Kingston Solar Farm – Green Belt Assessment

07/12/2022

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INTRODUCTION

Background

7.1 Neo Environmental Ltd have been commissioned by RES ("the Applicant") to undertake a Green Belt Assessment for a proposed solar farm development (**Planning Ref: 22/00319/FUL**) within lands circa 1.3km south of Gotham and c. 0.75km northwest of East Leake, Nottinghamshire.

7.2 Please see **Figures 4 and 5 of Volume 2** for the layout of the Proposed Development.

Development Description

7.3 The Proposed Development will consist of the construction of a 49.9MW solar farm with bi-facial solar photovoltaic (PV) panels mounted on metal frames, new access tracks, underground cabling, perimeter fencing with CCTV cameras and access gates, two temporary construction compounds, substation and all ancillary grid infrastructure and associated works.

7.4 The Proposed Development will result in the production of clean energy from a renewable energy resource (daylight) and will also involve additional landscaping including hedgerow planting and improved biodiversity management.

7.5 Please see **Figures 4** and **5** of **Volume 2** for the layout of the proposed Development.

Site Description

7.6 The Application Site is located on lands circa 1.3km south of Gotham and c. 0.75km northwest of East Leake, Nottinghamshire; the approximate centre point of which is Grid Reference E453185, N328739. Comprising 16 agricultural fields and additional ancillary areas, the Application Site measures c. 80.65 hectares (ha) in total, with only c. 55.65 hectares accommodating the solar arrays themselves. See **Figure 1 of Volume 2: Planning Application Drawings** for details.

7.7 The Proposed Development Site is split into two sections, north and south, by an area of woodland, Leake New Wood. Both sections lie on elevated, gently undulating land ranging between 87 – 96m AOD. The northern section extends across several rectilinear agricultural fields largely contained by existing mixed woodland providing good screening for the wider area. These include Gotham Wood to the north, Cuckoo Bush to the east, Leake New Wood to the south and Crownend Wood to the west. The southern section is also surrounded by pockets of woodland including Oak Wood, Crow Wood and Ash Spinney.

7.8 The Application Site is in an area with an existing industrial presence with a telecoms mast located on the southwestern boundary of Field 7, a wood pole line along the boundary between Fields 7 and 8 and within the southern section of Fields 4 and 5 and overhead lines

located along the southern boundary of Field 16 and the eastern boundary of Field 15 (See **Figure 3 of Volume 2: Planning Application Drawings** for field numbers).

7.9 The surrounding area is semi-rural in nature with the site being surrounded by agricultural fields and woodland in most directions. The area is however punctuated by individual farmsteads and Rushcliffe Golf Club is located on the eastern boundary of Field 15 in the southern section of the site. There are also various industrial brownfield sites within the locality including Charnwood Truck Services located directly southwest of Field 4. Additionally, there is a large-scale power station located beyond the A453, circa 1.58km north of the site.

7.10 Recreational routes include a number of Bridleways (BW) which cross or abut the Site providing connectivity to the wider Kingston Estate. These include Gotham BW No. 10, 11 and 12 and West Leake BW's No. 5 and 13.West Leake BW No. 5, also known as the Midshires Way, is also a Long-Distance Walking Association (LDWA) Route bordering the southern boundary of Fields 15 and 16. While there are several field drains throughout the Application Site, it lies entirely within Flood Zone 1, an area described as having a "Low probability" of flooding.

7.11 The Application Site will be accessed from Wood Lane, which is an unadopted road. Delivery vehicles will exit the M1 at junction 24, signposted A453 Nottingham (S), onto the A453 and travel in a northeast direction for approximately 4.3km, before taking the exit onto West Leake Lane. This road will be travelled on in a southern direction for approximately 1.5km, before turning left onto Kegworth Road. Vehicles will travel northeast along this road for approximately 1.3km before turning right into Wood Lane.

Scope of Report

7.12 The National Planning Policy Framework (NPPF) outlines five purposes of including land in the Green Belt, which are outlined below;

- To check the unrestricted sprawl of large built up areas;
- To prevent neighbouring towns from merging into one another;
- To assist in safeguarding the countryside from encroachment;
- To preserve the setting and special character of historic towns; and
- To assist urban regeneration, by encouraging the recycling of derelict and other land.

7.13 This Green Belt Assessment will assess the environmental impacts of the proposed solar development on the surrounding Green Belt and provide insight to the environmental benefits of the solar farm and associated mitigation measures. The assessment will take into consideration the five purposes in the NPPF and demonstrate that the proposed development will be environmentally beneficial to the Green Belt.

GREEN BELT CONTEXT

National Planning Policy Framework (2021)[1]

7.14 The National Planning Policy Framework (NPPF) is the current National Planning document in England and was first published on 27th March 2012, and subsequently updated on 24th July 2018, 19th February 2019 and 20th July 2021. This sets out the government's planning policies for England and how these are expected to be applied and is supported by government published Planning Practice Guidance (PPG).

7.15 In accordance with **Chapter 2, paragraphs 7 and 10**, there is a strong presumption in favour of sustainable development within the National Planning Policy Framework. In addition, **Paragraph 8c** of the NPPF notes that a key part of achieving sustainable development is *"mitigating and adapting to climate change, including moving to a low carbon economy".*

7.16 **Chapter 13** of the NPPF bears significant weight to consultations in regard to this Proposed Development, due to its location within the Green Belt. **Paragraphs 147 and 148** of the NPPF state that *"inappropriate development is, by definition, harmful to the Green Belt and should not be approved except in very special circumstances. When considering any planning application, local planning authorities should ensure that substantial weight is given to any harm to the Green Belt. 'Very special circumstances' will not exist unless the potential harm to the Green Belt by reason of inappropriateness, and any other harm, is clearly outweighted by other considerations."*

7.17 **Paragraph 151** of the NPPF states that "*when located in the Green Belt, elements of many renewable energy projects will comprise inappropriate development. In such cases developers will need to demonstrate Very Special Circumstances if projects are to proceed. Such Very Special Circumstances may include the wider environmental benefits associated with increased production of energy from renewable sources."*

7.18 The NPPF 2021 also states that:

"The fundamental aim of Green Belt policy is to prevent urban sprawl by keeping land permanently open; the essential characteristics of Green Belts are their openness and their permanence".

7.19 The NPPF states that Green Belt serves five purposes:

- To check the unrestricted sprawl of large built-up areas;
- To prevent neighbouring towns merging into one another;
- To assist in safeguarding the countryside from encroachment;

[1] National Planning Policy Framework (publishing.service.gov.uk)

- To preserve the setting and special character of historic towns; and
- To assist in urban regeneration, by encouraging the recycling of derelict and other urban land.

7.20 Adhering to the National Planning Policy Framework Green Belt Policy, a case for 'Very Special Circumstances' has been made as part of the planning application and can be found in the **Planning Assessment** section below. Following the Central Governments declaration of an Environment and Climate Emergency in May 2019, this should be given significant weight at the decision stage.

7.21 **Chapter 14** of the NPPF, '*Meeting the challenge of climate change, flooding and coastal change*', recognises that planning plays a key role in helping to shape places to secure radical reductions in greenhouse gas emissions, minimising vulnerability and providing resilience to the impacts of climate change, and supporting the delivery of renewable and low carbon energy and associated infrastructure. This is considered central to economic, social, and environmental dimensions of sustainable development.

7.22 **Paragraph 158** states that;

"Applicants are not required to demonstrate the overall need for renewable or low carbon energy and that Local Planning Authorities (LPAs) should recognise that even small-scale projects provide a valuable contribution to cutting greenhouse gas emissions."

7.23 LPAs are directed to approve applications if impacts are (or can be made) acceptable.

Very Special Circumstances (VSC)

7.24 This section details the benefits of the Proposed Development and demonstrates the very special circumstances required to permit it given its Green Belt location. The very special circumstances case is premised predominantly on the sustainability credentials of the Proposed Development and its wider associated environmental, social, and economic benefits. Beyond this, there is an acknowledged urgency required to tackle the likely devastating effects of climate change and an unambiguous presumption in favour of renewable energy developments contained within the NPPF and other Government guidance.

7.25 The single greatest threat to food security in the UK comes not from the temporary diversification of agricultural land to dual agri-voltaic use in the form of a solar farm and sheep grazing, rather from the effects of climate change on the production of food stuffs due to extreme weather conditions such as increased droughts and flooding. From recent reports, it can be seen how this year's drought is affecting harvests of staple crops including potatoes, carrots and onions[2].

[2] https://www.gov.uk/guidance/national-planning-policy-framework

7.26 Renewable energy projects are supported 'in principle' at national and local policy levels, with the impetus at all policy levels being the need to reduce greenhouse gas emissions, reduce reliance on fossil fuels and combat climate change. There are numerous objectives within the Rushcliffe Local Development Plan that encourages and supports the development of low / zero carbon energy including but not limited to;

- Environmentally responsible development addressing climate change
- Health and well-being
- Protecting and improving natural assets
- Timely and viable infrastructure

7.27 It is therefore clear that the Local Plan offers support for this type of development and that the Proposed Development is acceptable, subject to there being no significant adverse effects; and where any residual harm is outweighed by the benefits of the Proposed Development.

7.28 Despite the above, the Application Site is entirely located within the Nottingham-Derby Green Belt. **Paragraph 151** of the National Planning Policy Framework notes that "*when located in the Green Belt, elements of many renewable energy projects will comprise inappropriate development. In such cases developers will need to demonstrate Very Special Circumstances if projects are to proceed. Such Very Special Circumstances may include the wider environmental benefits associated with increased production of energy from renewable sources*."

7.29 **Paragraphs 147 and 148** of the NPPF state that "*inappropriate development is, by definition, harmful to the Green Belt and should not be approved except in very special circumstances. When considering any planning application, local planning authorities should ensure that substantial weight is given to any harm to the Green Belt. 'Very special circumstances' will not exist unless the potential harm to the Green Belt by reason of inappropriateness, and any other harm, is clearly outweighed by other considerations*." Therefore, whilst the Proposed Development is by definition inappropriate development in the Green Belt, if it can be demonstrated that other considerations exist which outweigh the harm (both from inappropriateness and other harm), very special circumstances may exist.

7.30 In 2012[3], an Inspector ruled in an appeal decision that a wind turbine should be allowed in the Green Belt because of its renewable energy benefits, stating *"It is my judgement that the case for renewable energy, and the support given to it at national, regional and local level clearly outweighs the harm by inappropriateness and the other harm identified…*"

7.31 Furthermore, The Secretary of State stated (in relation to contributions to renewable energy, reduction in greenhouse gases and increased energy security) in 2013 "*these are all important considerations that should be given significant weight in the overall planning balance*"

[3] DCLG, APP/N4720/A/10/2121279, Secretary of State's Decision & Justification, London, 2012

7.32 In the case of R (on the application of Cherkley Campaign Limited) v Mole Valley District Council and Longshot Cherkley Court Limited it was successfully debated that for the development to be considered essential so as to be located in a Green Belt area, it must be established that there is a 'need' for the development. The Court concluded that 'need' means *"required in the interests of the public and the community as a whole"*. For legally-binding national and EU targets relating to the reduction of CO2 to be met, there will need to be a greater provision of renewable energy[4] .

7.33 Furthermore, **Paragraph 97** of the NPPF states that "*local planning authorities should recognise the responsibility on all communities to contribute to energy generation from renewable or low carbon sources*". Additional to this, **Paragraph 98** states "*Local planning authorities should: not require applicants for energy development to demonstrate the overall need for renewable or low carbon energy and also recognise that even small-scale projects provide a valuable contribution to cutting greenhouse gas emissions.*"

7.34 The Proposed Development aligns with the NPPF by contributing to the decarbonisation of electricity generation and hence, sustainable development. The Proposed Development will mean a substantial reduction of 25,000t[3] of CO_2 emissions annually. This is based on multiplying the Proposed Developments average yield over 40 years (approx. 57,GWh)[5], multiplied by the number of tonnes of carbon which fossil fuels would have produced to generate the same amount of electricity. The figure for this is calculated using the Department for Business, Energy and industrial Strategies (BEIS) "*all fossil fuels*"[6] emissions statistic of 440 tonnes of carbon dioxide per gigawatt hour (GWh) of electricity. This represents a significant contribution to the legally binding national and international requirement and associated targets to increase renewable energy generation and reduce CO_2 emissions.

7.35 Based on BEIS average domestic household consumption per year at 3,578kWh[7], the Proposed Development can meet the energy needs of approximately 14,400[8] homes. The generation of this level of renewable energy therefore represents a substantial benefit which would be experienced if planning permission were to be granted. Further details of this are provided later in this document under '*Renewable Energy Statement*'. This will therefore result in meeting the VSC criteria.

7.36 Additionally, the project will provide economic benefits to Rushcliffe Borough Council area and the wider Nottinghamshire area in the form of direct impacts relating to the use of local contractors where reasonably practical, the use of local materials where possible and indirect effects, where specialist contractors from outside of the local area are working on the

[4] https://eur-lex.europa.eu/legal-content/EN/TXT/PDF/?uri=CELEX:32021R1119&from=EN

[5] which takes into account degradation rates of 0.2% in Year 1 and 0.4% from Year 2 onwards

[6] https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/946968/sub-national-electricity-and-gas-consumption-summary-report-2019.pdf

[7] Sub national electricity and gas consumption summary report 2019 (publishing.service.gov.uk)

[8] 50MW x load factor of 0.118 (11.8%) x 8760 / 3578

construction / decommissioning of the Proposed Development, local businesses such as hotels, B&B's and restaurants will benefit.

7.37 With regards to low carbon and renewable energy, the NPPF states in paragraph 152 that the planning system should help;

"…support the transition to a low carbon future in a changing climate, taking full account of flood risk and coastal change. It should help to: shape places in ways that contribute to radical reductions in greenhouse gas emissions, minimise vulnerability and improve resilience; encourage the reuse of existing resources, including the conversion of existing buildings; and support renewable and low carbon energy and associated infrastructure."

7.38 Furthermore, The Net Gain Assessment (NGA) undertaken for the project has confirmed that, with the implementation of the ecology measures outlined in the Biodiversity Management Plan (outlined below), there will be an increase in biodiversity units significantly above the legal requirement of 10%.

- A 5m buffer from hedgerows,
- 2m drainage ditch buffer,
- Tree buffers,
- 10m buffer from woodland,
- 15m buffers from locally designated sites,
- 10cm gaps at the bottom of security fencing to ensure connectivity for wild mammals (see Figure 13 of Volume 2: Planning Application Drawings).

7.39 With the introduction of the measures outlined in the Landscape and Ecology Management Plan (LEMP) (see full detail in Vol 3, Appendix 1: LVA) there will be a net increase in hedgerows and trees within the local area and the Green Belt. This will contribute towards meeting the VSC also.

Sequential Testing

7.40 A sequential assessment was undertaken to identify sites for developing a solar farm within 2km of the Grid Point of Connection (study zone), anything beyond this would not be economically feasible (See Appendix A).

7.41 Being located close to a viable grid connection point means the project is able to maximise existing grid infrastructure, minimise disruption to the local community and biodiversity and reduce energy losses and overall costs.

7.42 This identified that 96.3% of the land within the study zone is Green Belt, with the remaining area under development. Therefore, there is no option to develop outside the Green Belt. The assessment also highlighted that 39.7% of the land within Rushcliffe Borough Council is Green Belt. Taking account of constraints including noise and visual buffers for houses, landscape and visual, screening, and ecological mitigation measures there is very limited land available for a solar farm.

7.43 The overall land available for development was initially assessed for suitability and through the iterative design process the current layout was deemed most appropriate (see paragraph 7.55). The planning and assessments undertaken have confirmed that there are no significant impacts from the proposed development at this location (See Appendix A).

GREEN BELT ASSESSMENT METHODOLOGY

7.44 Neo Environmental has developed a methodology for Green Belt assessment that acknowledges the NPPF Green Belt purposes, Rushcliffe Borough Council's (RBC's) assessment criteria for the Green Belt and landscape and visual aspects of the proposed development.

7.45 Each purpose criteria in the NPPF have been evaluated via a comprehensive desk-based analysis in terms of landscape and visual impact and the contribution the site will make to the of the Green Belt. The criteria (derived from RBC's Green Belt Review 2017[9]) for each purpose are listed and described in detail below.

7.46 This assessment will not include consideration of the proposed development to address every paragraph in the NPPF relating to the Green Belt. However, the assessment will provide clarity on whether the proposed solar farm will contribute effectively to the surrounding Green Belt and if it is environmentally beneficial.

[9] https://www.rushcliffe.gov.uk/media/1rushcliffe/media/documents/pdf/planningandbuilding/planningpolicy/lapp/preferredsites/Green%20Review%20part%202b%20FINAL%20Sept%202017_RED.pdf

ASSESSMENT

7.47 As the site is located c.1.3km away from the village of Gotham, the Proposed development site was reviewed in conjunction with the RBC Green Belt Review part 2B (September 2017) and the seven key areas that relate to Gotham.

7.48 The RBC Green Belt Review has minimal information on the area of East Leake, however, it has significantly discussed the area of Gotham, therefore this report focuses mainly on the village of Gotham.

7.49 Please see **Table 7-1** for a summary of the findings in relation to the five purposes.

Purpose 1 and Purpose 2

7.50 Purpose 1 and 2 are outlined respectively in the NPPF as;

"To check the unrestricted sprawl of large built-up areas."

7.51 And

"To prevent neighbouring towns merging into one another"

7.52 The first two purposes can be reviewed in tandem. Gotham lies c.1.3km north east of the proposed development and the settlement of East Leake lies c.0.75km southeast of the Proposed Development, with few residences within close proximity. However, it is unlikely that the proposed solar farm will result in urban sprawl or result in the two villages of Gotham and East Leake merging.

7.53 The Proposed development is not residential in nature and will not be adding to either East Leake's or Gotham's footprint, plus, the separation distance between the site and the settlements adds to the unlikeliness of the development leading to urban sprawl, ergo not encouraging urban sprawl or the merging of the two villages.

7.54 Furthermore, as noted within Rushcliffe's Green Belt Review, it is noted that the village of Gotham has not got many brownfield sites for development to occur, plus the development is low rise and temporary in nature, therefore, the application site was selected with this under consideration. See link to Rushcliffe Borough Council Brownfield Register for information [10].

Purpose 3

7.55 Purpose 3 can be defined as;

[10] https://www.rushcliffe.gov.uk/planningpolicy/brownfieldregister/

"To assist in safeguarding the countryside from encroachment"

7.56 Regarding Purpose three in the NPPF the proposed development will not significantly encroach into the countryside due to the type of low-lying development and because the development is encompassed within a single land holding and is well screened from surrounding areas (Please See **Technical Appendix 1: LVA** from the planning application). However, there will be minor impacts on the Green Belt by the Proposed Development being situated within it.

7.57 A summary of the mitigation measures that are in place as part of the planning application which will reduce the impact of any the encroachment can be found below;

- A Landscape and Ecology Management Plan (LEMP) (**Volume 3, Technical Appendix 1, appendix A, Figure 1.14**) will be implemented in addition to the Biodiversity Management Plan, plus, it is anticipated that there will be significant net-gain for biodiversity at the Application Site at 44.8% in area habitat units, which is significantly higher than the legal minimum requirement of 10%.

- The Proposed Development has been sited and designed to integrate into the surrounding area as congruously as possible and **there will not be a long-term loss of greenfield or Green Belt land as the development is entirely reversible** following the 40-year operational phase and can be returned to its former state.

- The additional planting associated with the Proposed Development will result in additional landscape benefits as compared to the existing site and a more sympathetic development, once this mitigation planting has been fully established (for more detail see **Technical Appendix 1, Volume 3**).

- The value placed on the rural setting by the local communities is recognised and the applicant is proposing to enhance the local PRoW network by providing a new permissive path as part of the development, linking Bridleway 12 with Bridleways 10 and 11 and creating a new circular route

- It is proposed to construct a series of filter drains / infiltration trenches and swales across the Application Site in order to maintain greenfield run off rates as well as reducing the risks of soil erosion and limiting any impacts on downstream receiving watercourses or agricultural land.

- Although some views of the Proposed Development from nearby recreational routes are inevitable, particularly through intervening vegetation during winter months and CCTV poles above hedgerows, the LVA has clearly demonstrates that visibility in practice is

very localised and from almost all of the wider study area, including main settlements and roads, the Proposed Development would be screened from view by dense mature woodlands that surround the site, and intervening built development and landcover in the wider landscape.

- Current grass cover is to be retained or reinstated adjacent to and under panels in order to maximise bio-retention.
- Buffers will be put in place;
    - 2m drainage ditch buffers;
    - 5m hedgerow buffers;
    - 10m woodland buffers; and
    - 12-15m buffers between PV panels and locally designated sites.

7.58 It is important to note that there would be economic benefits from the proposed development ranging from financial investment, the creation of jobs and continued agricultural use. Social benefits would also be reaped from the proposed solar development, such as it being utilised as an educational resource for local schools. Furthermore, the NPPF outlines the three pillars of sustainability within Paragraph 7, which are intrinsic to the Proposed Development, making it further compliant with the NPPF.

Appearance

7.59 The Proposed Development Site is surrounded by woodland in most directions, providing robust screening and ensuring that any visual effects are very localised, which is why the site has been chosen. It is considered that the landform and vegetation, including mature trees and hedgerows of the site and surrounding area, make this location ideal for utilisation as a solar farm and the effects resulting from the installation of the development. The mature trees and hedgerows offer significant screening and allow for the proposals to be successfully accommodated.

7.60 Visual effects of the Proposed Development have been assessed in more detail in the Landscape and Visual Assessment which can be found in Volume 3, Technical Appendix 1. In the longer term as a result of the mitigation planting, localised visual effects would be reduced. The planting plan provides for the introduction of significant new woodland and hedgerow planting and identifies where hedgerows will be maintained to between 3 and 4 m in height to maintain visual screening. Some existing hedgerows are also proposed to be infilled and enhanced.

7.61 The substation and containers which house the inverters/transformers will be recessively coloured so as to blend in with the landscape (RAL 6005.

7.62 In terms of reflectance, photovoltaic solar panels are by no means a highly reflective surface. They are designed to absorb sunlight and not to reflect it. Several studies have shown that photovoltaic panels (as opposed to Concentrated Solar Power) have similar reflectance characteristics to water, which is much lower than the likes of glass, steel, snow, and white concrete by comparison. Similar levels of reflectance can be found in rural environments from the likes of shed roofs and the lines of plastic mulch used in cropping. Nonetheless, photovoltaic panels have a flat polished surface, which omits 'specular' reflectance rather than a 'diffuse' reflectance, which would occur from a rough surface.

7.63 The surface of the panels will be finished with an anti-reflective coating which is standard practice when developing solar farms. This means that the panels will not produce large amounts of glint and glare that will affect visual receptors in the vicinity of the site. A Glint and Glare Assessment was undertaken as part of the planning assessment and, once mitigation was taken into consideration, all impacts were reduced to **None** for all properties with the exception of two landowner properties that remain **Low**. Further information on this can be found in **Technical Appendix 7: Glint and Glare of Volume 3.**

Scale of Development

7.64 Throughout the design iteration process, the Application Site has reduced in size from 89.1ha at the pre-application advice request stage (January 2021) to the current site area of 80.65ha (December 2021). This was following consideration of a number of factors including;

- To allow buffers from nearby residential properties and PRoWs;
- To avoid the potential for creating corridors of development around PRoWs;
- To exclude and / or buffer areas of environmental sensitivity following desktop analysis and site study; and
- To ensure that the Proposed Development fits congruously within the surrounding environment, reducing the potential for adverse visual or cumulative landscape impacts.

7.65 All of the buildings within the Proposed Development are at or below single storey level. Even when viewed from nearby public vantage points, the scale of development will not be overbearing due to its limited height and relatively benign appearance (i.e. lack of movement and external illumination etc).

7.66 Each array of panels within the field will be mounted on a simple metal framework. The main purpose of the mounting structure is to hold the modules in the required position without undue stress. It must be capable of withstanding appropriate environmental stresses for the location, such as wind or snow loading. The framework will be driven into the soil between 1 and 2 metres deep, avoiding the need for deep foundations. Such supporting systems are designed to avoid the use of concrete foundations and are reversible.

7.67 With regard to the proposed ancillary buildings, they are designed to be as small as possible while still being capable of undertaking their required function within the site. Such structures will not be prominent within the surroundings and be smaller than many isolated stores and barns typically found in the countryside environment. The existing woodland and hedgerows located in the surrounding area, combined with the proposed landscape enhancements, means that views of the Proposed Development will be very localised and unobtrusive in the wider landscape. Further information regarding this can be found in Volume 3, Technical Appendix 1: LVA.

7.68 The cables associated with the Proposed Development will be buried underground and will therefore be appropriate to the setting and location.

Landscape

7.69 The impact upon the local landscape has been given careful consideration in putting forward the proposed scheme. While a scheme of this size will inevitably have an effect on landscape character as set out above, it has been carefully designed and located to minimise effects as far as possible.

7.70 It is considered that the landform and vegetation, including mature trees and hedgerows of the site and surrounding area, make this location ideal for utilisation as a solar farm and the effects resulting from the installation of the development. The mature trees and hedgerows offer significant screening and allow for the proposals to be successfully accommodated.

7.71 A Landscape and Visual Assessment is included as Technical Appendix 1 in Volume 3 which considers the landscape and visual effects of the Proposed Development and is supplemented by the LVA Addendum which has been submitted in conjunction with this Green Belt assessment. Potential visibility of the Application Site is very localised and with the mitigation proposed in the Landscape and Ecology Management Plan (LEMP; Figure 1.14 of TA 1, Vol 3), it is anticipated that there will be no significant adverse effects on visual receptors.

7.72 In terms of visual effects, consideration was undertaken from ten viewpoints in the surrounding area. A number of these are taken from Public Rights of Way that runs parallel to the Application site and therefore will be subject to significant visual effects during the early operational phase of development, however the hedgerow and tree planting included within the scheme would mitigate such visual effects once it has matured sufficiently, reducing potential visual effects to moderate or below (not significant) by year 10.

7.73 Landscape enhancement measures are proposed to provide screening and improve the sites capacity to host a greater range of biodiversity. These include native hedgerow and tree planting and the introduction of native grasses and wildflowers throughout the Application Site, providing additional habitat and food resources for the local wildlife as well as providing mitigation screening for the Proposed Development, reducing the potential for inward views from nearby receptors.

Land use

7.74 Although the Proposed Development is located on greenfield land it is designed in such a way to avoid significant losses of agricultural land during the operational stage, with a circa 5% ground level footprint typical. This means that the Site can retain a dual use; agriculture in the form of low intensity sheep grazing on the remaining 95% and renewable energy generation.

7.75 It should be noted that the use of ground mounted solar panels would not impact the landscape and Green Belt as other renewable energy forms, such as wind turbines, or energy from waster development.

7.76 The Application is also supported by an Agricultural Land Classification report (see **Volume 3: Technical Appendix 9**), which demonstrates that the site consists entirely of **Grade 3b** agricultural land, which is not considered Best and Most Versatile.

Nature of project

7.77 The proposed solar arrays and associated equipment will be temporary structures which will be on the site for 40 years. Upon cessation, all equipment will be removed and the site will be fully restored to its current state. National Planning Practice Guidance (NPPG) states;

"That solar farms are normally temporary structures and planning conditions can be used to ensure that the installations are removed when no longer in use and the land is restored to its previous use"

Purpose 4

Purpose 4 is defined in the NPPF as;

"To preserve the setting and special character of historic towns"

7.78 In relation to Purpose 4, it is not anticipated that the application site will have a negative impact upon any historic villages or towns. The development site lies outside of any ecology, archaeology and landscape designations.

7.79 The site is not subject to any statutory designations relating to its historic value, however designated heritage assets further afield include a total of nine Scheduled Monuments and three Registered Parks and Gardens of Special Historic Interest (PGSHIs) within 5km. 27 Listed Buildings (including two Grade I, one Grade II* and 24 Grade II) and two Conservation Areas were also identified within the 2km. 91 sites within the local Historic Environment Record (HER) were identified within 1km, however only two of these lie within the boundary of the Application Site. This includes the 'Well, Gotham' (L48/M48), which contains two references to the former post-medieval well depicted within the northwest of the site on OS historic mapping, as well as the findspot for 'flint flakes from Crow Wood Hill, Gotham' (L27) within the southeast of the Application Site. There are no above-ground standing remains of either feature that could be physically impacted by the Proposed Development, although there is still

potential for below-ground remains and therefore, these areas have been excluded from the development design (see Technical Appendix 3 for further details).A Geophysical survey already has been completed regarding the application for Kingston Solar Farm.

Purpose 5

7.80 Purpose five is not applicable to the Proposed Development site because it is not with an urban setting, and it is outlined in the NPPF as;

"To assist in urban regeneration, by encouraging the recycling of derelict and other urban land."

SUMMARY OF FINDINGS

7.81 The paragraphs below outline the findings of Neo Environmental's Green Belt Assessment;

Table 7.1:

Green Belt Purpose (NPPF)	Methodology Criteria	Impact on Green Belt	Contribution of Proposed Development
Purpose 1 To check the unrestricted sprawl of large built-up areas.	What improvements does the Proposed Development site make to providing a contiguous open area between the two settlements edges and the wider Green Belt?	Low	The closest settlement, East Leake lies 0.75km southeast of the Proposed Development, with few residences within close proximity, including the village of Gotham c.1.3km north – northeast. Therefore, it is highly unlikely that the proposed solar farm will result in urban sprawl due to its nature (not being residential) and it being well screened within the area, ergo not making it a dominant feature. Furthermore, the site will be adequately enclosed with additional planting. Views of the site will be limited from surrounding lands due to the above. The proposed solar farm is also for a temporary (40 year) period. It will only have a ground footprint of circa 5% and agriculture can continue on site through sheep grazing.
	What contribution does the Application site's boundaries make to preserving the openness with the surrounding countryside and Green Belt?	Low	

Purpose 2 To prevent neighbouring towns merging into one another.	To what degree is the application site associated with the existing settlements edges?	Low	The closest settlement area lies 0.75km southeast of the Proposed Development, with few residences within close proximity, however, it is unlikely that the proposed solar farm will result in the two villages of Gotham and East Leake merging due to its' nature not being residential, and there being a significant separation distance between the Proposed Development and closest settlements of East Leake and Gotham (c.0.75km and c.1.3km respectively). There will be no intervisibility between the solar farm and the two settlements as it is well contained within the landscape.
	What is the effect of the perceived and actual intervisibility or potential for merging? (Given the distance between the application site and the two closest settlements being c.0.75km)	Low	
Purpose 3 To assist in safeguarding the countryside from encroachment.	To what degree are the key characteristics of the countryside represented by the application site?	Low/Moderate	The Application Site will be located on greenfield land; however, it is unlikely to result in significant encroachment on the surrounding countryside. Any encroachment that does occur will be mitigated via planting, screening, anti-glare panels and all buildings will be maximum of 1 storey in height. It should be noted that the development is temporary in nature and the land can become mixed use to host the solar panels whilst also being agricultural (please see paragraphs 7.55 – 7.77 for further detail). There will not be any urbanisation of the site by the proposed development.
	To what extent is the application site urbanised by either features on or off site?	Low/ Moderate	

Purpose 4 To preserve the setting and special character of historic towns.	Are the special characteristics of the setting to the historic town represented by the Proposed Development site?	Low	In relation to Purpose 4, it is not anticipated that the application site will have a negative impact upon any historic villages or towns. The development site lies outside of any ecology, archaeology and landscape designations. A CHIA (Cultural Heritage Impact Assessment) has been produced for the planning application (**Technical Appendix 3** of the application) and has identified the site is not subject to any statutory designations relating to its historic value, however designated heritage assets further afield include a total of nine Scheduled Monuments and three Registered Parks and Gardens of Special Historic Interest and two Conservation Areas. Only two of these lie within the boundary of the Application Site. There are no above-ground standing remains of either feature that could be physically impacted by the Proposed Development, although there is still potential for below-ground remains, therefore these areas have been excluded from the development design.
	Is there intervisibility between historic landmarks and the application site?	Low	
Purpose 5 To assist in urban regeneration, by encouraging the recycling of derelict and other urban land.	Not Tested	N/A	N/A

Key

Low – Will have a low impact on the Green Belt

Moderate – Will have a moderate impact on the Green Belt

High – Will have a significant impact on the Green Belt

7.82 Overall, the Green Belt importance of the area ranged from Low – Low/Medium, with each of the 7 areas within the Rushcliffe Green Belt Review 2017 giving Gotham a Green Belt score of Low – Low/Moderate.

7.83 The purpose that consistently had a highest score in each of the seven areas was Purpose 3, however, Neo Environmental have demonstrated in the section: Assessment, Purpose 3, that the Proposed development is acceptable within the Gotham area.

Environmental Benefits

7.84 In summary, the NPPF notes that the principle of renewable energy development in the Green Belt can be acceptable if very special circumstances are demonstrated. This Green Belt review has identified the environmental benefits, which should be considered in the planning balance which includes:

- Long-term environmental benefits in the form of improved biodiversity and landscape value thanks to additional planting and infilling of hedgerows at the construction phase and the ecological enhancement measures and the ongoing sensitive site management for the duration of the Proposed Development's lifespan.
- A significant saving of CO_2 per year compared to equivalent fossil fuel generation (25,000t[3]);

7.85 The proposed solar arrays, in combination with other measures, would substantially reduce carbon emissions and this is an important environmental benefit of the proposals;

- The proposed landscape strategy provides significant visual enhancements to the site and surrounding landscape, it will also contribute a significant biodiversity net gain.

7.86 Although, the Application Site is entirely located within the Nottingham-Derby Green Belt, it is anticipated that the need for and benefits of renewable energy production at this location and the net biodiversity gain from the Proposed Development both justify its location and outweigh any perceived negative impacts on the Green Belt. Furthermore, it should be noted that the project is fully reversible, and the site can therefore be reinstated back to its current greenfield state following the operational period (40 years).

7.87 Renewable energy projects are supported 'in principle' at national and local policy levels, with the impetus at all policy levels being the need to reduce greenhouse gas emissions, reduce reliance on fossil fuels and combat climate change. With the Central Government declaring an Environment and Climate Emergency in May 2019, projects of this nature are essential to combat rising temperatures and CO2 emissions.

7.88 At a local plan level, numerous objectives exist within the Rushcliffe Local Development Plan that encourages and supports the development of low / zero carbon energy. It is therefore clear that the Local Plan offers support for this type of development and that the Proposed Development is acceptable, *subject to there being no significant adverse effects; and where any residual harm is outweighed by the benefits of the Proposed Development.*

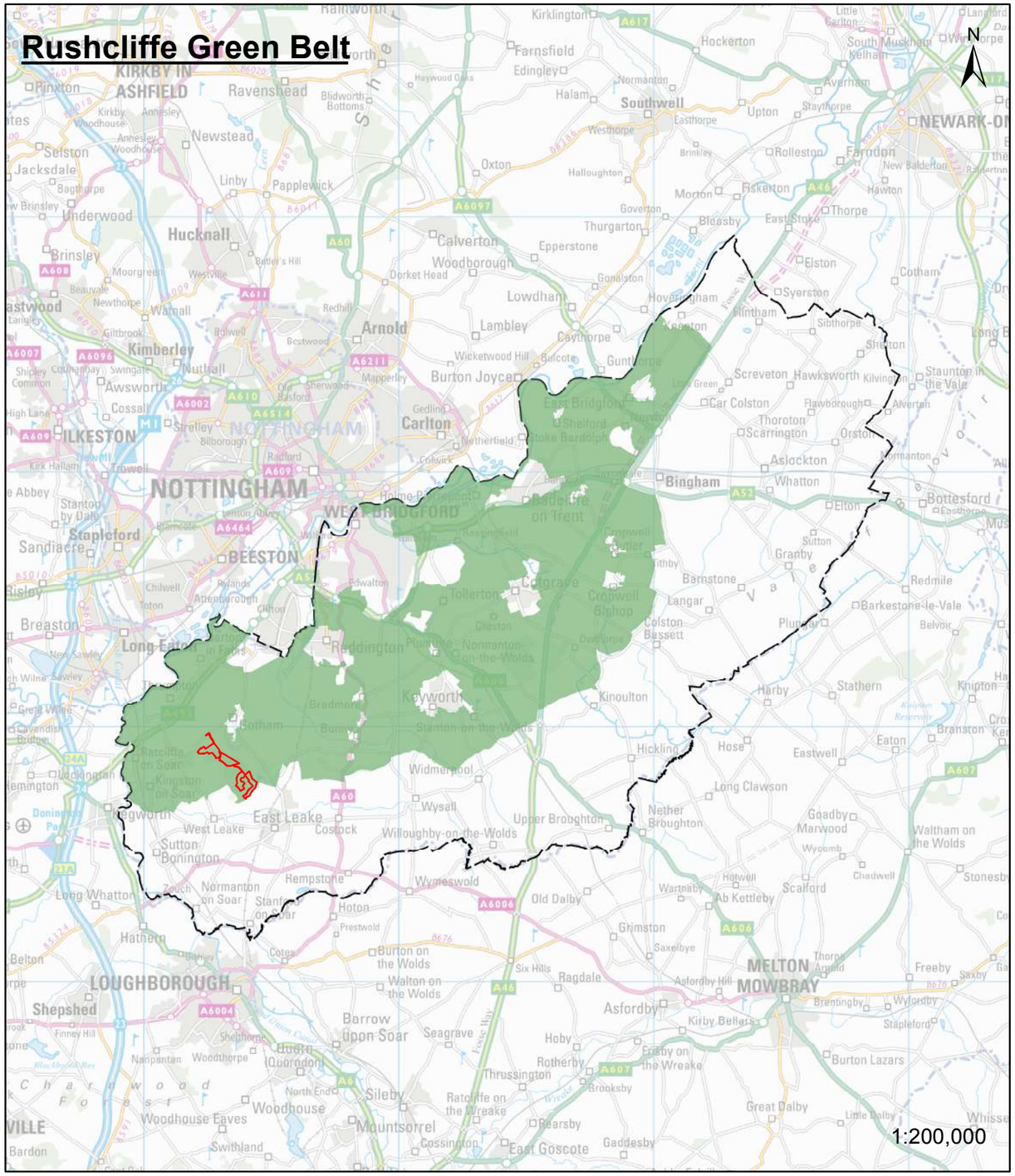
7.89 Overall, the proposed solar development at Kingston, is clearly able to demonstrate very special circumstances exist which include wider environmental benefits associated with increased production of energy from renewable sources, which in turn outweigh any potential harm.

7.90 The Proposed Development will have an export capacity of up to 49.9MW; a solar farm of this size will generate a significant amount of electricity from renewable sources, therefore offsetting the need for power generation from the combustion of fossil fuels including coal and oil. The UK Energy Security Strategy[11] published in April 22 commits to look to increase the UK's current 14GW of solar capacity by up to 5 times by 2035. If the government meets its target of increasing solar capacity fivefold, ground-mounted solar would cover a total of around just 0.3% of the UK's land surface which is still less than the total land used by the UK's golf courses. Consequently, during its operational lifespan (40 years), the Proposed Development has the potential to displace electricity generated from fossil fuels and consequently represents carbon savings and helps to tackle the climate emergency.

[11]https://www.gov.uk/government/publications/british-energy-security-strategy/british-energy-security-strategy

Kingston Green Belt Analysis

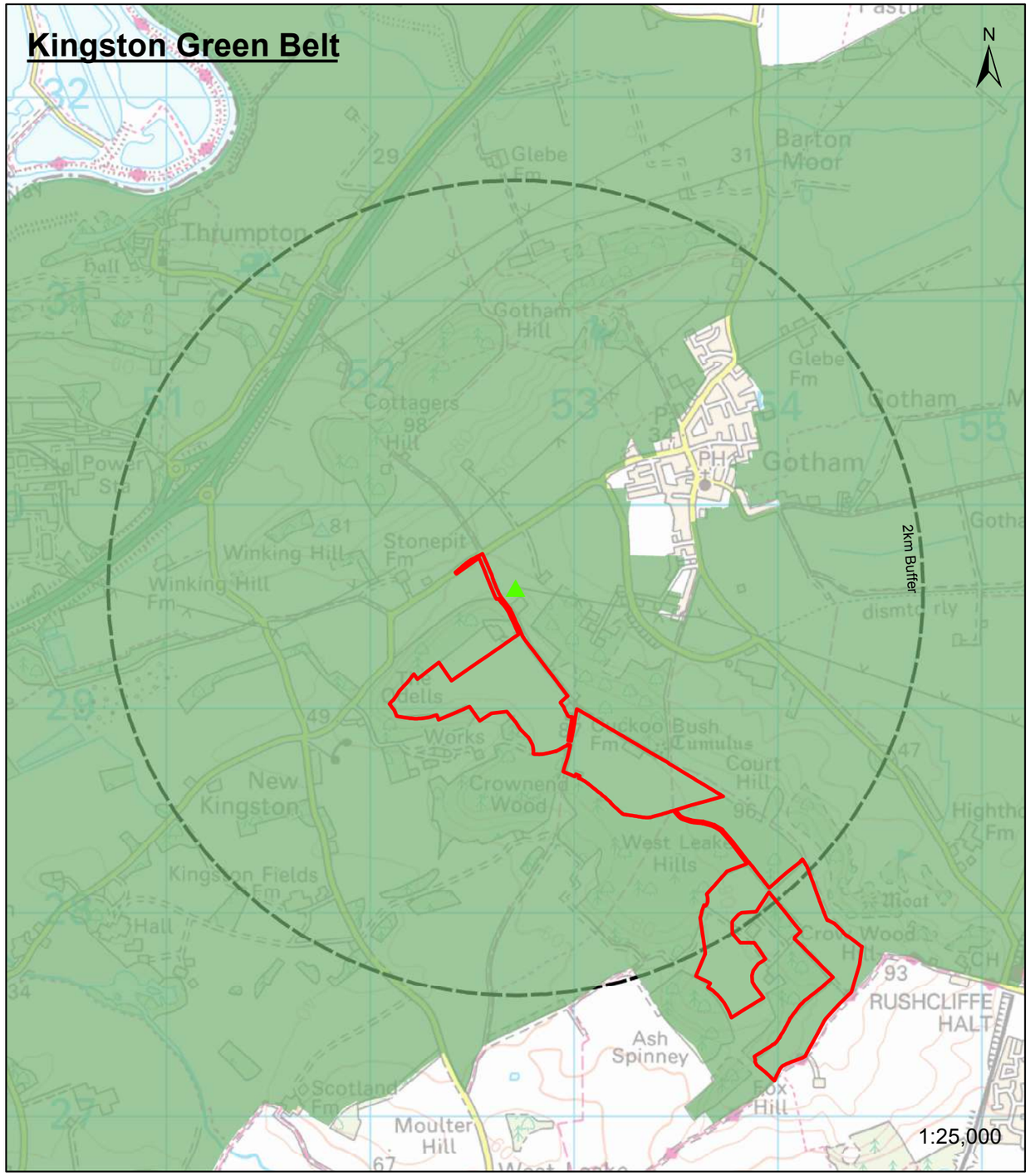
Rushcliffe Green Belt



KEY:

- Planning Boundary
- Green Belt within Rushcliffe = 39.7%
- Rushcliffe District

Kingston Green Belt



KEY:

- Point of Connection
- Planning Boundary
- Green Belt within Rushcliffe within 2km of Point of Connection
- 2km Buffer

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