – Surface Water Drainage Strategy
• APP-161 to APP-163 – ES Chapter 8 Figures
• APP-178 – Flood Risk Assessment

<u>Flood Risk Assessment</u>

5.8.3. The document states that consultation was undertaken with several bodies, including the LLFA and TVIDB, with meeting minutes referenced. However, these minutes are not included as claimed, and no further details are provided. It is also noted that in the eastern half of the site, including east of the Catchwater Drain, the ordinary watercourses fall under the management of the Trent Valley IDB. The EA requested that sensitive equipment be raised 300mm above the 'design' 1 in 100 year plus climate change flood level, this has not been confirmed in the flood risk assessment or drainage strategy. No details of proposed watercourse crossings have been provided, including confirmation of the applicable design flood event for their assessment.

5.8.4. **The FRA should include the referenced meeting minutes with the LLFA and TVIDB, as stated in the document. This will provide a complete audit trail of stakeholder engagement and ensure transparency. The applicant should demonstrate that sensitive equipment is sited at least 300mm above the designed flood levels. The applicant should provide details of proposed water course crossings.**

Constraints

5.8.5. The assessment of constraints appears reasonable and covers the key issues expected at this stage. The site is located on the River Trent floodplain and is intersected by several drains and ditches, with land falling from higher ground in the west towards the river in the east. Parts of the eastern area sit within flood zone 3, protected by a flood defence bund. The underlying ground is mainly clay and mudstone, which have poor drainage potential, although limited infiltration may be possible in localised sand and gravel deposits. A part of the site also lies within a drinking water protected area, meaning that surface water and pollution risks will need careful management.

5.8.6. Infiltration testing should be undertaken in accordance with BRE 365.

Existing Drainage

5.8.7. The document provides only a general overview of site drainage and lacks detailed information on existing infrastructure in exception of sewer records. No evidence is given of surveys to identify culverts, outfalls, or other drainage assets, leaving the extent and condition of such features unclear. Inclusion of a plan drawing clearly marking existing drainage features such as ditches, culverts, and crossing points would offer clarity but is not deemed essential. Given the rural setting, it is unlikely that existing infrastructure would prevent the drainage strategy from being implemented as proposed.

Flood Risk Assessment

5.8.8. The flood risk assessment considers all relevant sources of flooding, each of which is addressed and discussed in the flood risk section of the report. Section 5.2.2 mentions the eastern 40% of the site falls within Flood zone 3 whereas in section 5.2.6 this is noted as 30%. Clarity is needed on which number is accurate, although it has been stated that all development is outside flood zone 3b. Flood defences at the site are mentioned but there is no information on their form and condition. The EA has requested a clear demonstration of how the site drainage and flood risk management measures can adapt to a 62% climate change allowance. At present, no such assessment has been provided, meaning it is not possible to confirm whether the proposed design will remain resilient under future climate change scenarios. The flood risk assessment does not consider the potential adverse impacts to the BESS in the event

of a flood defence breach. It is unclear whether flooding could cause irreparable damage to the BESS units or lead to secondary hazards such as chemical leakage, fire, or debris being washed away. There is also no assessment of the potential risks created for the wider public should equipment or hazardous materials be displaced during a breach scenario.

5.8.9. **It is recommended that the applicant undertakes hydraulic modelling at the requested 62% climate change allowance to show the impacts to the site. It is recommended that a breach analysis is undertaken to assess the vulnerability of the BESS to floodwater, including structural stability, potential for washout, and risks associated with potentially hazardous materials throughout construction, operation and decommissioning.**

Surface Water Drainage Strategy

Stakeholder Engagement

5.8.10. Appendix E does not include minutes of direct consultation with the IDB, meaning there is no visibility of what has been agreed with them. **This should be corrected.**

Drainage Design Strategy

5.8.11. The overall drainage approach for the solar panels is sensible and in line with standard practice, with runoff allowed to soak into the ground and extra measures such as swales and trenches provided where needed. The strategies for the BESS and the substation also seem generally appropriate, with storage designed for heavy rainfall and, in the case of the BESS, additional measures to contain firewater if an incident occurs. However, there are notable gaps in the submission, and the drainage strategy lacks sufficient detail and appears underdeveloped. The design only considers events up to the 1 in 100 year storm with 25% climate change, but it does not explain what would happen in the event of a larger storm. There is no mention of exceedance flows, how water would safely flow across the site if the drainage system was overwhelmed. Guidance from the LLFA and IDB usually expects clear plans for this, to make sure floodwater is routed away from sensitive equipment or areas and does not cause new risks off site. The strategy also does not explain what would happen if a flow control device became blocked, which is a realistic risk in practice. Some explanation of mitigation measures (for example, emergency spillways, bypasses or inspection regimes) would be expected. The FRA also mentioned that sometimes the ditches and watercourses can be surcharged which has not been accounted for in the model.

5.8.12. The strategy includes firewater storage for the BESS but not for the substation. It does not explain why this has been excluded. A clear justification would normally be expected.

5.8.13. The strategy assumes solar arrays will not increase runoff, mainly because of vegetation and permeable ground. Extra measures like trenches and swales are proposed on steeper areas. While this is consistent with industry practice, the report provides no quantitative evidence.

5.8.14. In the flood risk assessment, it is noted that the Environment Agency requested a minimum of 300 mm freeboard between the solar panels and the 1 in 100 year + cc fluvial flood level. However, this requirement has not been clarified in either the flood risk or drainage reports,

and no details are provided of the proposed heights of the solar panels above ground. This leaves uncertainty as to whether this has been addressed.

5.8.15. In addition, there are no details of proposed watercourse crossings, which are normally subject to design and consent requirements. Similarly, while two additional detention basins are mentioned, there is no information on how water quality will be managed in these features, unlike the detail provided for the BESS and substation basins.

5.8.16. Greenfield runoff rates have been calculated using the IH124 method via the HR Wallingford SuDS tool. FEH methods are typically preferred, however this method is commonly used.

5.8.17. No consideration has been given to whether the solar panels and associated structures can withstand the impacts of lateral flood flows, which is essential to ensure structural stability and prevent damage during flood events.

5.8.18. The current assessment does not consider or model the potential loss of floodplain storage resulting from the placement of inverters and transformers. While gravel filled filter trenches are proposed to manage surface water runoff, these measures do not mitigate the displacement of floodwater. In addition, no information is provided on whether the transformers are classed as sensitive infrastructure or whether they will be elevated above the design flood level with an appropriate freeboard. This omission creates uncertainty regarding their resilience in a flood event.

5.8.19. It has been noted that a basin is proposed at Sutton le Steeple, however, no details have been provided regarding its layout, sizing, design criteria, or function within the overall drainage strategy. Without this information, the effectiveness of the basin in managing surface water and flood risk cannot be assessed.

5.8.20. Groundwater monitoring data indicates that levels are within 1 m of the surface in some locations. It is unclear whether this has been fully considered in the design of filter drains and ponds, particularly with respect to their storage capacity, and potential groundwater surface water interactions. No assessment has been provided on seasonal fluctuations, nor has any commitment been made to ongoing monitoring.

5.8.21. Multiple gravel trenches are shown across the site and appear to function as buffers to disrupt overland flow, however, their purpose, capacity, and hydraulic operation are not defined. Applicant states that gravel trenches will be installed around inverter impermeable pads, but no design details have been provided. It is unclear what storage volume they provide, what infiltration rates have been assumed, or whether they outfall to a receptor. Without this information, there is no clarity on how stored water will be managed once the trenches are full. In their current form, there is a risk of channelised flow concentrating towards the site's low points, offering no surface water benefit under exceedance conditions and potentially increasing off-site flood risk.

5.8.22. Access tracks are described as impermeable but given their compacted construction, they are likely to increase runoff rates and velocities, with associated scour risk on adjacent drains and watercourses. The tracks also introduce a higher pollution load than the existing baseline. Construction and operational traffic will mobilise silt and sediment, and vehicle use can introduce hydrocarbons, metals, and other contaminants. During rainfall, these contaminants and suspended solids are likely to be washed from the track surface into nearby watercourses if not intercepted. The section does not appear to address these impacts or set out mitigation, leaving uncertainty over both hydrological and water quality effects.

5.8.23. While a section on maintenance has been provided, it does not cover how key SuDS components such as swales, ditches, ponds, or filter drains will be managed. Without specific maintenance requirements, there is a risk that these features could lose effectiveness over time through siltation, vegetation overgrowth, blockages, or structural deterioration. This lack of detail creates uncertainty over the long-term resilience and performance of the proposed drainage system.

5.8.24. The current documentation does not explain how compaction of the ground during construction activities will be managed. At present, the ground is relatively undisturbed, but sustained traffic from excavators, delivery wagons, and dumpers over the course of the works is likely to compact soils. This compaction could significantly reduce infiltration potential and increase surface water runoff compared to existing conditions, thereby undermining the performance of SuDS features and increasing flood risk.

5.8.25. The purpose of the proposed SuDS features is unclear, as they are not connected to any defined drainage system and there is no evidence of catchments discharging into them. The drainage strategy also lacks the necessary detail to demonstrate how the system will operate in practice. Key information is missing, including how runoff will be collected and conveyed to filter drains, how water will enter and pass through these features, the proposed surface materials for the BESS compound and substation areas, whether all the features will be lined, details of penstocks or other flow control structures, and adequately detailed long sections, cross sections, and construction details.

<u>Recommendations and Conclusions</u>

5.8.26. It is recommended that the Applicant:

- produce a site wide exceedance routing plan showing primary and secondary flow paths, measures to protect sensitive infrastructure, and ultimate discharge locations. Consider exceedance where surcharging may occur.

- provide clear justification for excluding firewater management at the substation, confirming either that the risk is negligible or that appropriate alternative containment measures are in place.

- provide quantitative evidence, such as calculations or modelling, to demonstrate that the solar arrays will not increase runoff, particularly under different ground conditions and maintenance scenarios.

- demonstrate the drainage features can operate under surcharged conditions.

- confirm the proposed heights of the solar panels above ground and demonstrate compliance with the Environment Agency's requirement for a 300 mm freeboard above the 1 in 100 year + climate change fluvial flood level.

- provide details of all proposed watercourse crossings and secure the necessary consents. They should also include information on water quality management for the two additional detention basins, to ensure consistency with the approach taken for the BESS and substation.

- provide a detail for the gravel trenches, including confirmed function and design criteria. Storage calculations assumed infiltration rates, and defined outfalls and/or high-level overflows.

- should update the drainage strategy to consider access track runoff, scour potential.

5.8.27. It is recommended that:

- the design of the solar panels and associated infrastructure includes an assessment of resilience to lateral flood flows to ensure structural stability and minimise the risk of damage during flood events.
- the applicant assesses and quantify any loss of floodplain storage resulting from the placement of inverters and transformers including their foundations, and, where necessary, incorporate compensatory storage to ensure no increase in flood risk. The sensitivity of the transformers should be clarified within the FRA/drainage strategy, with confirmation provided on their finished floor levels.
- that detailed information is submitted for the proposed basin in Sutton Le Steeple, including layout plans, design capacity, hydraulic modelling, and supporting calculations, to demonstrate that it has been appropriately designed and will provide the required level of flood risk mitigation.
- that infiltration potential is confirmed through BRE 365 compliant infiltration testing at the proposed SuDS locations to provide robust evidence for the drainage strategy and ensure that alternative measures are appropriately justified if infiltration is not feasible.
- the maintenance plan should be expanded to include specific requirements for each SuDS feature, including inspection frequencies, sediment removal, vegetation management, structural repairs, and safe access for maintenance teams.
- that a soil management plan is developed to address the risk of compaction during construction. This should include measures such as limiting construction traffic to defined haul routes, using low ground pressure machinery where feasible, phasing works to minimise disturbance, and undertaking soil decompaction.
- the Drainage Strategy is updated to demonstrate the purpose and benefits of the SuDS features and how they integrate with the overall drainage strategy. We would like to see outline engineering detail of all proposed drainage and SuDS features. This should include catchment and collection arrangements, inlet and outlet structures, confirmation of pond lining, penstock and flow control details, and clear long sections,

cross sections, and typical details for swales, filter drains, ditches, ponds, and associated infrastructure.

Design Parameters

5.8.28. The design parameters are generally well defined and reflect agreement with key stakeholders, including the LLFA and IDB. They cover flood event allowances, buffer distances, easements, and runoff restrictions for critical assets. However, there are no details of any new crossings provided.

Hydrology, Hydrogeology, Flood Risk and Drainage

5.8.29. How the development could affect rivers, drains, groundwater, flooding, and water quality during construction, operation, and when it is eventually taken down. Flood maps, geology, water quality data, past flood events, and locations of water supplies were assessed. During construction, there's a risk of pollution (chemicals, muddy water, concrete washout) and extra runoff increasing flood risk. To manage this, work areas will be kept away from watercourses, temporary drainage will be used, and new crossings will be designed not to block flows. Any damaged drains will be repaired. Overall, impacts are expected to be minor and not significant. During decommissioning, the same controls and good practice will apply as in construction. An Outline Decommissioning Plan will guide this, including how to deal with cables at the end of their life. Again, impacts on flood risk and drainage are expected to be minor and not significant. An extra opportunity has been identified to help reduce flooding in Sturton le Steeple. The project proposes an additional SuDS basin, designed specifically to hold back surface water flowing across the site from higher ground.

Summary of Recommendations

5.8.30. The information provided in the FRA and supporting drainage documentation is sufficient to outline the overall strategy, and we have no fundamental concerns with the proposed approach. However, there are areas where information is limited or missing, which makes it difficult to confirm full compliance with agreed design parameters. We recommend NCC request further information from the Applicant to address the following:

• Confirm that the IDB has been formally consulted on discharge proposals and watercourse crossings and provide evidence of agreed design principles. Include meeting minutes with the LLFA/IDB

• Provide details of all proposed watercourse crossings, including confirmation of design flood standards, soffit levels, and arrangements to maintain existing flows.

• Confirm that all sensitive infrastructure will be raised a minimum of 300 mm above the 1 in 100 years + climate change fluvial flood level, in line with EA requirements.

• Attenuation storage provision. Applicant to confirm sufficient storage can be accommodated in view of the following: o Variance in greenfield runoff rates. FEH methods would typically be preferred for the estimation of greenfield runoff rates. Surcharged outfalls. There does not

appear to have been consideration of potential surcharging and the implications for attenuation storage provision.

- The applicant should provide quantitative evidence to confirm that the solar arrays will not increase runoff.

  • Site wide exceedance routing plan to confirm protection of sensitive infrastructure and no predicted impacts to third parties in line with EA/LLFA agreements.

  • Provide justification for excluding specific firewater storage at the substation or confirm alternative measures to ensure containment in an incident.

  • Confirm the drainage system can operate under surcharged outfall conditions.

  • Undertake hydraulic modelling at the requested 62% climate change allowance.

  • Breach analysis be carried out to assess the BESS's vulnerability to floodwater, including stability, washout.

  • Resilience of solar panels and infrastructure to lateral flood flows is assessed to ensure stability and minimise flood damage.

  • Loss of floodplain storage from inverter/transformer foundations is quantified, with compensatory storage provided if required, and transformer sensitivity confirmed.

  • Design, capacity, and modelling information is provided for the proposed basin at Sutton Le Steeple.

  • BRE 365 infiltration testing is undertaken at SuDS locations to confirm feasibility and justify alternatives if infiltration is unsuitable.

  • Design, storage, infiltration, and overflow/outfall information for the gravel trenches.

  • Update the drainage strategy to address access track runoff, scour potential, and pollution risks.

  • Expand the maintenance plan so it includes all SuDS featured.

  • It is recommended that a soil management plan is prepared to mitigate compaction risks during construction through defined haul routes, suitable machinery, phasing, and decompaction.

  • We recommend that the drainage strategy is revised to fully consider SuDS that integrate with the overall drainage scheme and are not bolted on.

6. Development Consent Order

6.1. NCC has reviewed the draft DCO and has the following comments to make, however these are not exhaustive and NCC may have further comments to make during the examination process.

PART 3 STREETS

6.2. The County Council is the Local Highway Authority (LHA) for the order limits of the proposed project. The following comments are made with respect to PART 3 of the Draft DCO (STREETS).

6.3. Article 8 allows the undertaker to perform street works on any of the streets specified in Schedule 3. NCC requires that any street works are subject to the Nottinghamshire County Council Permit Scheme Order 2020, which is made under Part 3 of the Traffic Management Act 2004. This will ensure the LHA is able retain coordination and control of road works to reduce disruption for road users. NCC would refer the applicant to Article 9 of the made 'Tillbridge Solar Order' where this approach was applied.

6.4. Article 9 allows the undertaker to carry out alterations or works to any of the streets specified in Schedule 4. NCC would require such works to be subject to full technical approval from the street authority with the associated costs to the street authority to be covered by the undertaker.

6.5. The technical approval process should follow the same process as would be followed in relation to highway works which are secured under a S278 Agreement, pursuant to a planning condition under the Town and Country Planning Act. The process for technical approval should be agreed with NCC and described within the Outline Construction Traffic Management Plan (oCTMP).

6.6. Article 10 allows the undertaker to form and lay out temporary and permanent means of access at the locations described at Schedule 5. As above, such works should be subject to full technical approval from the street authority with the costs to the street authority to be covered by the undertaker.

6.7. The DCO should require any of the alterations to the streets specified in Schedule 4 and any means of access described at Schedule 5 to be completed to the satisfaction of the street authority.

6.8. Article 13 allows the undertaker to impose traffic regulation measures, with the written consent of the traffic authority. NCC would seek clarity on the proposed procedure for consultation and approval of any TTRO and recommends that this is agreed with NCC and described within the oCTMP. Whilst the obligation to publish the proposed measure in one or more local newspaper is noted, it is standard practice within Nottinghamshire for a bulletin to be issued to relevant stakeholders. NCC would request the cooperation of the undertaker in this respect, by either directly issuing the bulletin itself or by supplying the dates/times, locations and diversions and contact numbers for the LHA to issue.

SCHEUDLE 2 – REQUIREMENTS

6.9. NCC notes the list of requirements at Part 1 of Schedule 2, which are to be discharged by the Local Planning Authority (LPA), which would be Bassetlaw District Council. Several of the requirements relate to the responsibilities of the County Council and it is recommended that these are discharged by the County Council, with any fees payable under Part 2 paid directly to the County Council (rather than the LPA). This includes Requirements 8 (Construction Traffic Management Plan) and 13 (Public Rights of Way Diversions), which should be discharged by the Highway

Authority, and Requirement 16 (Surface and Foul Water Drainage) which should be discharged by the Lead Local Flood Authority.

6.10. The precise wording of the requirements should be agreed by the LPA and, where relevant, NCC.

6.11. In Nottinghamshire, proposals are being developed to reorganise local government which, if implemented, would result in a single tier of local government. Therefore, the dDCO should enable any of the requirements in Schedule 2 to be discharged by a superseding local authority, if necessary.

6.12. Part 2 states that where an application has been made to the relevant authority for any consent relating to the requirements, relevant authority must give notice to the undertaker of its decision on the application within a period of 8 weeks, or else the requirement will be deemed consented. NCC considers that notification of a decision within 8 weeks as a standard approach is insufficient.

6.13. NCC is particularly concerned with the resourcing of such requirements and therefore considers that a default period equating to Major Environment Impact Assessment development for a planning application of 16 weeks would be more appropriate. As an absolute minimum, the period for determination should be 10 weeks, for parity with the period applied in the recently made Tillbridge Solar Order, though this is still insufficient. Whilst NCC notes that Part 2 includes the option to agree an alternate period, the expectation for 8 weeks would be set by its inclusion in the standard wording.

6.14. The project is significant in size and scale and the information submitted for many of the requirements is likely to involve a significant amount of information and an appropriate time period must be afforded for the LPA and/or NCC to consider this, including time to consult with other relevant organisations. This issue would be compounded by the combination of other NSIP projects within the county, should they gain development consent. These projects follow a similar timeline and will place cumulative pressure on the statutory functions of the planning departments and other statutory functions.

6.15. NCC notes that where an application to discharge a requirement is made, a fee is to apply and must be paid to the local planning authority for each application. This must apply to the relevant planning authority, which in some cases should be the County Council as LHA and LLFA. Whilst the fee payable would be based upon the fee prescribed under regulation 16(1)(b) of the Town and Country Planning Regulations 2012(a), further clarification could be provided on how this is to be applied. In other DCOs, the exact figure to be paid (index linked) has been negotiated with the Councils and stated in the DCO.

7. Summary

7.1. This LIR has undertaken an assessment of the likely issues and impacts that NCC considers will arise from the construction and operation of the Steeples Solar Farm with respect to its administrative area and its areas of expertise and statutory responsibility.

7.2. The LIR has identified several negative or inconclusive effects at this stage which NCC believes can be addressed, at least in part, through further assessment work and mitigation measures.

7.3. NCC may wish to make further representations as appropriate during the examination and at issue specific hearings particularly with regard to environmental and transport matters discussed within this report. Therefore, the comments contained above are provided without prejudice to the future views that may be expressed by the County Council as an Interested Party in the examination process.