

**The Great Grid Upgrade**

Chesterfield to High Marnham

# Brinsworth to Chesterfield

Long Lane EIA Screening Report

June 2026

**nationalgrid**

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# 1. Introduction

## 1.1 Request for an Environmental Impact Assessment (EIA) Screening Opinion

- 1.1.1 National Grid Electricity Transmission plc (NGET) is proposing to develop a new 400kV substation on land near Long Lane ('the Site') as part of the Brinsworth to Chesterfield reinforcement project ('the Project'), the purpose of which is to reinforce the electricity network, uprating the existing 275kV transmission in between Brinsworth and Chesterfield to operate at 400kV. The Project forms part of the 'Great Grid Upgrade'<sup>1</sup>, which aims to provide additional resilience within the electricity network. The Great Grid Upgrade will enable the electricity grid to carry more clean energy from renewable sources to communities, homes and businesses in every part of England and Wales, helping the UK to reach net zero. The proposals will also increase the security and resilience of the UK's electricity network. This EIA Screening Report is in relation to the overhead line 'Tie In' works ('the Scheme') required to facilitate the Project and the connection of the new 400kV substation to the National Grid network.
- 1.1.2 Consent for elements of the overhead line 'Tie In' works will be sought under Section 37 of the Electricity Act 1989 from the Secretary of State for Energy Security and Net Zero. The remaining elements of the overhead line 'Tie In' works will be delivered under a combination of existing rights, exemptions or permitted development, as set out in Section 2 of this report.
- 1.1.3 In accordance with Regulation 10(1) and 12(1) of The Electricity Works (Environmental Impact Assessment) (England and Wales) Regulations 2017 (the 'EIA Regulations'), NGET requests that the Department for Energy Security and Net Zero (DESNZ) adopts a Screening Opinion as to whether the proposed 'Tie In' works at Long Lane would be likely to have significant effects on the environment by virtue of factors such as its nature, size or location.
- 1.1.4 A separate Town and Country Planning Act 1990 (TCPA) application for the proposed 400kV substation has been submitted to Rotherham Metropolitan District Council. To ensure that this application is robust and has fully considered the potential environmental impact of the substation proposal and the Scheme, an appraisal of cumulative impacts has been carried out within that application. Additionally, the potential for cumulative impacts with these and other committed developments is considered in Section 3 of this report.
- 1.1.5 A summary of the information which must be provided with such a request is set out in Table 1.1 alongside where it may be found in this report.

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<sup>1</sup> <https://www.nationalgrid.com/the-great-grid-upgrade>

**Table 1.1 Summary of information required by The Electricity Works (Environmental Impact Assessment) (England and Wales) Regulations 2017 to accompany a screening request**

| <b>Information Required by the EIA Regulations</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 | <b>Content within this Screening Report</b>                                                                                                                                                                                                                                        |
|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 10(2)(b) a plan of the site of the development                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     | <p>Section 2 provides a description of the location of the Scheme. Drawings are provided in Appendix A:</p> <ul style="list-style-type: none"> <li>• Site Location and Works Plan; and</li> <li>• Environmental Features Plan.</li> </ul>                                          |
| 12(1)(a) a description of the development, including in particular—<br>(i) a description of the physical characteristics of the whole development and, where relevant, of demolition works;<br>(ii) a description of the location of the development, with particular regard to the environmental sensitivity of geographical areas likely to be affected.                                                                                                                                                                                         | <p>Section 2 provides a description of the Scheme and outlines its main physical characteristics including approximate dimensions and details of its appearance.</p> <p>Section 3 provides information about the key environmental sensitivities of the proposed Scheme areas.</p> |
| 12(1)(b) a description of the aspects of the environment likely to be significantly affected by the development.                                                                                                                                                                                                                                                                                                                                                                                                                                   | Section 3 provides a description of the aspects of the environment likely to be significantly affected by the construction or operation of the Scheme.                                                                                                                             |
| 12(1)(c) a description of any likely significant effects, to the extent of the information available on such effects, of the development resulting from—<br>(i) the expected residues and emissions and the production of waste, where relevant;<br>(ii) the use of natural resources, in particular soil, land, water and biodiversity.                                                                                                                                                                                                           | Section 3 provides a description of the aspects of the environment likely to be significantly affected by the construction and operation of the Scheme.                                                                                                                            |
| 12(3) When providing information under paragraph (1)—<br>(a) the developer must take into account, where relevant, the available results of other relevant assessments of the effects on the environment undertaken under requirements imposed in accordance with assimilated law other than any law that implemented the EIA Directive;<br>(b) the developer may also provide a description of any features of the development and measures envisaged to avoid or prevent what might otherwise be significant adverse effects on the environment. | Section 3 provides information about the control measures which are envisaged to avoid or prevent significant adverse effects on the environment.                                                                                                                                  |

## 1.2 The Proposed Scheme and EIA Regulations

- 1.2.1 The EIA Regulations define EIA development as either:
- Schedule 1 development; or
  - Schedule 2 development likely to have significant effects on the environment by virtue of factors such as its nature, size or location, taking into account the selection criteria set out in Schedule 3, identified through this process of screening.
- 1.2.2 The Scheme, described in Section 2, does not fall under the activities listed in Schedule 1 of the EIA Regulations, but it does fall under paragraph (3)(b)(ii) of Schedule 2 of the EIA Regulations.
- 1.2.3 The Scheme does fall within a sensitive area as defined by the EIA Regulations. The site boundary partially includes a Scheduled Monument under the Ancient Monuments and Archaeological Areas Act 1979.
- 1.2.4 As the Scheme falls within Schedule 2 of the EIA Regulations, consideration will be provided against the criteria provided in Schedule 3 of the EIA Regulations to establish whether significant effects on the environment are likely. Schedule 3 criteria include the characteristics and location of the development and the characteristics of the potential impact. The subsequent sections of this report consider the potential for significant adverse environmental effects on the environment by the proposed Scheme, taking into consideration the criteria in Schedule 3.

## 1.3 Consultation

- 1.3.1 Consultation is ongoing with a variety of different statutory and non-statutory consultees with regard to the Scheme and its potential environmental impacts. NGET will proactively engage with statutory consultees such as Rotherham Metropolitan District Council, Environment Agency, Natural England and Historic England. Non-statutory consultation with the wider public will also be undertaken for the Scheme as part of the Great Grid Upgrade. All matters arising from consultation will be taken into consideration as appropriate.

## 2. Scheme Characteristics and Location

### 2.1 Site Location and Surroundings

- 2.1.1 The overhead lines shown in Appendix A, Figures illustrate the extent of the Scheme, located to the east of Brinsworth, south of Rotherham. The red line boundary shows the extent of the new 400kV substation TCPA application. Land within 50m of the overhead lines, and within 70m of pylons, will be required for the Scheme and for construction purposes, including temporary welfare and laydown areas. The full design and requirements for land will be detailed within the application for Section 37 consent. Post construction, any remaining areas of land only temporarily required would be restored to their former land use.
- 2.1.2 Currently, the Site predominantly comprises agricultural fields. The Site is bound to the north by woodland and Whiston Brook, with agricultural fields and residential development beyond. The Site extends to the existing Brinsworth Substation to the west. The Scheme crosses a section of the M1 and extends south. The Site is predominantly surrounded by agricultural land, the M1, Brinsworth to the west and Whiston to the north east.
- 2.1.3 The only international or nationally designated asset within the Site is the Scheduled Monument 'Blue Man's Bower moated site, Whiston'. The Local Wildlife Site 'Whiston Meadows' is also within the Site.

### 2.2 The Scheme

- 2.2.1 The Scheme is composed of several elements, set out below, to enable the connection of the new 400kV substation at Long Lane (subject to a separate EIA Screening report and TCPA application) to the Project and the wider network. This will comprise the installation of short stretches of overhead line between the new 400kV substation and the existing overhead line network, as well as the removal of some existing stretches of overhead line, together with the temporary works (such as temporary masts) required to make these permanent changes.

#### Consenting the Scheme

- 2.2.2 Certain elements require consent under Section 37 of the Electricity Act 1989 (as amended) where they fall outside permitted development or NGET land ownership boundaries, or where an exemption does not apply under the Overhead Lines (Exemption) (England and Wales) Regulations 2009 ('Exemption Regulations'). This includes:
- permanent tie-in works and overhead line installations that exceed exemptions or fall outside NGET land ownership;
  - permanent turn-ins and modifications to overhead line alignment that are not within NGET land ownership or are not classed as repair/renewal; and
  - any temporary diversions requiring longer than six months where the exemption is not applicable.

- 2.2.3 Temporary overhead line works that meet the exemption criteria may proceed under the Exemption Regulations without a Section 37 consent, subject to the following limits:
- temporary overhead lines not exceeding 850m in aggregate length;
  - time-limited (not exceeding six months per exemption); and
  - temporary diversions that remain within the exemption thresholds and do not involve position changes that negate the exemption.
- 2.2.4 These exemptions apply only where the temporary lines stay within the 850m limit and meet all other exemption criteria; they do not apply if the temporary line is in a different position from existing lines, or would exceed height limits.
- 2.2.5 Section 37(2)(b) provides that Section 37(1) will not apply in relation to so much of an electric line as is or will be within premises in the occupation or control of NGET. The effect of Section 37(2)(b) would be to remove the need for consent under Section 37(1) for the installation of electric lines within land occupied and controlled by NGET. Where Section 37(1) does not apply to electric line works by virtue of Section 37(2)(b) this means that NGET can carry out certain overhead line works as permitted development under Class B(a) of Part 15 of The Town and Country Planning (General Permitted Development) (England) Order 2015, including:
- construction of short overhead line sections and installation of new terminal/tower structures within NGET land ownership; and
  - replacement/repair/renewal works to existing overhead lines that do not increase height beyond current structures and remain within NGET land ownership.

## Scheme Elements

- 2.2.6 The overhead line 'Tie In' works at Long Lane include the following elements:
- Installation of approximately 685m of new permanent overhead line, including two new pylon masts (4ZV187A and 4ZV187B) all to the south of the new 400kV substation. This requires Section 37 consent.
  - Installation of approximately 618m of temporary overhead line, in two sections to the north and north west of the new 400kV substation (Brinsworth to Thorpe Marsh), and one temporary structure (4ZH114T), in place for more than six months. This requires Section 37 consent.
  - Installation of 140m of new permanent overhead line, to the north west of the new 400kV substation (Brinsworth to Brinsworth 1 and 2), exempt under Regulation 3(1)(c) of The Overhead Lines (Exemption) (England and Wales) Regulations 2009.
  - Installation of 753m of new temporary overhead line, to the south of the new 400kV substation (Brinsworth to Thorpe Marsh), exempt under Regulation 3(1)(c) of The Overhead Lines (Exemption) (England and Wales) Regulations 2009.
  - Installation of a further 736m of permanent overhead line under permitted development rights (Brinsworth B – Chesterfield 1 and 2, Brinsworth B to Thorpe Marsh 1 and 2 and Brinsworth to Brinsworth B1 and B2) and the temporary installation of 220m of temporary overhead line (Brinsworth B to Thorpe Marsh 1). This does not require Section 37 consent by virtue of Section 37(2)(b), therefore by Class B(a) of Part 15 of The Town and Country Planning (General Permitted Development) (England) Order 2015, as works are carried out within NGET land ownership.

- Removal of approximately 2.86km of existing overhead line, in two sections, predominantly to the north, west and south west of the proposed Long Lane Substation, and the removal of pylons between 4ZV187 to 4ZV193 (between Brinsworth and Chesterfield 1 and 2) and between 4ZH112 to 4ZH114 (between Brinsworth and Thorpe Marsh 1 and 2). This does not require Section 37 consent.

2.2.7 The overhead line 'Tie In' works at Chesterfield comprise the installation of approximately 1122m of new overhead line within land occupied and controlled by NGET (as shown in red on the accompanying plans). This does not require Section 37 consent by virtue of Section 37(2)(b) as set out in the previous section.

2.2.8 During construction, access will be required to the Site from:

- A618 Pleasley Road at Guilthwaite;
- A618 Pleasley Road opposite Ulley Reservoir;
- Long Lane opposite the water treatment works at Treeton;
- Long Lane south of the M1;
- Flatts Lane;
- Haworth Lane, off West Bawtry Road; and
- Long Lane, opposite Whiston Meadows.

2.2.9 The works required to construct the Scheme will include:

- installation of haul road;
- laydown/working platforms around existing pylons and proposed pylon locations;
- conductor/earth wire pulling;
- installation of new permanent structures;
- dismantling of existing structures;
- installation of temporary structures;
- erection and use of scaffolding; and
- laydown areas.

## 3. Environmental Baseline and Screening Assessment

- 3.1.1 This section sets out baseline information, potential for significant environmental effects and the proposed approach and mitigation for further environmental appraisal to be submitted with the application to DESNZ for consent, including an Environmental Appraisal Report (EAR). The following information should be read in conjunction with the enclosed figures shown within Appendix A.

### Ecology

- 3.1.2 The baseline information for the Scheme is presented below:
- The land required to construct the Scheme is not within any international or national ecological designations. Land designated as Whiston Meadows Local Wildlife Site (LWS) and deciduous woodland Habitat of Principal Importance (HPI) is located within the boundary, as shown in Appendix A, Figures.
  - Works to be undertaken within the Whiston Meadows LWS are limited to works to individual overhead line structures already present within the LWS boundary.
- 3.1.3 An Ecological Appraisal, including the results of the Preliminary Ecological Appraisal (PEA) and species surveys, will form part of an EAR to be submitted alongside the application for Section 37 consent. The surveys undertaken to date found the area to support predominantly arable land and improved grassland.
- 3.1.4 Mitigation will be incorporated into the design of the Scheme where practicable and will be implemented through relevant environmental and landscape management plans.
- 3.1.5 The potential for significant environmental effects arising from the Scheme is presented below:
- Significant effects on ecological assets are not anticipated during the construction or operational phases of the Scheme, following the application of appropriate mitigation.
  - Appropriate consultation with regard to the LWS will be undertaken.
  - Further surveys are ongoing to inform the Ecological Appraisal and any mitigation required will be agreed as part of the application for Section 37 consent.

### Landscape and Visual

- 3.1.6 The baseline information for the Scheme is presented below:
- The land required to construct the Scheme is not located within areas designated nationally or locally for their landscape value. There are no National Landscapes or National Parks within 2km of the land required to construct the Scheme. The Scheme is located within National Character Area (NCA) Profile 38: Nottinghamshire, Derbyshire and Yorkshire Coalfield (NE402).

- The Scheme is located near to the urbanised areas of Whiston, Brinsworth and Rotherham, with agricultural land to the south and east. The land required to construct the Scheme itself is predominantly characterised by agricultural land use with vegetated borders and hedgerows. The existing Brinsworth substation is located to the west as well as existing pylons and associated overhead lines associated with this substation. Overall, electricity transmission assets are visible in the area.
- There are eight Public Rights of Way (PRoWs) within the land required to construct the Scheme:
  - Treeton footpath no.1 is located to the west and falls within the land required to construct the Scheme.
  - Treeton footpath no.4 is located to the south and falls within the land required to construct the Scheme.
  - Whiston footpaths no.7, no.9 and no.10 are located to the north west and fall within the land required to construct the Scheme.
  - Whiston footpath no.12 runs north east to south west and falls within the land required to construct the Scheme.
  - Whiston footpath no.13 is located to the south east and falls within the land required to construct the Scheme.
  - Whiston footpath no.14 is located to the south and falls within the land required to construct the Scheme.
  - Whiston footpath no.15 is located to the east and falls within the land required to construct the Scheme.
- There are also several PRoWs in the near vicinity.
- National Cycle Route (NCR) 06 is located 100m from the land required to construct the Scheme to the south east.

- 3.1.7 A landscape and visual appraisal will form part of the EAR to be submitted alongside the application for Section 37 consent. This will consider impacts on landscape and visual receptors.
- 3.1.8 Landscape mitigation will be implemented within the Scheme where practical. Construction best practice methods will also be implemented to reduce any temporary effects during the construction phase. Where possible, existing vegetation will be retained, in line with the mitigation hierarchy.
- 3.1.9 There will be visual receptors that will have views of the land required to construct the Scheme during the construction and operational phases, including residential properties and users of local highways. Where possible, existing vegetation will be retained. There are likely to be visual impacts arising from construction phase activities as well as changes to the overhead line network, including the removal of some existing stretches of overhead line and the introduction of new infrastructure in the longer term. Construction phase impacts will be temporary and short term in nature.
- 3.1.10 Given the nature of the area and the undulating land extending from the land required to construct the Scheme, it is anticipated that the combination of these elements would reduce any potential long-term significant effects that could occur during construction or operational phases.

## Cultural Heritage and Archaeology

3.1.11 Baseline information for the Scheme is presented below:

- A Desk-Based Assessment (DBA) has been undertaken for the Scheme. A 2km study area has been applied to the land required to construct the Scheme. Within this 2km study area there are the following designated heritage assets: two Registered Parks and Gardens (Boston Park and Moorgate Cemetery), two Scheduled Monuments (Blue Man's Bower moated site and Canklow Hill earthworks), 40 Listed Buildings and four Conservation Areas (Treeton, Whiston, Moorgate and Ulley), as shown in Appendix A, Figures.
- There are two listed buildings within the immediate vicinity: Grade II listed Farm building at spa house farm is located approximately 25m south west of the land required to construct the Scheme; and the Grade II listed Milepost, located approximately 35m south east of the land required to construct the Scheme.
- There is one designated asset which intersects the area of land required to construct the Scheme. The Scheduled Monument, Blue Man's Bower moated site, Whiston (1012201), intersects the Scheme between the A630 Rotherway and Long Lane. There are no planned works within the boundary of the Scheduled Monument, and the ground will not be broken during the construction or operational phases of the Scheme.
- The Conservation Area of Whiston is approximately 170m north east of the Scheme, located on the eastern side of Pleasley Road.
- There are no other obvious visible archaeological features within the land required to construct the Scheme, but there is potential for buried remains and artefacts associated with Prehistoric to Post Medieval activity.

3.1.12 The EAR to be submitted with the application for Section 37 consent will include an appraisal of potential impacts on heritage and archaeology. Relevant best practice construction mitigation measures will be included within a Construction Environmental Management Plan (CEMP).

3.1.13 Geophysical surveys will be undertaken to investigate any archaeological potential on the land required to construct the Scheme, and results will be reported within the EAR alongside any required mitigation.

3.1.14 The potential for significant environmental effects arising from the Scheme is presented below:

- Given the type of works proposed, i.e. temporary use of an existing access for construction, it is not anticipated that there would be any likely significant direct or indirect effects on the listed buildings as a consequence of construction or operation of the proposed Scheme.
- The design of the Scheme will take into account the location of the Scheduled Monument 'Blue Man's Bower moated site, Whiston' to avoid direct impacts to the asset, and to ensure that any impacts are minimised and mitigated appropriately, consultation will be undertaken with Historic England.

## Air Quality

- 3.1.15 The baseline information for the Scheme is presented below:
- The majority of the land required to construct the Scheme is within Rotherham Air Quality Management Area (AQMA) Part 1. This AQMA has been declared for nitrogen dioxide (NO<sub>2</sub>), with the source being ‘transport and industrial’.
  - The nearest residential receptors are in south Whiston and east Brinsworth, as well as along Pleasley Road. Within 2km there are a number of other receptor types including schools and places of worship.
- 3.1.16 During the construction phase of the proposed Scheme, there is the potential for fugitive dust emissions from activities such as excavation, ground works, cutting, construction and storage of materials. Vehicle movements both on site and on the local road network also have the potential to result in the resuspension of dust from haul roads and highway surfaces. There is also potential for air quality impacts from road traffic exhaust emissions from additional construction vehicles on local highways; however, this would be temporary.
- 3.1.17 Best-practice mitigation measures, taken from the Institute of Air Quality Management Guidance on the assessment of dust from demolition and construction<sup>2</sup>, would further minimise any construction dust effects. These would be adopted and included in a CEMP.
- 3.1.18 Due to the nature of the Scheme, it is not anticipated that operation or maintenance would result in significant effects on air quality for receptors in the local area. Overall, any air quality/dust impacts on the nearest sensitive receptors are therefore expected to be minimal and temporary.

## Water Resources and Flood Risk

- 3.1.19 The baseline information for the Scheme is presented below:
- There are a number of watercourses and features within the land required to construct the Scheme, including drains and ditches as well as the River Rother, the Ulley Brook and Whiston Brook.
  - Environment Agency mapping shows that the majority of the land required to construct the Scheme is within Flood Zone 1 (land assessed as having a less than 1 in 1,000 annual probability (<0.1%) of river or sea flooding). There are areas of Flood Zone 2 and 3 associated with the River Rother. Flood Zone 2 is defined as land having between a 1% and 0.1% annual probability of river flooding; or land having between a 0.5% and 0.1% annual probability of sea flooding. Flood Zone 3 is defined as land having a 1% or greater annual probability of river flooding; or land having a 0.5% or greater annual probability of sea flooding.
  - The land required to construct the Scheme is shown to experience flooding from reservoirs both when the river levels are normal and also when there is flooding from rivers.

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<sup>2</sup> <https://iaqm.co.uk/wp-content/uploads/2013/02/Construction-Dust-Guidance-Jan-2024.pdf>

- There is also a very low to high risk within the Scheme boundary that surface water flooding may occur.
- The land required to construct the Scheme is noted as being underlain by a Secondary A aquifer. The Defra Groundwater Vulnerability Map<sup>3</sup> indicates that the land required to construct the Scheme has a 'Medium' to 'High' vulnerability to groundwater flooding.

3.1.20 Flood risk and drainage will be suitably considered during the design process. It is considered that due to the nature of the Scheme and the location of the land required to construct it, with appropriate design and mitigation in place, there are not likely to be any significant effects on flood risk, drainage or water quality during construction and operation.

3.1.21 During the construction phase, works will be undertaken in accordance with environment and health and safety legislation requirements, and best practice measures will be implemented to minimise the risks of pollution incidents that would have effects on the water environment.

## Land and Ground Conditions

3.1.22 The baseline information for the Scheme is presented below:

- British Geological Survey (BGS) mapping<sup>4</sup> identifies the bedrock geology at the land required to construct the Scheme as Mexborough Rock – Sandstone and Pennine Middle Coal Measures Formation – Mudstone, siltstone and sandstone.
- There are no historical landfill sites within the land required to construct the Scheme, however, Brinsworth Switching Station historic landfill is approximately 125m west of the land required to construct the Scheme.
- The risk of Unexploded Ordnance (UXO) at the land required to construct the Scheme is identified as low risk from freely available UXO mapping sources, and therefore no further action is required for construction workers in regard to UXO.

3.1.23 The overall risk of possible contamination within the land required to construct the Scheme is likely low to high with the potential for active pathways on site. This risk is primarily given due to the lack of current site-specific ground investigation and chemical data, the risk of a possible contamination source within the land required to construct the Scheme remains. Made Ground may be found on the land required to construct the Scheme due to current and previous uses. Identified areas of contaminated ground, if found, may require localised remediation as part of the site preparation programme to mitigate any potential impacts to maintenance workers and contractors.

3.1.24 Given the location of the land required to construct the Scheme and with appropriate mitigation measures in place, significant impacts from the Scheme on ground conditions are not expected. Further investigation into ground conditions will be undertaken prior to the application for Section 37 consent. Any results will be taken into account for both design and planning purposes.

3.1.25 During construction, best practice measures will be used to reduce the risk of contamination of soil and water through the implementation of appropriate management measures via the CEMP.

<sup>3</sup> <https://magic.defra.gov.uk/home.htm>

<sup>4</sup> <https://www.bgs.ac.uk/map-viewers/bgs-geology-viewer/>

## Noise and Vibration

- 3.1.26 The baseline information for the Scheme is presented below:
- The existing noise source in the area is the M1, which bisects the land required to construct the Scheme boundary. The M1 will be the predominant noise in the area. Some areas within the working area boundary are shown to experience average noise levels of 75db and over. The entire land required to construct the Scheme is shown to experience noise levels over 55dB.
  - There are no noise important areas within the land required to construct the Scheme.
  - There are noise-sensitive receptors within 500m of the land required to construct the Scheme, including residential receptors on the A631 West Bawtry Road and the A618 Pleasley Road, as well as within Whiston and Brinsworth.
- 3.1.27 Construction activities have the potential to generate elevated noise levels with potential for adverse effects on the surrounding residential properties. Appropriate mitigation measures would be implemented via the CEMP and would be sufficient to avoid significant adverse effects on sensitive receptors. Mitigation measures applied for construction noise would be in accordance with British Standard BS 5228<sup>5</sup>. Best practice measures would be adopted to minimise construction noise and vibration levels where practicable during construction.
- 3.1.28 During construction, appropriate mitigation would be put in place via the CEMP, and any effects are expected to be intermittent and temporary in nature. Due to existing noise sources (such as the M1) and the nature of the proposed works, it is not anticipated that there would be a likely significant noise effect during operation.
- 3.1.29 It is considered that there would be no significant noise and vibration environmental effects during the construction and operation of the Scheme.

## Traffic and Transport

- 3.1.30 The baseline information for the Scheme is presented below:
- The land required to construct the Scheme is likely to be accessed via Long Lane to the west. Long Lane benefits from direct connection into the wider network, including the A631, A630 and the M1.
  - There are eight Public Rights of Way (PRoWs) within the land required to construct the Scheme:
    - Treeton footpath no.1 is located to the west and falls within the land required to construct the Scheme.
    - Treeton footpath no.4 is located to the south and falls within the land required to construct the Scheme.
    - Whiston footpaths no.7, no.9 and no.10 are located to the north west and fall within the land required to construct the Scheme.

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<sup>5</sup> <https://knowledge.bsigroup.com/products/code-of-practice-for-noise-and-vibration-control-on-construction-and-open-sites-noise>

- Whiston footpath no.12 runs north east to south west and falls within the land required to construct the Scheme.
- Whiston footpath no.13 is located to the south east and falls within the land required to construct the Scheme.
- Whiston footpath no.14 is located to the south and falls within the land required to construct the Scheme.
- Whiston footpath no.15 is located to the east and falls within the land required to construct the Scheme.
- There are also several PRowS in the near vicinity.
- National Cycle Route (NCR) 06 is located 100m from the land required to construct the Scheme to the south east.

- 3.1.31 There is the potential that PRowS will require diversion and potential temporary closure depending on the works required, but permanent closures are not anticipated. Further information will be available within the EAR submitted with the application for Section 37 consent.
- 3.1.32 Due to the nature of the Scheme, and the vehicle numbers required for both the construction and operational phases, with the appropriate traffic management in place it is unlikely that significant effects will occur.
- 3.1.33 During the operational phase it is assumed up to around 10 Light Duty Vehicles would visit per year.
- 3.1.34 A Construction Traffic Management Plan (CTMP) will be submitted alongside the application for Section 37 consent. Consultation will be undertaken with the relevant bodies. The approach to any potential temporary PRow closure or diversion would be undertaken in liaison with the relevant bodies at Rotherham Metropolitan District Council as well as wider consultation. Further information on traffic movements and PRowS, implications and mitigation will be provided in the Transport Appraisal within the EAR.
- 3.1.35 The CTMP for the Scheme would set out how any potential impacts of road-based construction traffic would be reduced by identifying measures such as clear controls, hours of site operation, routes for Heavy Goods Vehicles, and timing management of deliveries. Operational traffic would be minimal; it is expected that under normal circumstances up to approximately ten Light Duty Vehicles would visit the land required to construct the Scheme each year.

## Agriculture and Soils

- 3.1.36 A desktop survey of the Provisional Natural England Agricultural Land Classification Map<sup>6</sup> has identified that the land required to construct the Scheme is classified as Grade 3 Good to Moderate and Grade 4 Poor quality agricultural land. Best and Most Versatile (BMV) soils are Grades 1 – 3. The mapping suggests that the soil in the area is largely freely draining slightly acid loamy soils.

<sup>6</sup> <https://naturalengland-defra.opendata.arcgis.com/datasets/Defra::provisional-agricultural-land-classification-alc-england/about>

- 3.1.37 The works required as part of the Scheme will not require the entire land required to construct the Scheme as permanent land take, and not all soils will be disturbed.
- 3.1.38 Further Agricultural Land Classification surveys have been undertaken and will be reported on within the application for Section 37 consent.

## Materials and Waste

- 3.1.39 A desktop survey of the British Geological Survey GeoIndex Onshore Map<sup>7</sup> has identified that the land required to construct the Scheme is not within a Mineral Assessment Area and is not located close to significant mineral occurrences.
- 3.1.40 New development has the potential to result in the generation of waste during the construction and operational phases, as well as the use of materials for construction purposes.
- 3.1.41 The construction of the Scheme will use natural resources such as land, water, materials and energy. However, this would be in the short term and would be mitigated through the use of sustainable design practices where possible and the use of suitable construction practices and is therefore not expected to be significant in nature. Waste produced during the construction phase would be dealt with accordingly. This includes any material from existing structures such as pylons, being dismantled. Negligible volumes of waste are anticipated during the operational lifetime of the Scheme.
- 3.1.42 Significant effects on waste and materials are not anticipated to occur during the construction or operational period. Use of natural resources would be mitigated through the use of sustainable design practices where possible and the use of sustainable construction practices. Waste management measures will be included in the CEMP.

## Socio-economics, Population and Human Health

- 3.1.43 The baseline information for the Scheme is presented below:
- Whiston is directly to the north of the land required to construct the Scheme, and to the east, west and south are predominantly agricultural parcels. There are some nearby socio-economic receptors to the north east in Whiston, including businesses within Bennett House, Pleasley Road, approximately 160m north east of the land required to construct the Scheme.
  - The land required to construct the Scheme is likely to be accessed via Long Lane to the west, which connects into the wider networks of the A631, A630 and the M1.
  - There are eight Public Rights of Way (PRoWs) within the land required to construct the Scheme:
    - Treeton footpath no.1 is located to the west and falls within the land required to construct the Scheme.
    - Treeton footpath no.4 is located to the south and falls within the land required to construct the Scheme.

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<sup>7</sup> <https://www.bgs.ac.uk/map-viewers/geoindex-onshore/>

- Whiston footpath no.7, Whiston footpath no.9 and Whiston footpath no.10 are located to the north west and fall within the land required to construct the Scheme.
- Whiston footpath no.12 runs north east to south west and falls within the land required to construct the Scheme.
- Whiston footpath no.13 is located to the south east and falls within the land required to construct the Scheme.
- Whiston footpath no.14 is located to the south and falls within the land required to construct the Scheme.
- Whiston footpath no.15 is located to the east and falls within the land required to construct the Scheme.
- There are also several PRowS in the near vicinity.
- National Cycle Route (NCR) 06 is located 100m from the land required to construct the Scheme to the south east.

3.1.44 The works required are unlikely to permanently affect socio-economic receptors.

3.1.45 The risks to human health in association with the Scheme are considered to be negligible and there would be no significant adverse environmental impact during construction or operation, following application of mitigation.

3.1.46 Significant effects on socio-economic receptors are not anticipated given the location of the receptors in relation to the land required to construct the Scheme. It is considered that human health would be appropriately considered within the relevant topic sections (e.g. ground conditions, traffic and transport, and noise and vibration). It is not anticipated that there would be significant effects on human health as a consequence of either construction or operation of the Scheme following mitigation.

## Risk of Major Accidents and Disasters

3.1.47 New development has the potential to be affected by major accidents or disasters (and therefore has the potential to impact the environment). 'Accidents' are considered to be an occurrence resulting from uncontrolled events in the course of construction and operation of a development. 'Disasters' are considered to be naturally occurring extreme weather events or ground-related hazard events. For such events to pose a risk to the environment, there must be a source (the event), a pathway (a process by which a receptor could be affected by the event), and a receptor.

3.1.48 The Scheme will be designed, constructed and operated in accordance with applicable environment and health and safety legislation. It will also comply with relevant design safety standards. As the overhead lines will be managed under these existing health and safety regimes, it is not expected that likely significant effects relating to major accidents and disasters will result.

3.1.49 Significant effects are not anticipated during construction or operation due to the applicable legislation and standards that would be followed and applied.

## Light, Heat and Electromagnetic Radiation

- 3.1.50 Lighting of the land required to construct the Scheme during construction and operation is expected to be in keeping with the nature of the Scheme, and as such, is expected to be minimal, particularly during operation where no permanent lighting is proposed.
- 3.1.51 The Scheme will comply with all relevant legislation and electric and magnetic field (EMF) exposure limits. NGET will produce an EMF compliance report for the overhead lines. There are not anticipated to be any significant light, heat or electromagnetic radiation effects during construction or operation, and standard good practice will be applied to the design of the Scheme to reduce effects where possible.

## Microclimate (Wind, Sunlight, Daylight)

- 3.1.52 The scale and massing of the Scheme during the construction and operational phases are unlikely to cause microclimate effects such as wind pattern changes, or cause daylight/sunlight overshadowing effects to nearby receptors (such as nearby dwellings).
- 3.1.53 Significant effects are not anticipated during construction or operation of the Scheme.

## Transboundary Effects

- 3.1.54 Due to the location of the land required to construct the Scheme, and the type of proposed development, transboundary effects (those across national borders) are unlikely to occur and are not considered further.

## Cumulative Impacts

- 3.1.55 A review of available information on the Rotherham Metropolitan District Council planning portal has been undertaken, and found a number of current planning applications within 2km of the land required to construct the Scheme. Not all open applications are relevant to this assessment, however, there are some relevant committed developments which could interact with the Scheme and lead to cumulative impacts. These include, but are not limited to, the following:
- Newman Additional Resource, East Bawtry Road, Whiston, Rotherham, S60 3LX (planning ref: RB2025/0122);
  - Land off Morthen Lane, Thurcroft (planning ref: RB2025/0714);
  - Land south of West Bawtry Road, Whiston, Rotherham, S60 4EU (planning ref: RB2025/1420);
  - Sewage Treatment Works, Long Lane, Treeton (planning ref: RB2021/2181);
  - Whitestone Net Zero Ltd Development Consent Order;
  - Canklow Regulator, off Rotherway, Canklow (planning ref: RB2023/0484);
  - Land to north west of Worrygoose Lane (planning ref: RB2024/0104);
  - Moorgate Road, Moorgate, Rotherham, S60 3AR (planning ref: RB2020/1591);
  - Land at Canklow Meadows, Industrial Estate, West Bawtry Road, Moorgate (planning ref: RB2024/1151); and
  - Canklow Service Station, West Bawtry Road, Brinsworth (planning ref: RB2023/0725).

- 3.1.56 In addition to the above committed developments, there is the wider Great Grid Upgrade project to consider, in particular the Chesterfield to High Marnham Project, which comprises the construction of the new 400kV substations at Chesterfield and High Marnham, and associated overhead line works.
- 3.1.57 Initial committed developments have been identified. Given the nature of the Scheme in combination with the current use of the land required to construct the Scheme (other NGET assets such as pylons), it is not anticipated that these developments would generate significant adverse cumulative impacts with the Scheme.

## 4. Summary of Screening Assessment

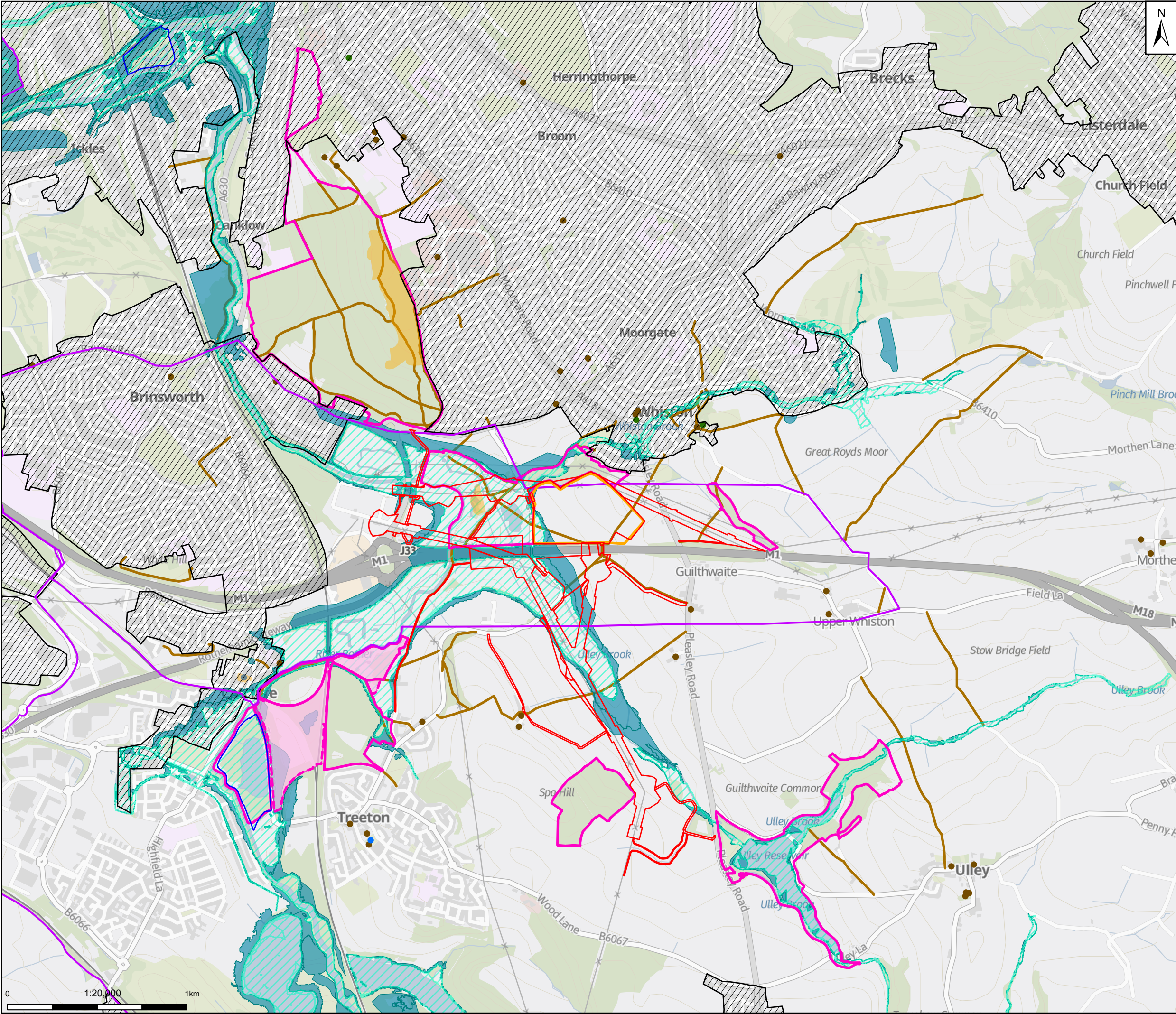
- 4.1.1 The Scheme does not fall under Schedule 1 of the EIA Regulations but does fall under category 3(b)(ii) of Schedule 2. Consideration of the Scheme in relation to the criteria set out in Schedule 3 has been undertaken as shown in Section 3. A plan of the site of the development is shown in Appendix A. A description of the Scheme is provided in Section 2 and Section 3.
- 4.1.2 The Scheme comprises a number of elements to enable the connection of the new 400kV substation at Long Lane (subject to a separate EIA Screening report and TCPA application) to the wider overhead line network. This will include the removal of some existing overhead lines and associated pylons, as well as the installation of connections between the existing overhead line network and the new 400kV substation. Some additional overhead line works are required, under existing asset owner and permitted development rights.
- 4.1.3 The information presented within Section 3 sets out how significant effects on the environment are not likely to occur with the application of appropriate mitigation. Section 3 also provides information about the control measures which are envisaged to avoid or prevent potential adverse impacts where necessary. Mitigation measures include consultation with relevant stakeholders, appropriate scheme design, landscape management, and the implementation of a CEMP and a CTMP.
- 4.1.4 NGET does not consider the Scheme, and new 400kV substation, to be an EIA development by virtue of the nature of the proposals, in combination with information on the sensitivity of the receiving environment. We request that DESNZ adopts an opinion according to the information presented.

## 5. Abbreviations

| Abbreviation    | Meaning                                                                                      |
|-----------------|----------------------------------------------------------------------------------------------|
| AQMA            | Air Quality Management Area                                                                  |
| BGS             | British Geological Survey                                                                    |
| BMV             | Best and Most Versatile                                                                      |
| CEMP            | Construction Environmental Management Plan                                                   |
| CTMP            | Construction Traffic Management Plan                                                         |
| DEFRA           | Department of Environment, Food and Rural Affairs                                            |
| EAR             | Environmental Assessment Report                                                              |
| EIA             | Environmental Impact Assessment                                                              |
| EIA Regulations | The Electricity Works (Environmental Impact Assessment) (England and Wales) Regulations 2017 |
| EMF             | Electromagnetic Fields                                                                       |
| HPI             | Habitat of Principal Importance                                                              |
| IAQM            | Institute of Air Quality Management                                                          |
| LWS             | Local Wildlife Site                                                                          |
| NCA             | National Character Area                                                                      |
| NGET            | National Grid Electricity Transmission plc                                                   |
| PEA             | Preliminary Ecological Assessment                                                            |
| PRoW            | Public Right of Way                                                                          |
| UXO             | Unexploded Ordnance                                                                          |

# Appendix A.

# Figures



Land required to construct the Scheme

Substation Planning Application Boundary (PA: RB2025/1468)

Listed Building

Grade I

Grade II\*

Grade II

Scheduled Monument

Public Right of Way

Air Quality Management Area

Candidate Local Wildlife Site

Local Nature Reserve

Local Wildlife Site

Flood Zone 2

Flood Zone 3

Noise Action Planning Important Area

Local Wildlife Site

Candidate Local Wildlife Site

Notes: © Historic England, Contains OS data © Crown Copyright and database right 2026. Contains data from OS Zoomstack

Doncaster

Sheffield

|     |          |               |       |       |        |
|-----|----------|---------------|-------|-------|--------|
|     |          |               |       |       |        |
| 02  | 16/06/26 | Amendments    | RM    | RK    | SR     |
| 01  | 26/11/25 | INITIAL ISSUE | MB    | RK    | SR     |
| Rev | Date     | Description   | Drawn | Check | Approv |

Client:

PROJECT:

BRINSWORTH TO CHESTERFIELD

Site

Long Lane

Client

1-3 Strand  
London  
WC2N 5EH

ARCADIS

Registered office:  
80Fen  
80 Fenchurch Street  
London  
EC3M 4BY  
www.arcadis.com

Coordinating Office:  
Suite 1A  
4 Piccadilly Place  
Manchester  
M1 3BN

Title:

Long Lane -  
Overhead Lines – Environmental Features

|                   |             |                 |           |        |  |
|-------------------|-------------|-----------------|-----------|--------|--|
| Designed          | H. Williams | Date            | 26 NOV 25 | Signed |  |
| Drawn             | M. Bargal   | Date            | 26 NOV 25 | Signed |  |
| Checked           | R. Khambete | Date            | 26 NOV 25 | Signed |  |
| Approved          | S. Ramsay   | Date            | 26 NOV 25 | Signed |  |
| Scale:            | 1:20,000    | Datum:          | AOD       |        |  |
| Original Size:    | A3          | Grid:           | OS        |        |  |
| Suitability Code: | S2          | Project Number: | 30184504  |        |  |

Suitability Description:

For Information

Drawing Number:

30184504-ARC-EGN-ZZ-DR-ZZ-00164-S2

Revision:

P02

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