Scotland England Green Link 1- English Onshore Scheme Section 37 application for overhead line works (Electricity Act 1989)

Project Description and Environmental Appraisal

National Grid Electricity Transmission

November 2022

Delivering a better world

Prepared for:

National Grid Electricity Transmission

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1. Introduction

1.1 Scotland England Green Link 1

1.1.1 National Grid Electricity Transmission (NGET) is proposing the construction of two new High Voltage Direct Current (HVDC) links which will operate as electricity superhighways from Scotland to England and will provide additional north-south transmission capacity across transmission network boundaries to accommodate increased north – south power transfers.

1.1.2 The Scotland to England Green Link 1, or SEGL1, is one of these Projects and the English Onshore Scheme is subject to a resolution to grant outline planning permission (subject to completion of a legal agreement) by Durham County Council made at County Planning Committee on 01 November 2022. The SEGL1 Project will run under the North Sea from the Torness area in East Lothian, Scotland, to Hawthorn Pit (between Murton and South Hetton) in County Durham, England (Figure 1-1). It comprises approximately 192 km of subsea and underground HVDC cables between new converter stations at each end of the electricity transmission link. These in turn are connected to the high voltage electricity transmission system via new alternating current (AC) cables to a new substation at Hawthorn Pit, County Durham and by new AC cables to the existing Branxton substation near Torness.

1.2 The English Onshore Scheme

1.2.1 The English Onshore Scheme (EOS) comprises all the onshore works for SEGL1 within England and includes approximately 10 km of underground HVDC cable from the mean low water mark at Seaham, to a converter station at Hawthorn Pit in County Durham. The converter station will be connected to a new 400 kilovolt (kV) substation by approximately 1 km of underground High Voltage Alternating Current (HVAC) cable. The new 400 kV substation will connect the Project to the existing 275/ 400 kV Hawthorn Pit substation and the existing electricity transmission system (Figure 1-2).

1.2.2 As part of this scheme, the 4TF overhead line to the existing Hawthorn Pit substation will need to be re-aligned to connect into the proposed new 400 kV substation. Three existing towers will be removed, and one tower will be erected (a net loss of two towers) along with a slight change of alignment of the overhead line going into the proposed new substation.

1.2.3 Durham County Council (DCC), as the relevant Local Planning Authority, determined that the overall EOS is not considered to be 'Environmental Impact Assessment (EIA) development' (Screening Opinion of 21 March 2021). As the EOS is non-EIA, The Town and Country Planning (Environmental Impact Assessment) Regulations 2017 do not apply, and the production of an Environmental Statement was not required to support the outline planning application ref DM/22/01663/OUT for "the erection of a new 400 kilovolt electricity substation, a converter station, and the laying out of replacement public open space on land to the west and south of Jade Business Park, with all matters reserved". However, a scoped and comprehensive Environmental Appraisal Report (EAR), which takes account of the requirements of the EIA Regulations, was voluntarily produced to support the outline planning application, and covers all components of the EOS (including the overhead line works), regardless of consenting regime. The EOS components and the associated consenting regimes are set out in Table 1-1.

Table 1-1 EOS Consenting Arrangements

Project Component	Primary Consent	Determining Authority
Permanent Works		
New converter station	Outline planning permission, Town and County Planning Act 1990 (TCPA) (as amended)	DCC; Approved at County Planning Committee subject to completion of a legal agreement
New 400 kV substation		
Replacement public open space		
Converter station permanent access road		

Project Component	Primary Consent	Determining Authority
Landfall Transition Joint Pit	Permitted Development, GPDO 2015, Part 15, Class B (a) electricity undertakings*	N/A
Approximately 10 km of underground HVDC cable from mean low water mark to converter station		
Approximately 1 km of underground HVAC cable between the converter station and the new substation, and the new substation and the existing substation.		
Amendments to the existing overhead line span to turn into the new substation including erection of a new tower.	Section 37 consent under the Electricity Act 1989	Department for Business, Energy and Industrial Strategy (BEIS)
Removal of three existing towers and associated spans (net loss of two towers).	Existing consent for the 4TF overhead line	N/A
Temporary Works		
Cable construction compounds	Permitted Development, GPDO 2015, Part 4, Class A – temporary works*	N/A
Construction compounds and laydown areas for substation and converter station		
Temporary access roads to construction areas		

1.2.4 The outline planning application and accompanying EAR for the permanent works was submitted to DCC on 23 May 2022, validated on 8 June 2022, and was approved on 01 November 2022.

1.3 Proposed overhead line works at Hawthorn Pit

1.3.1 As described in paragraph 1.2.2, to facilitate the construction and operation of the proposed 400 kV substation, works to the 4TF overhead line at Hawthorn Pit substation are required. This existing overhead line currently terminates at tower 4TF080 where the downleads drop into the existing Hawthorn Pit substation. When the consented new 400 kV substation is built, the 4TF will need to be re-aligned so that the downleads drop into the new 400kV substation from a re-positioned tower 4TF078. The new substation will connect to the existing Hawthorn Pit substation via an underground AC cable connection. Towers 4TF079 and 4TF080 and their spans will no longer be required and will be removed, resulting in a net loss of two towers (Figure 1-3).

1.3.2 Under the Electricity Act 1989 a Section 37 consent is required for the erection of the new tower 4TF078, the re-alignment of the span between towers 4TF077 and 4TF078, and the new downleads into the new substation from tower 4TF078. Regulation 3(1)c of The Overhead Lines (Exemption) (England and Wales) Regulations 2009 (the Exemption Regulations) allows a tower for this voltage of line to be moved 60 m without requiring Section 37 consent. We are proposing to move the tower approximately 70 m to the south, which is slightly beyond the distance to which the Exemption Regulations applies, and thus the new tower 4TF078 requires Section 37 consent.

1.3.4 The Electricity Works (EIA) (England and Wales) Regulations 2017 (herein referred to as the EIA Regulations) apply to applications for consent under Section 37 of the Electricity Act. As the overhead line works would follow this consenting route, NGET has taken account of the EIA Regulations and sought a Request for a Screening Opinion from DCC on 14 September 2022. DCC provided its Screening Opinion on 22 November 2022 stating that the proposed overhead line works are not EIA development (see Appendix C). The erection of the new tower and the re-alignment of the span does not meet the definition of a nationally significant infrastructure project for the purposes of the Planning Act 2008.

1.3.5 Section 10 of the EIA Regulations states:

(1) A person (the "developer") who intends to make an application for a section 36 or 37 consent, or a section 36 variation, for development may request the relevant authority to make a screening decision.

(2) A request under paragraph (1) must be accompanied by—

(a) the information referred to in regulation 12; and

(b) a plan of the site of the development.

(3) On receiving a request under paragraph (1), the relevant authority must make a screening decision in respect of the development.

(4) But if the request is not accompanied by all the information referred to in regulation 12 or a plan of the site of the development, the relevant authority must, within 21 days after the date on which the relevant authority receives the request, notify the developer in writing of the omission (and paragraph (3) does not apply until the omitted material is provided).

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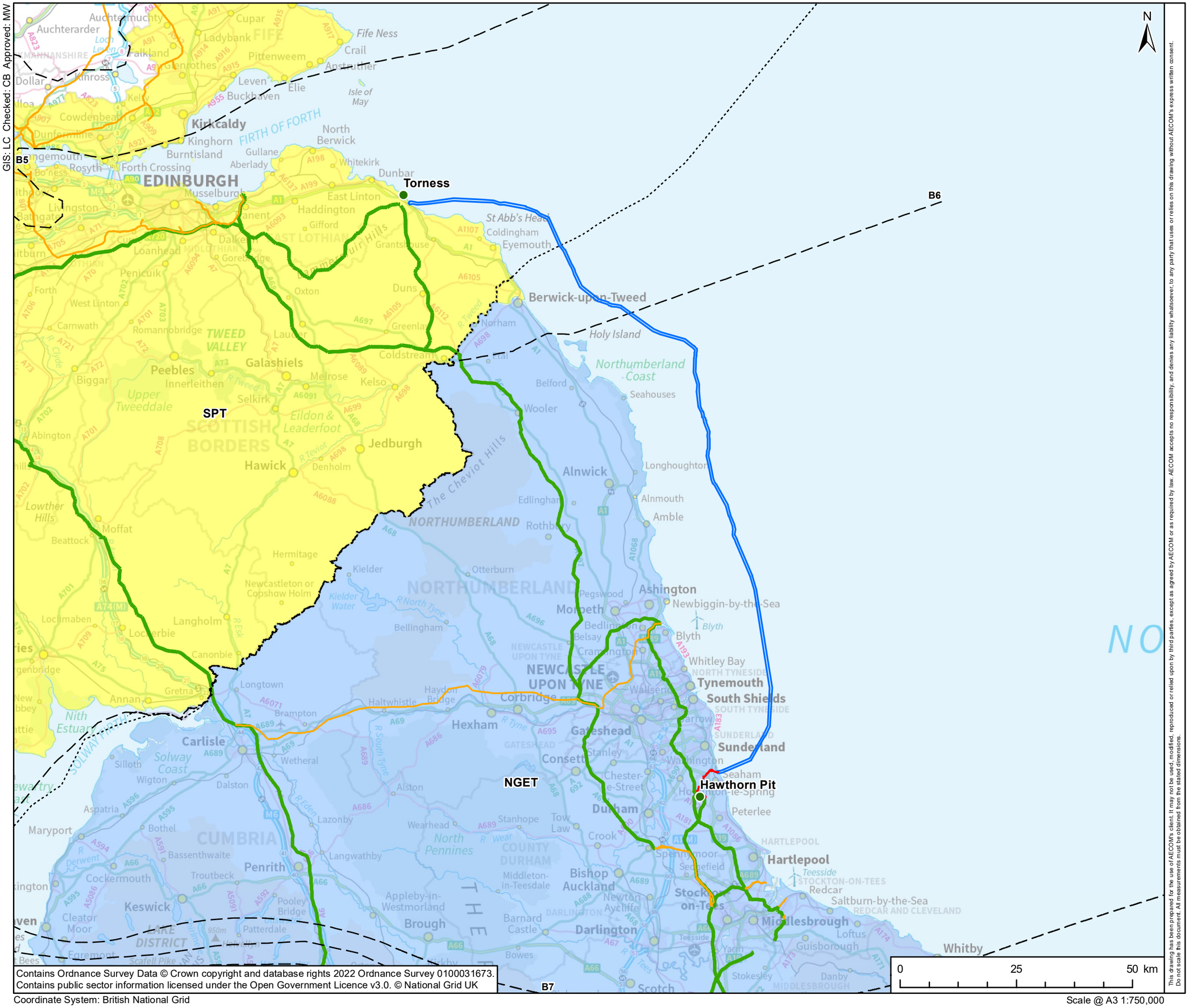

Coordinate System: British National Grid

Scale @ A3 1:750,000

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PROJECT

Scotland England Green Link 1

KEY

- English Onshore Site Boundary
- Marine Installation Corridor
- England/Scotland Border
- Connection Point (Substation) Location
- Network Transmission Boundary

Transmission Network

- 275 kV
- 400 kV

Transmission Operator Boundary

- National Grid Electricity Transmisison (NGET) Licence Area
- Scottish Power Energy Networks (SPT) Licence Area

TITLE

Figure 1-1
Scotland England Green Link 1

REFERENCE

SEGL1_T_S37_1-1_v1_20221130

SHEET NUMBER: 1 of 1

DATE: 30/11/2022

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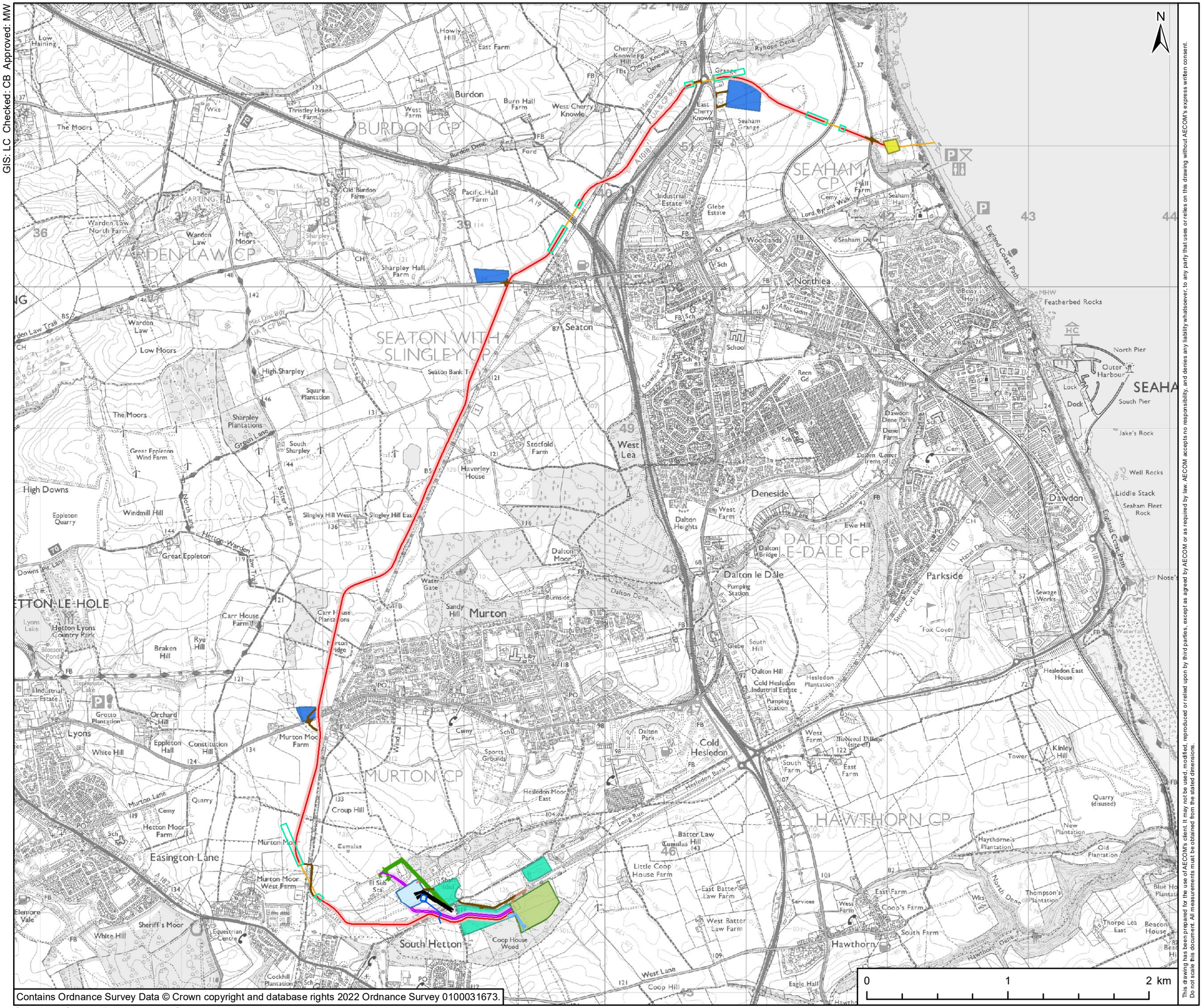

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PROJECT

Scotland England Green Link 1

KEY

Permitted Development:

- Cable Landfall
- DC Cable Route - HDD (Horizontal Directional Drill)
- DC Cable Route - Opentrench
- DC Cable Working Width
- AC Cable Route
- AC Cable Working Width
- HDD Compound
- Cable Construction Compound
- Substation/Converter Station Construction Compound
- Temporary Access Road
- Converter Station Drainage Attenuation
- Substation Drainage Attenuation

Planning Application:

- Proposed Substation Location
- Proposed Converter Station Location
- Permanent Access Road

Overhead Line Works:

- Overhead Line and Tower to be Erected
- Overhead Line and Tower to be Removed

TITLE

Figure 1-2
SEGL1 English Onshore Scheme Overview

REFERENCE

SEGL1_T_S37_1-2_v2_20221130

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4TF079
Tower to be removed

4TF080
Tower to be removed

4TF078
Tower to be removed

4TF078
Tower to be erected

4TF077
Tower to be retained

Hesledon Moor East

Coop House Wood

Recycling Site

Grasmere Terrace

Recreation Ground

Pav

El Dist Sta

Shaft

Drain

Track

Path

Iss

Sks

104m

115m

117m

114m

99m

WINDERMERE ROAD

Wind Tu

N

0 250 500 m

Scale @ A3 1:5,000

Coordinate System: British National Grid

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PROJECT

Scotland England Green Link 1

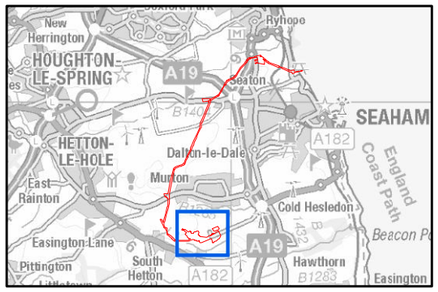
KEY

Section 37 Works:

- Overhead Line and Tower to be Erected
- Overhead Line and Tower to be Removed

Wider English Onshore Scheme:

- DC Cable Route - Opentrench
- DC Cable Working Width
- AC Cable Route
- AC Cable Working Width
- Substation/Converter Station Construction Compound
- Temporary Access Road
- Converter Station Drainage Attenuation
- Substation Drainage Attenuation
- Proposed Substation Location
- Proposed Converter Station Location
- Permanent Access Road



TITLE

Figure 1-3
SEGL1 English Onshore Scheme - Section 37 Works

REFERENCE

SEGL1_T_S37_1-3_v4_20221130

SHEET NUMBER

1 of 1

DATE

30/11/2022

1.4 EIA Screening Opinion

1.4.1 A Request for an EIA Screening Opinion was prepared to satisfy the requirements of the Electricity Works (EIA) (England and Wales) Regulations 2017, in respect of proposed works to existing overhead line spans and towers associated with the proposed EOS by NGET. To facilitate the operation of the new 400 kV substation, amendments as summarised in Section 1.3 and discussed in more detail in Chapter 2, to the existing overhead lines and towers are required (herein referred to as the "Section 37 works", Figure 1-3).

1.4.2 This Screening Report provided an understanding of the potential for likely significant effects resulting from the proposed Section 37 works to determine if an Environmental Statement is required to accompany the consent application. Consultation was undertaken on the screening with the relevant statutory consultees. As the relevant local planning authority, a formal Screening Opinion was sought from DCC, which has confirmed that the Section 37 works are not EIA development. Table 1-2 sets out a summary of the consultation undertaken, and the enclosures sent to each consultee. Each consultee was sent a bespoke letter, which is set out in Appendix C, although many of the enclosures to the letters were the same. Responses received from the consultees are also included in Appendix C.

Table 1-2 Consultation Summary

Consultation Body	Type of Consultation	Consultation Enclosures
Durham County Council Consulted on 14 September 2022	Form B (Part 2) Form B (Part 3) Form B (Appendix A)	Scotland England Green Link 1 - English Onshore Scheme, Section 37 application for overhead line works (Electricity Act 1989) Request for EIA Screening Opinion report (AECOM, September 2022) Form B (Type II) Annex B The Statutory Consents Regime for Overhead Power Lines in England and Wales Under Section 37 of the Electricity Act 1989 (July 2014)
Environment Agency Consulted on 14 September 2022	Standard Consultation and Screening	Durham County Council EIA Screening Opinion (25 March 2021) Scotland England Green Link 1 - English Onshore Scheme, Section 37 application for overhead line works (Electricity Act 1989) Request for EIA Screening Opinion report (AECOM, September 2022)
English Heritage	Standard Consultation and Screening	Durham County Council EIA Screening Opinion (25 March 2021) Scotland England Green Link 1 - English Onshore Scheme, Section 37 application for overhead line works (Electricity Act 1989) Request for EIA Screening Opinion report (AECOM, September 2022)
Natural England	Standard Consultation and Screening	Durham County Council EIA Screening Opinion (25 March 2021) Scotland England Green Link 1 - English Onshore Scheme, Section 37 application for overhead line works (Electricity Act 1989)

1.4.3 Durham County Council, the Environment Agency, Historic England and Natural England stated in their responses that they have no objections to the Section 37 works.

1.5 Section 37 Consent Application

1.5.1 The Section 37 Consent application is supported by the following documents:

- Drawing PDD-30317-OHL-508 P0 4TF Site Location Plan – to identify the land in question;
- Form B completed by NGET and Durham County Council– to comply with the requirements of the Section 37 consents process;
- Drawing PDD-30317-OHL-507 P0 showing the existing and proposed layout of the overhead lines and towers– to identify the proposed works pursuant to the Section 37 Application;
- Environmental Appraisal of the proposed works (this document); and
- Constraints Plan – to outline any environmental constraints surrounding the proposals.

1.6 Report Structure

1.6.1 This Environmental Appraisal comprises the following Chapters:

- Chapter 1 - Introduction (this Section): This provides background of the wider project, the purpose of the report, sets out the report structure, summarises the approach to consenting and requirements set out within Section 37 Electricity Act 1989;
- Chapter 2 - The Section 37 Works: For context, it first describes the proposed substation, why it is proposed at its location and describes how it would be constructed and operated. It also describes Section 37 works required for the operation of the consented new 400 kV substation;
- Chapter 3 – Environmental Appraisal: This sets out an overview of the environmental constraints considered relevant to the proposed works. It also refers to the embedded and good practice measures that would be in place during construction and operation and which are considered in the assessment of the potential for likely significant effects associated with construction and operation; and
- Chapter 4 - Conclusion: This summarises the key points of the Environmental Appraisal and concludes why NGET and DCC consider the proposed Section 37 works to not be EIA development.

2. Site Context

2.1 Existing Site Location

2.1.1 Figures 1-2 and 1-3 show the location and layout of the proposed substation and converter station, for which outline planning permission under the Town and Country Planning Act 1990 (as amended) has been granted. The existing towers and their spans are shown on Figure 1-3, along with the proposed tower to be constructed adjacent to the proposed 400 kV substation.

2.1.2 Environmental Constraints located closest to the Site boundary of the proposed Section 37 Work are illustrated on Figure 2-1.

2.2 Proposed Substation Site

2.2.1 The approved proposed substation site is located approximately 50 m southeast of the existing Hawthorn Pit substation. The site is located on informal public open space, bounded by the existing substation access road to the north and informal public open space to the west, south, and east. The proposed substation site will be covered in grey gravel ('substation chippings'), along with internal roads, car parking and footpaths and will be enclosed within a 4 m high fence comprising a 2.4 m security fence topped with a further 1.6 m of electric fencing. The new substation design also includes a proposed underground drainage vessel to the southeast corner designed to hold and slowly release rainwater into a new length of buried drainage, which outfalls into an existing watercourse to the south of the site.

2.2.2 The proposed substation will comprise the following components within the secure fenced compound:

- Gas Insulated Substation Hall (GIS Hall), located to the northwest of the site and containing the new 400 kV switchgear required to supply, control and protect the substation. This building will have attached staff amenity and welfare facilities;
- 1,000 MVA 400/275 kV Super Grid Transformer located to the northeast of the site and comprising the main tank and cooler bank. The main tank will be within a noise enclosure and the cooler bank consists of a set of larger outdoor fans; and
- Air Insulated Switchgear (AIS) equipment located in the southern part of the site and comprising equipment such as the gantries and the downleads from the tower on the existing electricity network.

2.2.3 The substation will also contain several small buildings to house the water tank, generator, workshop and stores. Lighting will be needed so that operational works can be carried out during hours of darkness. These will be designed to avoid light pollution for example by lighting only specific areas of the site required and only being switched on when needed.

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PROJECT

Scotland England Green Link 1

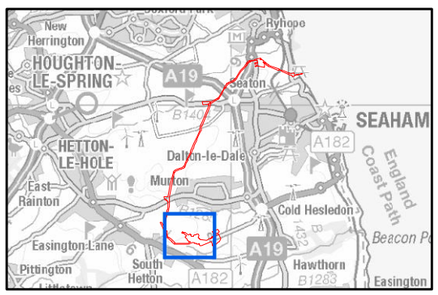
KEY

Section 37 Works:

- Overhead Line and Tower to be Erected
- Overhead Line and Tower to be Removed

Environmental Constraints:

- Public Right of Way
- Sustrans National Cycle Route
- Site of Special Scientific Interest
- Local Wildlife Site
- Tree Preservation Order (DCC)
- Historic Landfill Site



TITLE

Figure 2-1
Environmental Constraints Plan

REFERENCE

SEGL1_T_S37_2-1_v2_20221130

SHEET NUMBER: 1 of 1

DATE: 30/11/2022

3. The Proposed Section 37 works

3.1 Description of Section 37 works

3.1.1 The 4TF overhead line between Norton and Hawthorn Pit substations will be re-aligned at Hawthorn Pit so that the downleads drop into the new 400kV substation from a re-positioned tower 4TF078, which will require a slight re-alignment of the span between tower 4TF077 and tower 4TF078. The new 400 kV substation will connect to the existing Hawthorn Pit substation via an underground AC cable connection.

3.1.2 Towers 4TF079 and 4TF080 and their spans will be removed. Removal of these assets is consented under the original 4TF overhead line consent and will not be subject to the Section 37 consent. These towers are illustrated in Figure 3-1, which looks north across the site to the proposed new substation.

3.1.3 The new tower 4TF078 will be approximately 46 m in height, approximately10 m lower in height than the existing tower 4TF078. The reason for this is that the **New** tower 4TF078 will be a terminal tower and is not required to have the span clearance of the existing 4TF078 line tower, because the downleads will drop down into the new substation.

Table 3-1 Tower Specifications

Tower number	Tower Height (m)	Base Footprint (m)	Foundation Footprint (m)	Comment
4TF078	56.28	13.36	17.02	Towers to be removed – for information only
4TF079	57.75	10.92	13.9	
4TF080	54.71	10.11	13.06	
4TF078 **NEW**	46.00 (approximately)	13.00 (approximately)	Not yet known	

3.1.4 Erection of the **New** 4TF078 tower and taking down of the three towers to be removed, will take approximately four weeks in two two-week blocks. The substation construction compound and laydown area associated with the outline planning application will also be used for the overhead line works.

3.1.5 Access to the Section 37 works would be via the construction compounds and access roads outlined in Figure 1-3. The tower working areas will be fenced and secured. Much of the working area at the new tower location will be stoned similarly to the stone access roads, to accommodate the crane pad required for tower installation.

3.1.6 The construction of the foundations for **New** tower 4TF078 will be of mass concrete design or piled depending on geotechnical conditions. Machines will dig excavations of sufficient size for the foundations in the shape of a pyramid. Subsoil and topsoil will be stored separately and in accordance with the Outline Construction Environmental Management Plan (CEMP) (AECOM, 2022) submitted as part of the outline planning application. A mechanical excavator will be used to dig the foundation. The dimensions of the excavation will differ, depending on the type of tower to be installed, but is typically 6 m x 6 m x 6 m. Upon excavation of all four leg foundations, steel stubs will be suspended from a template to achieve the correct dimensions and rake for each leg of the tower. All excavations will be fenced for protection and the foundations concreted in position using specially designed formwork. Concrete will be delivered by ready mixed concrete truck. After 48 hours, the formwork will be removed, and the excavations backfilled and consolidated.

3.1.7 Steelwork members of the new tower will be delivered to site by lorry. The assembly of the tower will commence at ground level and would proceed as far as possible until a crane is necessary to enable assembly to continue. Sections of the tower will be erected at ground level and then craned into position and bolted on to the lower section of the tower. Anti-climbing guards will be fitted and maintained from an early stage of tower erection.

3.1.8 Towers 4TF079 and 4TF080 will be dismantled and removed pursuant to the existing consent. The existing conductors will be unclamped and placed in rollers. The tension of the line will then be released, and the conductors lowered to the ground where they will be cut into manageable lengths, coiled and removed for recycling at a suitable facility. The insulator strings and other line fittings will be removed from each tower. All these items will be removed for recycling. The towers will be cut into manageable sections and the steelwork removed from site to be recycled. The foundations of each redundant tower will be excavated, and the concrete and stub foundations removed from the site.

Figure 3-1 Photograph of Existing Towers at Hawthorn Pit Substation

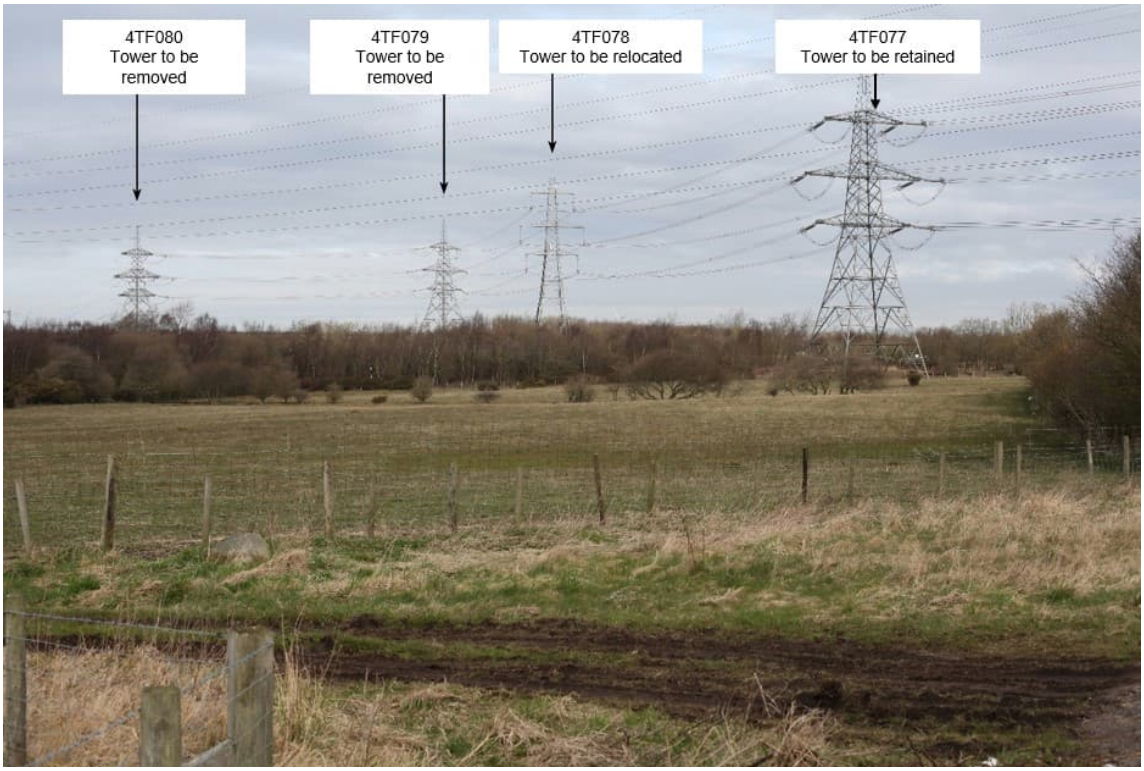


Figure 3-2 Image showing the visual effect following the removal of towers 4TF080 and 4TF079 and the relocation of 4TF078

4. Environmental Assessment

4.1 Introduction

4.1.1 NGET has undertaken a voluntary environmental appraisal of the anticipated environmental effects of the EOS, which includes those anticipated from the proposed Section 37 works. This was reported in an EAR (AECOM, 2022) in line with the Scoping Report (AECOM, 2021). The following technical disciplines were included in the EAR:

- Ecology and Nature Conservation
- Landscape and Visual Amenity
- Archaeology and Cultural Heritage
- Geology and Hydrogeology
- Hydrology and Land Drainage
- Agriculture and Soil
- Noise and Vibration
- Traffic and Transport
- Socioeconomic, Recreation, and Tourism
- Waste and Materials
- Cumulative Effects

4.1.2 This Environmental Appraisal includes a summary of the assessments undertaken pertinent to the proposed Section 37 works and the potential for significant effects to occur as a result.

4.2 Ecology

4.2.1 The Section 37 works are located on the site of the restored former Hawthorn Pit colliery, which was subject to an extensive colliery restoration scheme in the late 1990s and early 2000s that resulted in the creation of grassland, scrub/ woodland and ponds. A staged programme of desk study and ecology field surveys was undertaken for the EOS by appropriately experienced and qualified ecologists, and is detailed in the EAR (AECOM, 2022).

Habitats

4.2.2 A number of statutory and non-statutory nature conservation sites were identified within the potential zone of influence of the EOS. The closest to the location of the Section 37 works is Hesledon Moor West SSSI, which lies immediately south of the former Hawthorn Pit restoration area and is approximately 140 m south of the proposed relocated tower 4TF078. The SSSI was designated for its diverse fen, carr and heathland communities, although is now largely dominated by wet woodland habitat.

4.2.3 Non-statutory conservation sites close to the proposed Section 37 works include Hesledon Moor West LWS, which is joined to the adjacent Hesledon Moor West SSSI, and which forms a buffer to the SSSI along its eastern boundary.

4.2.4 There will be no direct impacts on statutory and non-statutory designated sites, which are entirely avoided by the construction and operation of the Section 37 works. The measures contained in the Outline CEMP that will be implemented during construction will avoid any potential indirect impact from construction activities on the adjacent SSSI and LWS. Therefore, no likely significant effects are anticipated.

4.2.5 Natural England, in its response to consultation under Section 37 of the Electricity Act 1989, states that “despite the proximity of a nationally designated site, namely Hesledon Moor West Site of Special Scientific Interest, Natural England does not consider that the proposed works will result in significant environmental effects on this site or any other matters within Natural England’s remit” (Appendix C).

Species

4.2.6 No protected or notable species have been recorded within the site of the Section 37 works. Desk study has identified the presence of great crested newt (GCN) (*Triturus cristatus*), badger (*Meles meles*) and breeding birds within 1 km of the Section 37 works. Habitat suitable to support reptiles and roosting bats is present within 1 km of the Works, associated with the adjacent woodland habitat.

4.2.7 A programme of protected species survey was undertaken in 2021. In summary, no protected species or notable species would be significantly impacted within the site of the Section 37 works. Results from field surveys comprised:

- *eDNA GCN surveys*: All ponds within 250 m of the Section 37 works returned negative results for GCN eDNA and it is concluded that GCN is likely absent from the ponds surveyed and would not be impacted by the proposed construction or operation of Section 37 works;
- *Bat surveys*: Given the very limited number of mature trees identified within the site of the Section 37 works, it was determined that any such removal of trees (if subsequently identified as necessary) would not significantly affect local populations of roosting bats. No structures will be impacted by the proposed Section 37 works. Based on the above, no further surveys were required for roosting bats. In terms of bat activity, most bat activity was recorded along the northern and southern boundaries of the proposed substation survey area, where small numbers of pipistrelle bats, typically one to three bats, were observed foraging up and down these areas, which are bordered by scrub and woodland. It was concluded that this area is of moderate suitability for foraging and commuting bats;
- *Breeding Birds*: The location of the proposed substation, and hence the Section 37 works, was included in the survey area for South Hetton. Breeding birds identified during the survey within the survey area of South Hetton include Birds of Conservation Concern (BoCC) Red List species and/ or S41 species for example, Bullfinch, Dunnock, Grasshopper Warbler, Herring Gull, House sparrow, Linnet, Reed Bunting and Skylark, Song Thrush, Starling, Tree sparrow, Willow Tit and Yellowhammer. However, land within and immediately adjacent to the footprint of the proposed 400kV substation are used by very small numbers and a limited suite of bird species during the respective breeding and non-breeding (wintering) periods. Considering the ubiquity of grassland and woodland/ scrub habitat within the surrounding landscape there is no reasonable likelihood that the populations are any more than local value for Red List and/ or S41 breeding and wintering birds;
- *Badger survey*: No active or disused setts were recorded during the survey, and none recorded via the desk study. Foraging activity by badger is considered likely and therefore precautionary mitigation during construction is recommended to prevent badgers from becoming trapped in deep excavations;
- *Water vole and otters*: No evidence of water voles and mammals recorded within the survey area of the site, therefore no impact to these species is likely;
- *Reptiles*: There are no record of reptiles within the survey area. Any potential impacts on reptile habitat within the small footprint of the substation where the Section 37 works would be undertaken can be adequately mitigated through precautionary working methods to avoid direct killing/ injury;
- *Terrestrial invertebrates*: There are no record of terrestrial invertebrates within 500 m of the proposed Section 37 works. There would be limited permanent impacts on habitats that may support rare or terrestrial invertebrates; and
- *Invasive non-native plants*: There are no record of invasive non-native plat species within 500 m of the proposed Section 37 works.

Biodiversity Net Gain

4.2.8 A Biodiversity Net Gain (BNG) assessment was undertaken as part of the EAR (AECOM, 2022) and included all land within the planning application boundary, thereby including the Section 37 works. Based on the EOS proposed development design and landscaping, it was calculated there would be a -4.08% net loss of area-based units, 121.75% net gain for hedgerow units and no net change for river units, falling short of NGETs desired 10% net gain target for area-based units and river units. Therefore, enhancement and offset recommendations were given. Several on-site planting areas were

identified as opportunity areas for enhancement, which are outside the landscaping and infrastructure elements of the EOS. It was recommended to enhance the pond, ditches and create lowland meadow in these areas, however, these enhancements left area-based units short of the 10%. Therefore, further enhancement outside of these enhancement areas, but still on-site, was recommended to retained grassland and woodland within the Site, outside the created landscaping and infrastructure areas. Combined, these enhancement recommendations resulted in an overall 6% net gain for area-based units, 121.75% net gain for hedgerow units (no change) and 17.24% net gain for river units, additionally satisfying all trading rules.

4.2.9 Overall, the Ecological Impact Assessment concluded that no significant impacts on ecological receptors would arise from the Project and hence the Section 37 works, following the implementation of the mitigation measures. It is considered unlikely that the baseline conditions will have changed significantly such that likely significant effects would arise that were not assessed in the EAR.

4.3 Landscape and Visual

4.3.1 Landscape and visual effects were assessed for the EOS within the EAR (AECOM, 2022). The assessment of landscape effects considers change on the landscape as a resource. Landscape effects relate to the changes to the fabric, character, and quality of the landscape and how it is experienced. Visual effects deal with the effects of change and the introduction of the EOS on views and visual amenity, specifically by changes in content and character of views. Although effects on the landscape and visual environment are interrelated, they were assessed and reported separately in the EAR.

4.3.2 No national landscape designations were identified within the study area of the EAR. Visual receptors that have the potential to be affected by construction and operation of the Section 37 works include localised residential settlement at South Hetton; isolated and small clusters of dwellings and farmsteads dispersed across the landscape; recreational routes, including NCR 1 and PRoWs that transverse the adjacent open access land; and occupiers of vehicles travelling on adjacent roads.

4.3.3 Existing vegetation and buildings would limit the visibility of lower-level construction activity of the Section 37 works, and therefore reduce the extent and impression of change across the landscape. The movement of taller plant and machinery would be visible but experienced in the context of existing development and electrical infrastructure. Consequently, there would be no significant impacts on landscape receptors. The duration of construction of the Section 37 works (approximately 6 weeks) has a very limited influence on the visual receptors and would not be significant.

4.3.4 During operation, there would be beneficial visual change to views from Clarence Gate, Coronation Square, South Hetton and Coop Hill, West Lane, as well as various Public Rights of Way (PRoW), due to changes to existing electrical infrastructure, with an overall reduction in the number of transmission towers in the landscape and views. This is illustrated in visualisations from Viewpoints 7, 11, and 12 from the EAR, which are included in Appendix A.

4.3.5 Additionally, a robust landscape plan has been prepared to help assimilate the development into the landscape and minimise visual effects. Construction best practice mitigation has been embedded in the scheme to aid this and provide informal open space enhancement for local communities.

4.3.6 In summary, no long-term significant effects are anticipated as a result of the proposed Section 37 works. Beneficial change in views would be experienced due to the net removal of two towers and replacement of a third tower with a new tower that will be 10 m lower in height.

4.4 Archaeology and Cultural Heritage

4.4.1 There are no designated or non-designated heritage assets or archaeological assets within the area of the Section 37 works. The location of the Section 37 works is in areas of previously disturbed ground and therefore is unlikely to result in additional impacts to buried heritage assets.

4.4.2 The Section 37 works would not be incongruous to the existing site conditions and would therefore not result in any change to the setting of heritage assets.

4.4.3 Historic England, in its response to consultation under Section 37 of the Electricity Act 1989, states that “there appears to be minimal impact on the historic environment in relation to the proposed works” (Appendix C).

4.5 Geology and Hydrogeology

4.5.1 Ground investigations were undertaken at the proposed 400kV substation location in June – September 2021 as part of the EOS. The investigations comprised four boreholes to up to 43.5 m bgl and 12no. machine-excavated trial pits to up to 2.8 m bgl.

4.5.2 The strata encountered during the 2021 investigations generally corresponded to the anticipated geology based on BGS mapping, and comprised:

- Made Ground: At the substation location, between 4.3 m and 10.7 m of Made Ground was recorded at all investigation locations, comprising grey clay with sand, gravel and cobbles of sandstone, mudstone, brick, wood and concrete.
- Superficial deposits: Beneath the Made Ground (where present) superficial deposits consistent with Glacial Till (brown, slightly sandy clay), overlying glaciofluvial and/ or alluvial deposits (sand and gravel and grey silty clay) were encountered. The superficial deposits were reported to extend to a depth of 24.2 – 30.2 m bgl; and
- Bedrock: Bedrock, comprising weathered, yellowish-brown dolomite of the Ford Formation, containing regular voids up to 40 mm (infilled with calcite), was encountered beneath the superficial deposits to the base of the boreholes.

4.5.1 The hydrogeology is classified by the Environment Agency (Defra, 2021) as Secondary (undifferentiated) aquifers. The relocated tower is not located within a source protection zone; the towers to be removed are within source protection zone III, total catchment. Groundwater vulnerability is mapped as low to medium (Defra, 2021). There are no groundwater abstractions and no water safeguarded zones within the study area. The entire site lies within a Coal Mining Reporting Area, although no High-Risk Development areas are present within the area of the Section 37 works.

4.5.2 The Geo-environmental and Geotechnical Desk Study Report (AECOM, 2022) indicates that the location of the proposed Section 37 works is a previously disturbed historic industrial area which consisted of activities such as a colliery, mineral railway, cuttings and sidings, mine shafts, sludge beds, tanks, quarry and refuse heap, on Site and within 250 m of the Site. Therefore, the risk of encountering ground contamination and ground gas is high as significant contaminative land uses have been identified on the Site or around it.

4.5.3 The identified potential impacts which may occur during the construction of tower foundations are primarily associated with disturbance of contaminated soils, encountering ground gas, potential geotechnical hazards such as significant quantities of Made Ground and Glacial Till which are unsuitable founding stratum for foundations, weak and compressible soils, unsuitable ground for pavements, potential high perched variable groundwater, unknown buried structures, striking of underground services and chemically aggressive ground conditions.

4.5.4 In addition, there may be potential limited effects associated with the former underground mine workings in the vicinity of Hawthorn Pit, including ground stability and mine gas, as well as creation of pathways to deeper groundwater depending on the construction techniques employed. Most of these effects can be controlled through good practice and standard mitigation measures set out in the Outline Construction Environmental Management Plan, although depending on the findings of ground investigations and preliminary risk assessment, project specific mitigation including coal mining risk assessment, ground gas risk assessment and piling risk assessment (and potential subsequent remediation and/ or design changes) may be required. Implementation of subsequent design changes and/ or remedial measures, if required depending on the outcome of these assessments, would result in the residual effects being of negligible to minor significance.

4.5.5 During the operational phase, the identified potential effects are limited to impacts resulting from potential land contamination on site users and groundwater receptors. The severity of impacts to future workers and visitors is considered medium and the likelihood is considered likely. However, it is expected that the Site when redeveloped will consist of mostly hardstanding and any areas of soft

landscaping will comprise clean backfill, mitigating any potential risk allowing this linkage to be deemed acceptable.

4.5.6 Leaching of contaminants from unsaturated soils may occur in areas of soft landscaping into shallow groundwater. Most of Site is underlain at shallow depth by low permeability Glacial Till which would typically reduce the potential for vertical migration between shallow groundwater and the bedrock (Principal) aquifer as the superficial undifferentiated aquifer is thought to have negligible significance for water supply and/or river base flow. However, the Glaciofluvial and Alluvium deposits (Secondary A Aquifer) which comprise mostly of sand, silt and gravels rather than clay meaning there is a higher likelihood of groundwater leaching through to the bedrock aquifer. The severity of impacts is considered medium, the likelihood is likely, and the potential risk is assessed as low to moderate.

4.5.7 Mitigation of the potential impacts put in place at construction phase would also aid in the reduction of operational effects. Required mitigation will be confirmed by means of risk assessments based on ground investigation data (when available) and may include removal of contaminant sources. As such, the significance of residual effects has been assessed as negligible to minor.

4.5.8 The proposed planning condition relating to potentially contaminated land at the new substation site states:

> *"No development shall commence until a land contamination scheme has been submitted to and approved in writing by the Local Planning Authority. The submitted scheme shall be prepared by a suitably competent person and include an updated Phase 2 site investigation and ground gas risk assessment. If the Phase 2 site investigation identifies any unacceptable risks, a Phase 3 remediation strategy shall be prepared by a suitably competent person (including a programme of implementation and where necessary gas protection measures and method of verification) and submitted for approval by the Local Planning Authority.*
>
> *If during development, contamination not previously identified by the land contamination scheme is found to be present at the site, then no further development shall be carried out until a remediation strategy prepared by a suitably competent person has been submitted to and approved in writing by the Local Planning Authority detailing how this contamination shall be dealt with."*

4.5.9 Overall, detailed mitigation required to address the potential impacts will be dependent on the findings of the Phase II Site Investigations as recommended in the Geo-environmental and Geotechnical Desk Study (AECOM, 2022) in Appendix B. It has been concluded that based on the data that is currently available, the overall assessment of effects of the Section 37 works in relation to geology and hydrogeology (and with respect to human health and infrastructure), is predicted to be of negligible to minor significance with respect to groundwater.

4.5.10 The Environment Agency, in its response to consultation under Section 37 of the Electricity Act 1989, advised that works are carried out following completion of on-site monitoring to appropriately decommission the boreholes in order to prevent the formation of preferential pathways allowing contaminant movement, which could pose a risk to groundwater quality. An appropriate controlled waters risk assessment was also advised, which should take into account piling activities, and should demonstrate no unacceptable risk to controlled waters (Appendix C).

4.6 Hydrology and Land Drainage

4.6.1 There is no surface water or standing water features to be impacted by the proposed Section 37 works.

4.6.2 According to Abstraction Licensing data (accessed July 2021) provided by the EA, there are no licensed surface water abstractions or discharges within 5 km of the works. There is the potential for unlicensed surface water abstractions to be present within 5 km, however no records of unlicensed surface water abstractions are available. Consequently, they are considered to have a low likelihood of providing a public or private water supply due to their limited abstraction volume. As such, they are considered low value.

4.6.3 In terms of land drainage, underground drainage, land/ field drainage infrastructure is considered to have a sensitivity value of low as these are of minimal hydrological importance to water quality and biodiversity and in addition surrounding land is less vulnerable to flooding.

4.6.4 The Section 37 works are not within a flood zone. There are also no records of surface water, tidal, historic, reservoir, groundwater and residual flooding at the site and therefore considered low risk to flooding.

4.6.5 With the absence of sensitive receptors at or near the location of the proposed Section 37 works, the nature of the works, embedded and proposed mitigation, the likely effects related to hydrology and land drainage during construction and operation are not significant.

4.7 Agriculture and Soils

4.7.1 The Section 37 works will be situated on land which comprises informal public open space. Although this land is not currently in agricultural use, it has the potential to be used in this way (grazing) and was assessed in the EAR as agricultural to provide a 'worst case' scenario for the assessment.

4.7.2 The Soil Survey of England and Wales: Soils and their use in Northern England and accompanying 1:250,000 map Sheet 1 (1984), identifies soils at the location of the proposed Section 37 works as belonging to the Dunkeswick association (711p). These are slowly permeable seasonally waterlogged fine loamy and fine loamy over clayey soils associated with similar clayey soils, with research by Cranfield University identifying them as being at very small risk of water erosional though locally risk of erosion may be greater. Owing to the presence and extent of Hawthorn Pit at the time the mapping was produced, the rest of the site is classified as Urban (U), that is, urban or industrial areas however a review of aerial imaging (Google maps, 2021) shows that this land is now predominantly restored and showing vegetation cover.

4.7.3 Based on detailed soil surveys (one inspection per hectare following Natural England guidelines) undertaken specifically for the EOS, the Section 37 works coincides with areas of restored soil profile. The restored soil profile was shallow in depth, often no deeper than 40 cm. The soil texture was predominantly a fine sandy clay loam, with a high variability in topsoil and subsoil stoniness. It is therefore likely that these soils are a disturbed profile of the Dunkeswick association or similar clayey soil. Although Cranfield University do not provide an erodibility classification for restored soils, given the clayey nature of the soils they were assessed as having a small erosion risk.

4.7.4 It is noted from the EAR that the location for the proposed Section 37 works is shown on the 1:250,000 scale Provisional Agricultural Land Classification (ALC) mapping as being Grade 3 (good to moderate quality) agricultural land. The land is not currently in agricultural use, instead being used as informal public open space. However, as it has the potential to be used in this way (grazing) it was considered as Subgrade 3b (moderate quality) agricultural land to provide a 'worst case' scenario for the EAR assessment.

4.7.5 There is no foreseen long-term temporary or permanent loss of agricultural land (including best and most versatile (BMV) agricultural land) during the construction and operation of the Section 37 works.

4.7.1 Given the nature of the Section 37 works and measures in the Outline CEMP, the Section 37 works are not expected to result in likely significant effects relating to agriculture and soils during construction or operation.

4.8 Traffic and Transport

4.8.1 The prediction of traffic and transport related effects in the EAR focused on activities that could directly and indirectly impact on receptors within the defined study area. The study area included those roads which may be specifically utilised during construction, and upon which there is the potential for a significant impact.

4.8.2 Baseline traffic levels were established through surveys in consultation with DCC and traffic data from the Department for Transport. Automatic Traffic Counts (ATC) were undertaken on 29 June 2021 for a duration of one week on key local roads to establish the base year flows and HGV proportions for the highway network.

4.8.3 The key local road close to the location of the substation and the Section 37 works is the A182. The A182 stretches for approximately 6.3 km from the A690 to the west to the A19 to the east: the carriageway changes name throughout its duration. The A182 Front Street is a two-way single

carriageway subject to various speed limits, the speed limit varies between 30-mph to derestricted (60-mph). The carriageway forms a priority T-junction with Jamieson Terrace. To the north Jamieson Terrace becomes West Lane and provides an alternative access to the EOS via Windermere Road. However, these roads are subject to weight restriction limits of 17 T and 18 T.

4.8.4 The EAR concludes that the amount of traffic associated with the construction and operation of the EOS would not result in significant effects compared to existing levels. The percentage of this traffic that would be related to the Section 37 works is very small and would therefore also not result in significant effects compared to existing levels.

4.8.5 There are no collision cluster sites (locations with three or more collisions) on key road links or at junctions that would be exacerbated by the scheme. In terms of pedestrian delay, intimidation and loss of amenity, the EAR concludes that effects would not be significant.

4.8.6 The proposed planning condition relating to construction traffic management of the new substation site states:

> *"No development in relation to the Substation Development shall commence until a Construction Traffic Management Plan has been submitted to and approved by the local planning authority in writing. The Construction Traffic Management Plan shall specify lorry routes, parking and turning provision to be made on site for construction vehicles and operatives' vehicles, measures to prevent mud from being deposited on the highway, and a programme of construction. The development in relation to the Substation Development shall be carried out in accordance with the approved Construction Traffic Management Plan."*

4.8.7 The Outline CTMP will be developed further by the Main Works Contractor in consultation with DCC, National Highways (as necessary), Durham Police and other stakeholders following award of contract.

4.8.1 Given the nature of the Section 37 works and the measures set out in the Outline CEMP and Outline CTMP, the works are not expected to result in likely significant effects on traffic and transport during construction or operation.

4.9 Noise and Vibration

4.9.1 The study area for assessing the potential for significant impacts on noise and vibration sensitive receptors for the EAR was 500 m from the site boundary. No Noise Important Areas (NIA) were reported in the baseline of the EAR.

4.9.2 The closest noise sensitive receptor to the location of the proposed Section 37 works are the residential properties at Clarence Green in South Hetton. Long term noise monitoring was undertaken at two locations in South Hetton (LT2 and LT3), in 2021 and 2022 respectively. LT2 was representative of residential properties along Ravensworth Court and Clarence Gate, which have the potential to be affected by construction works noise and operational noise from the substation (and therefore the Section 37 works) and converter station. Existing sources of noise at this location included road traffic on the A182, birds and tree leaf rustle.

4.9.3 Noise levels experienced by local NSR during such works depend upon several variables, the most significant of which are:

- The noise generated by plant or equipment used on site, generally expressed as sound power levels (Lw) or the vibration generated by the plant;
- The periods of use of the plant on site, known as its on-time;
- The distance between the noise/ vibration source and the receptor;
- The noise attenuation due to ground absorption, air absorption and barrier effects;
- In some instances, the reflection of noise due to the presence of hard surfaces such as the sides of buildings; and
- The time of day or night the works are undertaken.

4.9.4 Based on the above, five phases of construction activities were considered to be representative of the worst-case construction noise impact assessed (Appendix 13C of the EAR includes further detail on

the activities included within each phase). Phase 5 included the converter station and substation construction, and HVAC cable installation, including the Section 37 works as part of the substation construction.

4.9.5 No exceedences of the daytime threshold (and Significant Observed Adverse Effect Level (SOAEL) during construction were identified for the Phase 5 construction work. The noise predictions as presented in the EAR concluded that there would be no exceedance of the SOAEL, which is the level above which significant adverse effects on health and quality of life occur, at any of the Noise Sensitive Receptors (NSRs) in South Hetton during construction or operation (Rec 19 – 24).

4.9.6 Activities such as piling is only considered likely to result in a significant effect where it is undertaken at distances of approximately 25 m or less to a vibration sensitive building. It is considered that construction vibration of the Section 37 works is not a likely significant effect.

4.9.7 The proposed planning condition relating noise at the substation states:

"The rating level of noise emitted from the Substation Development (excluding vehicles travelling beyond the boundary of the site) shall not exceed the stated levels at the following location:

- Woodlands Caravan Storage (Windemere Road) 40dB (1hr) 07.00 – 23.00 and 35dB LAeq (15 minutes) 23.00 - 07.00

The measurements and assessment of noise levels shall be made in accordance with BS 4142:2014."

4.9.1 The proposed Section 37 works are therefore not expected to result in likely significant effects related to noise and vibration during construction or operation.

4.10 Socio- economic, Recreation and Tourism

4.10.1 The assessment of socio-economic, recreation and tourism effects arising from the EOS, as reported in the EAR was carried out for the temporary construction phase only. No significant socio-economic and tourism effects are expected to arise during the operational phase.

4.10.2 The proposed substation site and Section 37 works are located within an area of open space in informal use for amenity purposes (as advised by DCC through consultation). There are no predicted effects on residential properties, business premises, visitor attractions, or community facilities arising from temporary disruption to access during construction of the Section 37 works. The likely effect on open space arising from temporary disruption to access is assessed to be negligible, given the short construction schedule, which is not significant. There would be no effect on Public Rights of Way (PRoWs) or community severance from the Section 37 works.

4.11 Waste and Materials

4.11.1 The baseline study for material resources as presented in the EAR indicated that there is sufficient supply of primary raw materials like steel, aggregates, cementitious products etc available for the EOS. The EOS lies within County Durham and Tyne and Wear (which include Sunderland), part of North-East of England. The scale and location of permitted reserves, together with the associated site production capacities, across the region indicates that there are sufficient reserves to ensure the future provisions of sand and gravel and crushed rock supply at levels above the minimum requirements.

4.11.2 The baseline study for generation and management of waste indicates that there is sufficient waste infrastructure in North-East of England to accommodate waste from the region. The baseline study for remaining landfill capacity indicates that the North-East of England has capacity to accommodate inert, hazardous and non-hazardous waste.

4.11.3 The assessment in the EAR, concluded that the EOS, will achieve more than 90% of re-use of the site won material. It has also been assumed that the aggregates and stones supply will consist of recycled and secondary aggregates, in line with regional adopted Plan target, where technically appropriate and economically feasible.

4.11.4 The Section 37 works are located on an old colliery site therefore there is the potential for the works to encounter contamination. If hazardous material and contaminated excavated materials arise during

construction, the Site Waste Management Plan (SWMP) procedures for handling and storing of this waste will be followed to ensure cross-contamination does not occur. In addition, soil investigation will be undertaken to determine whether the soils can be re-used directly on-site, will require treatment prior to re-use on-site, or will require disposal off-site.

4.11.1 Given the above and the nature of the Section 37 works and measures in the SWMP and the Material Management Plan (MMP) from the EAR, the effects on raw minerals and quarry sites and the management will not be significant.

4.12 Cumulative and In-Combination Effects

4.12.1 Within the EAR, two categories of cumulative effects were considered: 'intra-project' and 'inter-project' effects (IEMA, 2011):

- Intra-Project Effects: The combined effects arising as a result of the EOS (including the Section 37 works) upon a single receptor or resource. An example would be where a local resident is affected by dust, noise and a loss of visual amenity during the construction of the EOS, with the result being a greater nuisance than each individual effect alone; and
- Inter-Project Effects: The combined effects of the EOS (including the Section 37 works) with other relevant developments which may, on an individual basis result in no significant effects but, together (i.e., cumulatively), have a significant effect considers the potential impacts from the EOS in combination with other relevant developments upon a single or group of receptors.

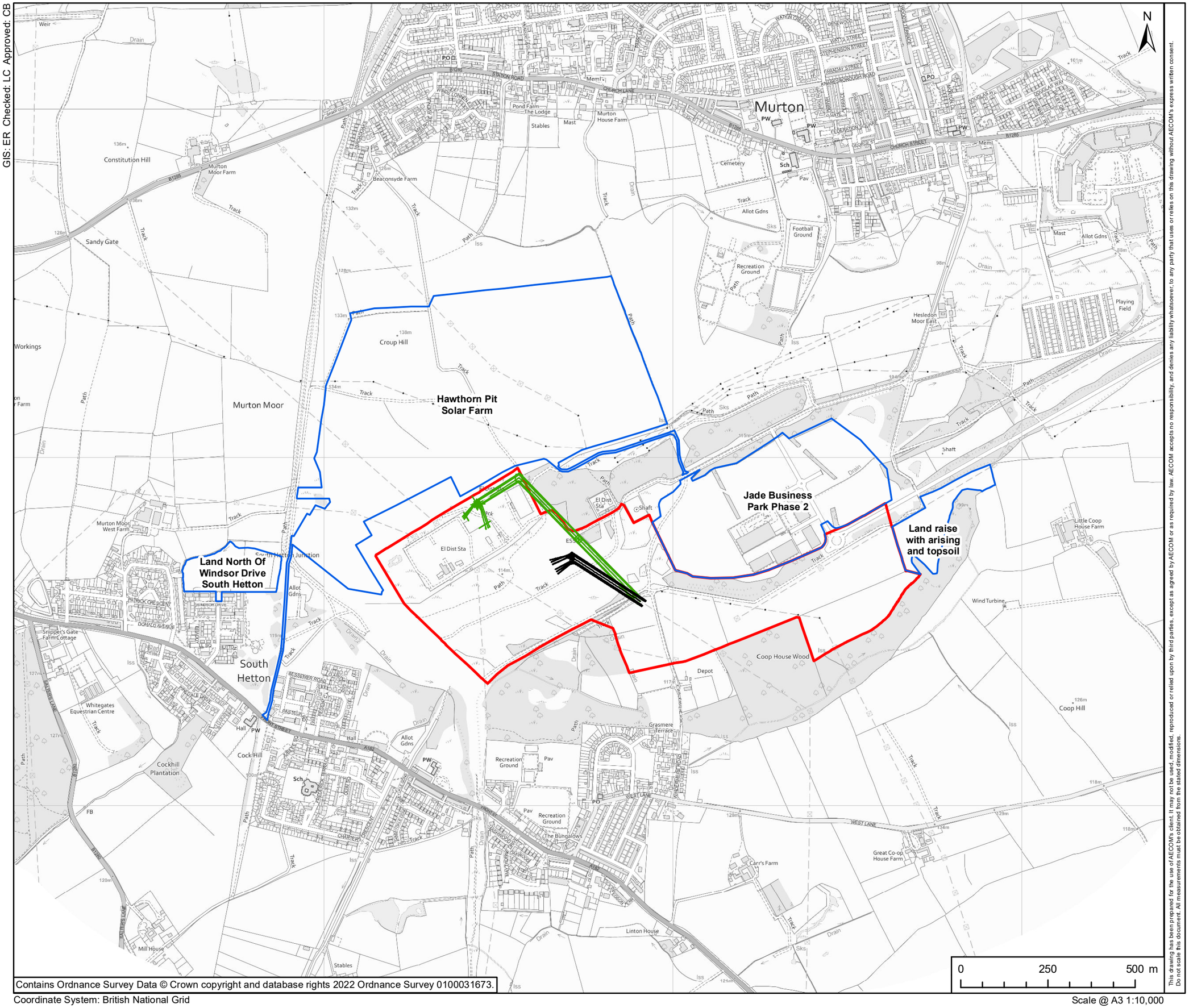
4.12.2 Developments that were included in the scope of the EAR cumulative assessment that are located closest to Section 37 works are listed in Table 3-1 and illustrated on Figure 4-1.

Table 4-1 Developments included within the Cumulative Assessment

Project Name	Date Submitted	Status	Location	Brief Description	Distance to Section 37 works
Jade Business Park Phase 2, DM/21/02901/OUT	12/08/2021	Approved at County Planning Committee 4 October 2022	Jade Business Park Phase 2, Jade Enterprise Zone, Murton, SR7 8RN	Outline application for a mixed-use development comprising of B2 and B8 units	250 m east
Hawthorn Pit Solar Farm, DM/21/03420/FPA	04/10/21	Refused (19th July 2022) Pending appeal	Land at Croup Hill south of Beaconsyde Farm, Broadoaks, Murton, SR7 9SF	Installation and operation of a ground mounted photovoltaic solar farm, inclusive of solar arrays, transformers, substation, landscaping, fencing, internal access tracks, access, CCTV and other associated works	30 m north

4.12.3 A review of applications lodged with the planning department of Durham County Council (DCC) was undertaken as part of the EAR in March 2021 and updated in February 2022. Professional judgement was used to undertake a high-level appraisal to determine whether individual developments had potential to result in significant effects with the EOS (including the Section 37 works), based scale, programme, nature and location, excluding those developments from further assessment which are unlikely to give rise to significant cumulative effects.

GIS: ER Checked: LC Approved: CB



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Coordinate System: British National Grid

Scale @ A3 1:10,000

nationalgrid

PROJECT

Scotland England Green Link 1

KEY

- Planning Application Boundary
- Planned Development Boundary

Section 37 Works:

- Overhead Line and Tower to be Erected
- Overhead Line and Tower to be Removed

TITLE

Figure 4-1
Cumulative Developments

REFERENCE

SEGL1_T_S37_4-1_v3_20221130

SHEET NUMBER

1 of 1

DATE

30/11/2022

Intra-Project Effects

4.12.4 No combined effects were identified during the construction of the Section 37 works.

Inter-Project Effects

Jade Business Park

4.12.5 Jade Business Park lies immediately north of the converter station and is located within the eastern extent of the former restored Hawthorn Pit Colliery. Development of Phase 1 of the business park has been completed recently, along with a link road connecting the park to the B1285/ A19 junction.

4.12.6 The potential for adverse effects on the Hesledon Moor West and Hesledon Moor East SSSIs was identified in the ecology appraisal for the Jade Business Park Phase 2 application, as a result of changes in air quality, pollution and increased visitor pressure. Mitigation measures included the requirement for appropriate pollution control during construction, but a detailed assessment of the other pathways was not included within the ecological assessment. However, the Section 37 works will not result in any significant emissions to air that could adversely affect habitats (e.g., nutrient nitrogen/ acid deposition), or any increases in visitors to the local area, and therefore there will be no cumulative effects on the SSSI via these pathways. Assuming the mitigation measures to control surface water run-off during construction and operation of the Jade Business Park will be similar to those proposed for the Section 37 works, and will meet the relevant legislative requirements, it is also reasonable to conclude that there will be no cumulative effects on the SSSIs as a result of this pathway.

4.12.7 In terms of protected species, the Jade Business Park Phase 2 site was found to be used by very small numbers of common species of bats, with surveys recording even lower levels of bat activity than the low levels recorded as part of the EAR at the converter station and substation sites. There will be no permanent loss of habitat arising from the Section 37 works and therefore no potential for a cumulative effect.

4.12.8 Ornithology surveys were undertaken on the wider Jade Business Park site in 2017/ 18 (prior to the completion of Phase 1 of the development) and updated in 2020. A similar suite of breeding species to those recorded as part of the EAR was recorded in grassland and plantation woodland habitats on the former restored Hawthorn Pit area. This included one pair of the Red List willow tit, which was also recorded in broad-leaved plantation woodland habitat near to the existing Hawthorn Pit substation. It is therefore concluded that the restored pit area supports a small number of breeding willow tit pairs that are evaluated to be of county value given their scarcity within County Durham. The wider site provides abundant ground nesting opportunities for species such as skylark and meadow pipit whilst the plantation woodland is likely to be utilised by a range of scrub nesting species. Construction of the Section 37 works will result in the temporary displacement of small numbers of ground nesting species such as lapwing, skylark and meadow pipit on the restored pit area around the foundations of the towers. There will be no displacement of breeding willow tits, as the nesting locations identified on the restored pit are not within the footprint of permanent or temporary works associated with the Section 37 works, or permanent works associated with the Jade Business Park Phase 2 development. Losses of breeding bird habitat within the Jade Business Park footprint were not assessed in detail, but it is reasonable to conclude that as no detailed mitigation or compensation strategy for breeding birds was required, they were not considered significant. As there will be no net loss of grassland habitat or woodland habitat as part of the Section 37 works, therefore there will be no long-term impacts on breeding bird habitats.

Hawthorn Pit Solar Farm

4.12.9 The Hawthorn Pit Solar Farm is located within a large area of arable land (comprising approximately 53 ha) immediately north of the existing Hawthorn Pit substation. The application was refused planning permission in July 2022 and is the subject of an appeal to the Planning Inspectorate (PINS). The ecological impact assessment for the solar farm concluded that there would be a significant effect on breeding farmland birds due to the displacement of ground nesting species such as skylark (estimated 5 territories) and lapwing (estimated 2 territories), that cannot be mitigated within the development. However, the effects of displacement (temporary or permanent) of a similar suite of ground nesting species for the EAR were assessed as minor adverse and not significant. It is therefore concluded that

there are no cumulative effects on breeding birds arising from the construction of the Section 37 works with the solar farm.

4.12.10 The solar farm assessment did not identify any other significant effects on ecology receptors that are relevant to the Section 37 works, including the nearest LWS and the Hesledon Moor West and Hesledon Moor East SSSIs.

5. Conclusion

5.1.1 The proposed Section 37 works are required to facilitate the operation of the proposed 400 kV substation which forms an integral part of the SEGL1 EOS Project.

5.1.2 This Environmental Appraisal report considers the environmental receptors which would potentially be impacted by the construction and operation of the Section 37 works. The environmental appraisal considers good practice measures included within the Outline CEMP, submitted as part of the EAR (AECOM, 2022).

5.1.3 This report comprises the information required pursuant to Regulation 12(1) of the Electricity Works (EIA) (England and Wales) Regulations 2017, and NGET has taken account of Schedule 3 to the EIA Regulations in preparing this report.

5.1.4 NGET has consulted DCC before submitting the Section 37 Application to BEIS. Therefore, BEIS will not be required to consult with DCC pursuant to Regulation 13(3) of the EIA Regulations.

5.1.1 NGET does not consider that the overhead line works have potential to cause significant effects and as such does not consider the works to be an EIA development under the Electricity Works (EIA) (England and Wales) Regulations 2017 and therefore an Environmental Statement is not anticipated to be required from BEIS for the Section 37 consent application. DCC's EIA Screening Opinion is that the proposed Section 37 works are not EIA development.

6. References

AECOM (2022) SEGL 1 – EOS, Environmental Appraisal Report Volume I. Final Report

AECOM (2022) SEGL 1 – EOS, Environmental Appraisal Report Volume II. Final Report

AECOM (2022) SEGL 1 – EOS, Environmental Appraisal Report Volume III. Final Report

AECOM (2022) SEGL 1 – EOS, Geo-environmental and Geotechnical Desk Study Report

Appendix A Visualisations

Appendix B Geo-environmental and Geotechnical Desk Study Report

Appendix C Consultation