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Yorkshire Green Energy Enablement (GREEN) Project

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1. Introduction

1.1 Purpose of the report

- 1.1.1 This Code of Construction Practice (CoCP) sets out the management measures that National Grid Electricity Transmission plc (National Grid) appointed principal contractor(s) and any other appointed contractor(s) will be required to adhere to and implement for all construction activities as part of the Yorkshire Green Energy Enablement (GREEN) Project (referred to as the Project or Yorkshire GREEN). This CoCP applies to everyone working on the Project.
- 1.1.2 The CoCP supports the Environmental Statement (ES) which accompanies an application for development consent (the Application) by National Grid for powers to construct, operate and maintain the Project.
- 1.1.3 The CoCP aims to ensure that adverse effects from the construction phase of the Project, on the environment and the local communities, are minimised and controlled appropriately. It does not describe environmental measures relating to the operation of the Project; these are provided in the embedded environmental measures sections of the Environmental Statement (ES) **Chapters 6 to 17, (Volume 5, Documents 5.2.6 to 5.2.17)** and collated in the Embedded Measures Schedule at **Appendix 3A** of the ES (**Volume 5, Document 5.3.3A**). The Project is estimated to have an 80-year life span. In the event that the Project would be decommissioned at the end of its life span, Requirement 16 of the draft DCO (**Volume 3, Document 3.1**) sets out the need for a written scheme of decommissioning which would need to be approved by the relevant planning authority prior to any decommissioning works taking place.

1.2 Summary of the Project

- 1.2.1 The Project is located within the administrative boundaries of Hambleton District Council, City of York Council, Harrogate Borough Council, Selby District Council, Leeds City Council and North Yorkshire County Council¹, as shown on **Figure 1.1, Volume 5, Document 5.4.1**. This CoCP has been prepared to support all construction activities in relation to the Project.
- 1.2.2 The Project is sited within Yorkshire, with the most northerly components located approximately 1.5km north-east of the village of Shipton-by-Beningbrough and approximately 10km north-west of York city centre. The most southerly components are at the existing Monk Fryston Substation, located to the east of the A1 and immediately south of the A63. **Figure 1.2 Volume 5, Document 5.4.1**. shows the key components for the proposed Project.

¹ The local authorities' boundaries and titles are correct at the time of submission November 2022. North Yorkshire County Council, Hambleton District Council, Selby District Council, Ryedale District Council, Scarborough Borough Council, Harrogate Borough Council, Craven District Council and Richmondshire District Council are expected to form a new single council (North Yorkshire Council) on 1 April 2023 as a result of Local Government Reorganisation.

1.2.3 The Project will comprise both new infrastructure and works to existing transmission infrastructure and facilities. The Project is divided into six sections for ease of reference and is described below.

- Section A (Osbalwick Substation): Minor works at the existing Osbalwick Substation comprising the installation of a new circuit breaker and isolator along with associated cabling, removal and replacement of one gantry and works to one existing pylon. All substation works would be within existing operational land.
- Section B (North west of York Area):
 - reconductoring of 2.4km of the 400kV Norton to Osbalwick (2TW/YR) overhead line and replacement of one pylon on this overhead line;
 - the new 400kV YN overhead line (2.8km), north of the proposed Overton Substation;
 - the new Shipton North and South 400kV cable sealing end compounds (CSECs) and 230m of cabling to facilitate the connection of the new YN 400kV overhead line with the existing Norton to Osbalwick YR overhead line;
 - a new substation (Overton 400kV/275kV Substation) approximately 1km south of Shipton by Beningbrough;
 - two new sections of 275kV overhead line which would connect into Overton Substation from the south (the 2.1km XC overhead line to the south-west and the 1.5km SP overhead line to the south-east);
 - works to 5km of the existing XCP Poppleton to Monk Fryston overhead line between Moor Monkton in the west and Skelton in the east comprising a mixture of decommissioning, replacement and realignment. To the south and south-east of Moor Monkton the existing overhead line would be realigned up to 230m south from the current overhead line and the closest pylon to Moor Monkton (340m south-east) would be permanently removed. A 2.35km section of this existing overhead line permanently removed between the East Coast Mainline (ECML) Railway and Woodhouse Farm to the north of Overton.
- Section C (Moor Monkton to Tadcaster Works proposed to the existing 275kV Poppleton to Monk Fryston (XC) overhead line comprise replacing existing overhead line conductors, replacement of pylon fittings, strengthening of steelwork and works to pylon foundations.
- Section D (Tadcaster Area): Two new CSECs would be installed approximately 3km south-west of Tadcaster and north-east of the A64/A659 junction where two existing overhead lines meet. One pylon on the existing 275kV Tadcaster Tee to Knaresborough (XD) overhead line would be replaced.
- Section E (Tadcaster to Monk Fryston) Works proposed to the existing 275kV Poppleton to Monk Fryston (XC) overhead line would comprise replacing existing overhead line conductors, replacement of pylon fittings, strengthening of steelwork and works to pylon foundations.
- Section F (Monk Fryston Area): A new substation would be constructed adjacent to the east of the existing Monk Fryston Substation which is located approximately 2km south-west of the village of Monk Fryston and located off Rawfield Lane, south of the A63. A 1.45km section of the 275kV Poppleton to Monk Fryston (XC) overhead line to the west of the existing Monk Fryston substation and south of Pollums House

Farm would be realigned to connect to the proposed Monk Fryston Substation. East of the existing Monk Fryston Substation the existing 4YS 400kV Monk Fryston to Eggborough overhead line, which currently connects to the existing substation, would be connected to the proposed Monk Fryston Substation.

- 1.2.4 Further detail about the Project is provided in **Chapter 3: Description of the Project (Volume 5, Document 5.2.3)**.
- 1.2.5 All works for the authorised development must be carried out in accordance with the construction management plans including this CoCP pursuant to Requirement 5 of the draft DCO unless otherwise agreed with the relevant planning authority.
- 1.2.6 Revisions to this CoCP, including other referenced management plans, may be undertaken during the examination of the Application, if required. Revisions will be incorporated, and the document updated and submitted in Examination where necessary. This document will be the final CoCP as required by Requirement 5 of the draft DCO.

1.3 Objectives of the CoCP

- 1.3.1 The purpose of the CoCP is to provide a consistent approach to the control of construction activities for the entire Project and mitigate potential effects on people and the environment. The objectives of the CoCP are to:
 - provide a mechanism for ensuring the delivery of environmental measures (other than those which will be secured through specific requirements of the draft DCO), to avoid, reduce or compensate for environmental effects identified in the ES;
 - ensure compliance with legislation and identify where it will be necessary to obtain authorisation from relevant statutory bodies;
 - provide a framework for compliance auditing and inspection to ensure the agreed environmental aims are being met; and
 - ensure a prompt response to any non-compliance with legislative and draft DCO Requirements, including reporting, remediation and any additional mitigation measures required to prevent a recurrence.
- 1.3.2 While the Project will be consented through the draft DCO, a number of sections of this CoCP reference consents, permits and licences that will be required during construction. These include, for example, protected species licences granted by Natural England and various consents relating to water and waste granted by the Environment Agency. On the presumption that the regulatory authorities would not permit the works unless the potential impacts have been identified, assessed, and an appropriate management approach defined, it is assumed that these licensable activities are considered measures adopted as part of the Project. This CoCP does not seek to specify or duplicate the exact measures that would be contained within those consents or licences for which application(s) are to be made at the appropriate time.
- 1.3.3 The ES contains details of the other consents and licences National Grid currently believes will be required to construct the Project that will be obtained outside of the DCO process (**Details of Other Consents and Licences document (Volume 7, Document 7.3)**). A Consents Register will be maintained during construction which will document all existing consent conditions, all new applications made and the status of the applications.

1.4 Implementation of the CoCP

- 1.4.1 The CoCP will be implemented by National Grid and its contractor(s), and is secured through a Requirement of the draft DCO: Schedule 3, Requirement 5 – “All construction works for the authorised development must be carried out in accordance with the construction management plans referred to in paragraph (2), unless otherwise agreed with the relevant planning authority or the highway authority, as may be appropriate to the relevant plan, scheme or strategy concerned”.
- 1.4.2 The CoCP as certified by the Secretary of State will be issued to the principal contractor(s) and fed into the relevant contracts for the Yorkshire GREEN construction works. The principal contractor will then be required to prepare detailed management plans (Requirement 6 of the draft DCO), to detail how some of the management measures and principles provided in the CoCP will be implemented and monitored effectively.
- 1.4.3 Construction management plans have been prepared to accompany the CoCP, which will be implemented during the construction of the Project. These are as per Requirement 5 and certified under Article 48 of the draft DCO. The construction management plans detail further environmental measures to avoid, reduce or compensate for effects on the environment.
- 1.4.4 These documents are included in the Application and will be approved as part of the consent, secured by Requirement 5 and certified under Article 48. The construction management plans are outlined in **Table 1.1** below along with the relevant securing mechanism(s) and are provided as part of **Volume 5** as appendices to the ES.

Table 1.1 - Construction management plans

Plan / Strategy	Description	Securing Mechanism
Archaeological Mitigation Written Scheme of Investigation (AWSI) Volume 5, Document 5.3.3C	To detail required measures to mitigate direct adverse impacts to the historic environment.	Requirement 5(2)(b)
Biodiversity Mitigation Strategy (BMS), Volume 5, Document 5.3.3D	To detail the management and environmental measures related to Biodiversity mitigation during the construction phase for the Project.	Requirement 5(2)(c)
Outline Soils Management Plan Volume 5, Document 5.3.3E	To outline management measures to minimise adverse effects on the soil resource.	Requirement 5(3)
Construction Traffic Management Plan (CTMP) Volume 5, Document 5.3.3F	To detail the environmental and traffic control measures which may be implemented in relation to the traffic generated during the construction phase for the Project. This plan will include information on the Outline Access Management Strategy.	Requirement 5(2)(d)

Plan / Strategy	Description	Securing Mechanism
Public Rights of Way Management Plan (PRoWMP) Volume 5, Document 5.3.3G	To detail management and environmental measures strategy for all PRoWs and Open Access Land (OAL) affected by the Project.	Requirement 5(2)(e)
Noise and Vibration Management Plan (NVMP) Volume 5, Document 5.3.3H	To detail management and environmental measures to control noise and vibration from construction activities.	Requirement 5(2)(f)

- 1.4.5 Post consent, other management plans will be developed in detail by the appointed contractor for approval by relevant consenting authority. The CoCP also sets out the requirement for the contractor to produce a number of management plans post-consent once the detail of the construction phase of the Project is known in accordance with Schedule 3, Requirement 6 of the draft DCO (**Document 3.1, Volume 3**).
- 1.4.6 The relevant measures set out in this CoCP would be taken into account in preparing the plans, which are listed in **Table 1.2**.

Table 1.2 – Post-consent management plans

Plan / Strategy	Description	Securing Mechanism
Soil and aftercare management plan	Identifies the nature of the soil, areas of potential difficulty in gaining access, working, excavating or soil handling arising from the nature of the soil. Describes how works should be undertaken to minimise effects on the nature and quality of the soil. Aftercare management provides for protection of the agricultural use of the land during and following the construction period, to allow for soil rehabilitation. The area required for construction will be defined and provision for ongoing access to areas within fields affected by construction activity will be agreed to take account of crop husbandry requirements.	Requirement 6(1)(a)
Drainage management plan	Identifies all known risks to the water environment and identifies appropriate measures to control flood risk and prevent pollution during construction. A phased approach may be taken to the development of the DMP to reflect the phasing of the construction programme.	Requirement 6(1)(b)
Pollution incident control plan	Identifies how the risk of pollution due to construction works, materials and extreme weather events will be controlled and identifies the remedial actions in the event of an incident.	Requirement 6(1)(c)
Lighting scheme	Identifies the detail of the location, type and use of lighting at the construction sites (further detailed in Section 2.3).	Requirement 6(1)(d)

Plan / Strategy	Description	Securing Mechanism
Emergency response plan for flood events	Details the emergency procedures in the event of a flood.	Requirement 6(1)(e)
Site waste management plan	Sets out details to identify site-specific measures for the collection, segregation, treatment and disposal of waste.	Requirement 6(1)(f)
Tree and hedgerow protection strategy	To include tree protection plans, a schedule of all proposed tree and hedge removal and pruning, with annotated plans; specification for temporary physical protection for trees and hedgerows; and details of an auditable system of compliance.	Requirement 6(1)(g)

1.5 Structure of this CoCP

- 1.5.1 **Section 1** of this CoCP presents an introduction to the Project, including outlining the purpose of this CoCP and environmental management.
- 1.5.2 **Section 2** provides information on the construction methodology for the Project.
- 1.5.3 **Section 3** sets out the principal code of construction measures applicable to the construction of the Project focussing on construction good practice measure.

1.6 Environmental management

- 1.6.1 The Project would be developed in compliance with all relevant legislation, consents and permits. Any statutory requirements listed in this document and industry good practice guidance which has informed each part of the document are not to be seen as exhaustive.
- 1.6.2 National Grid is the company responsible for the delivery of the Project, in whom the powers of the Development Consent Order would be vested. As such, National Grid is responsible for all the works, which includes overseeing and assuring the activities carried out by their contractor(s). The supply chain of contractor(s) to deliver this Project will be contractually required to deliver the construction works in accordance with all relevant DCO Requirements, including the adoption of the objectives and control measures set out in this CoCP and the other construction management plans.
- 1.6.3 National Grid maintains an Environmental Management System (EMS) to provide a framework within which to manage and reduce their effects on the environment. The EMS is accredited to ISO14001:2015² and is updated periodically to reflect and comply with updated standards. The appointed contractor(s) will prepare their own Project EMS in accordance with National Grid's EMS prior to construction commencing.

² International Organization for Standardization (ISO). (2021). SO 14001:2015 Environmental management systems — Requirements with guidance for use. ISO; Geneva.

- 1.6.4 The contractor(s) would be required to undertake assurance including monitoring and auditing to verify compliance with this CoCP, DCO Requirements, other relevant consents and permits, as well as all legal obligations.
- 1.6.5 National Grid would undertake audits and inspections to monitor that the contractor(s) comply with the CoCP and other applicable requirements.

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2. Approach to construction

2.1 Construction Summary

- 2.1.1 This section sets out an overview of the construction methodology and programme. More detailed information on the construction methodology can be found in **Chapter 3: Description of the Project, Volume 5, Document 5.2.3**.
- 2.1.2 The construction methodology is not a detailed rendition of how the Project would be built as it remains important that construction contractor(s) have appropriate flexibility with which to deploy new technologies and efficiencies. This indicative construction methodology and programme does provide an overview of the likely scenario within which the eventual construction programme would be in general accordance with and has been assessed as part of the EIA.
- 2.1.3 The construction programme is set out in **Chapter 3: Description of the Project (Volume 5, Document 5.2.3)**.
- 2.1.4 In summary, the construction works would comprise the approximate following sequence of events. Some of these works would take place prior to the commencement of construction works (as per the definition of commencement in the draft DCO) and would take place for each stage of construction across the Project. Therefore, different phases would take place at different times across the Project:
- pre-construction survey and mitigation:
 - ground investigation;
 - installation of bellmouths and creation of visibility splays;
 - installation of temporary construction compounds (TCC);
 - installation of stock proof fencing and gates or equivalent; and
 - topsoil stripping and installation of temporary landscape mitigation earthbunds and temporary drainage installation where required.
 - For pylon construction and works to existing overhead lines:
 - installation of access tracks (including culverts and bridges) and demarcated pylon working areas;
 - installation of pylon foundations (pad and column, mini pile, tube pile or bespoke);
 - layout of steelwork in preparation for erection;
 - assembly (painting if required) and erection of steelwork;
 - installation of crossing protection prior to stringing of conductors, including scaffolding;
 - installation of insulators and fittings;
 - establishment of machine sites for conductor stringing; and

- conductor and earthwire stringing.
- For construction of the substations and CSECs:
 - installation of construction compounds and access roads;
 - removal of topsoil and earthworks, including cut and fill if required, to create a level platform for construction;
 - installation of drainage and working areas and ducting and trenching for cabling, where needed;
 - installation of site perimeter security fencing, stone surfacing and concrete pad for foundations;
 - installation of equipment at CSECs: gantries, earth switches, disconnectors and post insulators on steel or aluminium structures;
 - installation of equipment at Substations: diesel generator, full line tensions gantries and the SGTs, as well as high and low voltage plant and control building;
- Reinstatement works would comprise:
 - removal of construction equipment and re-instatement of ground conditions and restoration of soils;
 - removal of temporary access tracks and bellmouths;
 - removal of construction compounds;
 - installation of landscape bunding, noting that some of the bunding would be put in place during the construction works; and
 - reinstatement of ground including required landscaping and replacement planting.

2.2 Overarching principles

2.2.1 The general management of the Project is important in maintaining the health and safety of the public and construction staff and mitigating the potential impact of general site construction activities.

Health and Safety

2.2.2 Each appointed contractor will prepare a construction phase Safety Health and Environment (SHE) Plan prior to construction works commencing. A construction phase SHE Plan will be prepared by the contractor(s) for each element of the Project, including overhead line works, diversion works, construction of the substations and CSECs and installation of underground cables. The Plans will ensure that adequate arrangements and welfare facilities are in place to cover:

- the safety of construction staff;
- the safety of all other people working at or visiting the construction site;
- the protection of the public in the vicinity of the construction site;

- defined and adopted emergency procedures, including emergency access arrangements; and
 - appropriate training and information being provided to personnel.
- 2.2.3 The contractor(s) Construction Phase SHE Plan will be reviewed and accepted by National Grid prior to construction commencing.
- 2.2.4 National Grid would ensure that adequate arrangements are in place to discharge its duties under the Construction (Design and Management) Regulations, 2015³ (CDM Regulations).
- 2.2.5 The contractor(s) would be regularly audited on its health, safety and environmental performance. All procedures and processes would be periodically reviewed internally by the contractor(s) and by National Grid.
- 2.2.6 The contractor(s) would be required to report all accidents and incidents to the National Grid Incident Management System (IMS) within 48 hours of the incident being brought under control. This 48-hour time frame has been made available to assist the project delivery teams in determining the correct version of events and key facts prior to the incident being recorded in IMS.

Code of Conduct

- 2.2.7 The contractor(s) will be a member of the Considerate Constructors Scheme or an equivalent scheme and will adhere to a Code of Conduct. The Code of Conduct will include sections on respecting the environment and respecting communities.
- 2.2.8 The contractor(s) will establish a process to monitor where workers are staying by type of accommodation and location. The results of this monitoring will be provided to National Grid and will be available to local authorities on request.

Community liaison

- 2.2.9 National Grid is committed to ensuring that the local community are provided with information regarding relevant construction activities. Information relating to the Project is and would continue to be readily available on the Project website which has been established by National Grid. This would include the Project programme, progress updates, and contact details for the Project so that members of the public or businesses can request information or make an enquiry relating to the construction activities.
- 2.2.10 A community relations team will staff a Project email account and telephone helpline to manage enquiries from the general public and local businesses. Contact details will be widely promoted and displayed at appropriate locations around the site hoarding.
- 2.2.11 A Communications Log will be maintained to record all communications with members of the public and other interested parties including general enquiries and complaints. These will be reported to National Grid by the community relations team. Records of communication will be kept and uploaded to the document control system. This will be available to interested parties and stakeholders upon receipt of a reasonable request. All enquiries, whether a query or a complaint, will be dealt with in a timely manner.

³ UK Government. (2015). The Construction (Design and Management) Regulations 2015. (Online). Available at: <https://www.legislation.gov.uk/ukxi/2015/51/contents/made> (Accessed 12 October 2022).

2.3 General site management

Working Hours

2.3.1 The core construction working hours would be as follows:

- Monday to Friday: 07.00 – 19.00; and
- Saturday, Sunday and Public Holidays: 08.00 - 17.00.

2.3.2 No piling works would take place on Sundays or Public Holidays and would be restricted to 09.00-14.00 on Saturdays.

2.3.3 The following construction activities may take place outside the core working hours described above:

- the jointing of underground cables, with the exception of cable cutting which will take place only during core working hours;
- the installation and removal of conductors, pilot wires and associated protective netting across highways, railway lines or watercourses;
- the completion of construction activities commenced during the core working hours which cannot safely be stopped;
- any highway works requested by the relevant highway authority to be undertaken on a Saturday or a Sunday or outside the core working hours;
- oil processing of transformers or reactors in substation sites;
- the testing or commissioning of any electrical plant installed as part of the authorised development;
- the completion of works delayed or held up by severe weather conditions which disrupted or interrupted normal construction activities; and
- security monitoring.

2.3.4 The core working hours referred to above exclude start up and close down activities up to 1 hour either side of the core working hours. These working hours would be implemented by way of Requirement 7 in the draft DCO (**Volume 3, Document 3.1**).

Construction Site Layout and Good Housekeeping

2.3.5 The layout and operation of the construction compounds, working areas and site offices will comply with the commitments in this CoCP.

2.3.6 National Grid will ensure that site layouts for the construction areas (e.g., temporary construction compounds) will be arranged to reduce as far as reasonably practicable the environmental impacts having due regard to the constraints for each site for example:

- noise generating activities will be sited away from noise-sensitive receptors where practicable;
- appropriate signage will be employed across the sites;
- storage sites, temporary offices, fixed plant and machinery will be positioned appropriately (e.g., away from sensitive receptors);

- appropriate speed limits will be imposed on construction compounds and temporary access roads line with the speed limits specified in the CTMP; and
 - measures will be implemented to provide effective preventative pest and vermin control and prompt treatment of any pest and vermin infestation. Adequate arrangements will be made for disposing of food waste and other material attractive to vermin.
- 2.3.7 Good housekeeping practice will be applied at all times and all working areas will be inspected as required using a site audit programme and a written report on compliance will be provided to National Grid on a monthly basis.
- 2.3.8 In particular, the layout, appearance and operation of the construction site, site offices and compounds will be managed as follows:
- all working areas will be kept in a clean and tidy condition;
 - smoking areas at site offices, compounds and construction sites will be equipped with containers for smoking waste and will not be located at the boundary of working areas or adjacent to neighbouring land;
 - all necessary measures will be taken to minimise the risk of fire;
 - workers will maintain a reasonable and appropriate standard of dress at all times and will not use foul language or display lewd or derogatory behaviour;
 - appropriate measures, such as use of enclosed containers, will be employed to store waste susceptible to spreading by wind or liable to cause litter;
 - fencing and other means of enclosure will be inspected as required and repaired as necessary;
 - adequate welfare facilities will be provided for all construction staff. All toilets will be serviced and kept clean;
 - good personal hygiene will be promoted by the contractor(s) for the workforce, particularly when using site mess facilities; and
 - site accesses, accesses to site compounds and roads in the vicinity of site access points will be maintained and kept clean as required.
- 2.3.9 Other measures that must be complied with are outlined in **Section 3** of this CoCP, and within related management plans listed in **Table 1.1**.

Fencing

- 2.3.10 Working areas will be appropriately fenced from members of the public and to prevent livestock from straying into a working area. National Grid will ensure, as far as reasonably practicable, that the visual intrusion of the construction compounds on the local community, local residents and users of local amenities is minimised. Temporary 2.4m tall solid timber fencing will be installed around construction compound boundaries where there are views into the compound from nearby sensitive receptors and screening would not be provided by elements surrounding the compound (for example temporary earth bunds) or existing screening (for example areas of hedgerow or woodland) is not present outside the compound boundary.
- 2.3.11 Solid timber fencing is assumed to be required in the following locations:

- The southern, western and eastern edges of the temporary compound adjacent to the A659 at Tadcaster Area, where screening is not provided by temporary earth bunds or existing tree cover. Solid fencing would minimise landscape and visual effects as the compound is located within the Locally Important Landscape Area (LILA);
- The northern, western and eastern perimeter of the western temporary compound at Monk Fryston Substation Area to the west of Rawfield Lane where soils are not available for temporary bunds (unlike the compound east of Rawfield Lane where perimeter mounding is proposed). Solid fencing would minimise adverse landscape and visual effects upon the LILA to the north of the A63 on Butts Lane;
- The northern edge of the eastern temporary compound north of the Overton Substation and close to the A19 where there is insufficient space for earth mounding. Solid fencing would minimise adverse landscape and visual effects upon users of the A19 between the settlements of Skelton and Shipton-by-Beningbrough;
- The outer perimeter of the temporary compounds west of Overton Road where the compound faces onto the alternative route for NCR65 and Overton Road and there is insufficient space for earth mounding to minimise effects upon users of NCR 65 and the Way of The Roses long distance path and cycleway; and
- The southern edge of the southern construction compound at Shipton Tee, bordering Corban Lane.

2.3.12 Temporary fencing will be regularly inspected and maintained and will be removed as soon as reasonably practicable after completion of the works.

Lighting

2.3.13 The details of any external lighting required during each stage of the Project will be submitted to the relevant planning authority for approval, including measures to prevent light spillage. A lighting scheme will be secured under Requirement 6(1)(d) of the draft DCO (**Volume 3, Document 3.1**).

2.3.14 The written details must incorporate the environmental measures in relation to lighting set out in the Embedded Measures Schedule (**Appendix 5.3.3A, Volume 5, Document 5.3.3A**) and Biodiversity Mitigation Strategy (**Appendix 5.3.3D, Volume 5, Document 5.3.3D**) to avoid, reduce or compensate for potential effects on habitats and species.

2.3.15 The lighting scheme will specify the type, location and timing of the lighting design in accordance with the Institute of Lighting Engineers Guidance Notes for the Reduction of Obtrusive Light (GN01:2011)⁴ in so far as it is reasonably practicable and applicable to construction works. Measures would include:

- Construction site layout such that welfare cabins, equipment and lighting will be sited to minimise effects from lighting and light spill on nearby receptors insofar as is consistent with the safe and efficient operation of the work site.
- Construction compounds will not be lit at night outside core working hours except for welfare and site security cabins that will include low level lighting. External lighting, including security lighting will be minimised during the hours of darkness where

⁴ Institute of Lighting Professionals. (2011). Guidance Notes for the Reduction of Obtrusive Light. (Online). (Accessed 12 October 2022)

possible. Should construction compounds require security lighting these would be on a timer and motion sensitive.

- Outside of the compounds, winter working may require task-specific lighting during core working hours due to the short-day lengths. Other works within the Order Limits, including the compounds, undertaken outside of the core working hours may also require lighting, such as the installation of protective scaffold netting and installation and removal of conductors and pilot wires and jointing of underground cables. In these instances, lighting will be used only when required and will comprise lighting of work areas and access and egress with portable, low level directional lighting positioned and directed to minimise glare and nuisance to residents, walkers and to minimise distractions or confusion to passing drivers on railways or adjoining public highways.
- The lighting scheme would also be informed by the joint guidance provided by the Bat Conservation Trust and Institution of Lighting Professionals⁵ to decrease the potential displacement effects on light-sensitive nocturnal fauna such as badgers and bats, and will follow the principles of minimising lighting usage, minimising light spill, using the most appropriate wave lengths of light, and locating lighting in the most appropriate locations to provide lighting which is targeted and necessary.

Security

2.3.16 The contractor(s) will ensure that temporary construction compounds, including offices, are adequately secured to protect the public and prevent unauthorised entry to and from the site. Access to the temporary construction compounds will be limited to specified entry points only and personnel entries/exits will be recorded and monitored for both security and health and safety purposes.

Emergency planning procedures

2.3.17 Emergency procedures will be developed which will take into account the anticipated hazards and conditions at each work site or location (e.g., for each of the temporary construction compounds). Such procedures will include appropriate procedures such as fire and site evacuation, emergency pollution control measures, severe weather plan and emergency response plans for flooding events.

2.3.18 Emergency procedures will also ensure that emergency phone numbers, evacuation routes and muster points and the method of notifying the relevant local and statutory authorities are documented. The procedures will be displayed at the work sites and included as part of the site induction for all staff.

Welfare

2.3.19 Welfare cabins and toilets will be provided on site at the construction compounds for the use of construction workers with welfare vans provided elsewhere. Workers' Safety Information Sheets and Control of Substances Hazardous to Health (COSHH) safety data sheets will be prominently displayed in welfare cabins and vans covering work practices. Where portable generators are used, industry best practice will be followed to minimise noise and pollution from such generators.

⁵ Institution of Lighting Professionals and Bat Conservation Trust (2018). Bats and artificial lighting in the UK. Bats and the Built Environment series (Guidance Note 08/18). Institution of Lighting Professionals; Rugby.

Temporary living accommodation

2.3.20 No living accommodation will be provided within any construction working area.

Reinstatement

2.3.21 The contractor(s) would clear all temporary working areas and accesses when they are no longer required for the works. On completion of the construction works, and in accordance with Requirement 11 of the draft DCO (**Volume 3, Document 3.1**), all plant, materials and temporary works/structures would be removed. Land used temporarily would be reinstated to an appropriate condition relevant to its previous use and in accordance with the **Outline Soils and Management Plan (Volume 5, Document 5.3.3E)**.

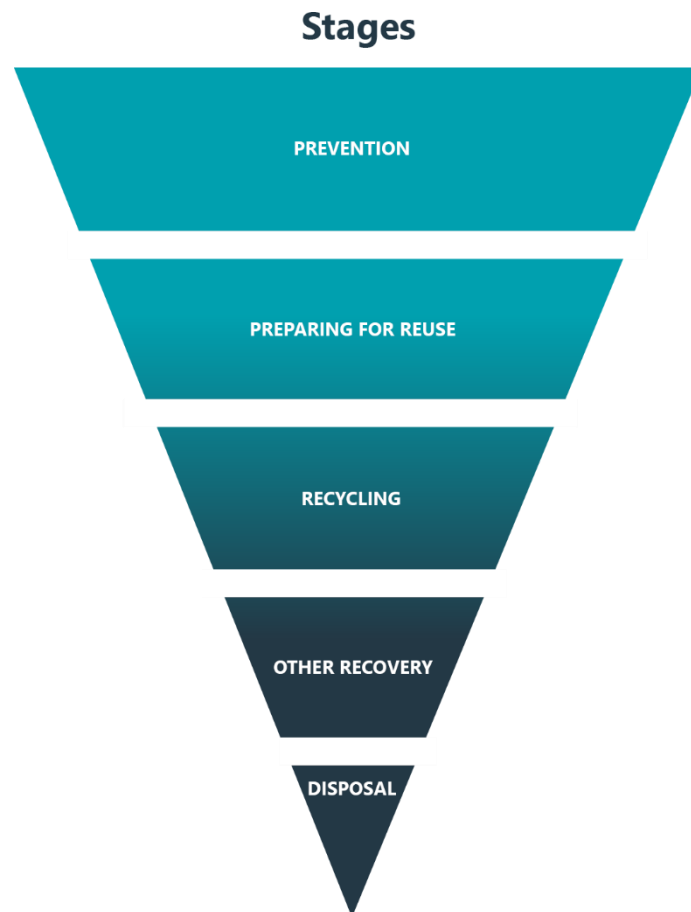
2.3.22 The reinstatement of vegetation will be carried out in accordance with the measures set out in the **Arboricultural Impact Assessment (Volume 5, Document 5.3.3I)**, the **Outline Landscape Mitigation Strategy (ES Figures 3.10 to 3.12, Volume 5, Document 5.4.3)**, secured via Requirement 8 of the draft DCO (**Volume 3, Document 3.1**) (Landscaping and mitigation planting) and the **Biodiversity Mitigation Strategy (Volume 5, Document 5.3.3D)** secured via Requirement 5 of the draft DCO (**Volume 3, Document 3.1**). Reinstatement of vegetation would generally be completed using the same or similar species to that removed (subject to restrictions for planting over and around National Grid easements). Hedgerows would be re-instated except where a field gate or bellmouth is required on a permanent basis for permanent access. In relation to hedgerow replanting, it has been assumed that there would be a permanent loss of 8m where a bellmouth has been installed. After construction is complete, the bellmouth would be removed and where permanent access is required, an 8m fence or gate installed with hedgerow replanting up to the edge of the gate or fence. For temporary access routes through field boundaries where bellmouths would not be required, it is assumed that a 4m fence or gate would be installed with hedgerow replanting up to the edge of the gate or fence where permanent access would be needed for maintenance access routes. Where long-term maintenance is not required, hedgerows, fences and walls would be reinstated to a similar style and quality to those that were removed, with landowner agreement.

2.4 Waste

Materials and waste management

2.4.1 The principal objective of sustainable waste and material resource management is to use material resources as efficiently as possible. Management of waste according to a clearly defined hierarchy forms a fundamental cornerstone of waste planning and management policy (see **Figure 2.1**). Application of the principles laid down in the waste hierarchy model seek to minimise the quantity of waste that requires final disposal and reduce impact on receptors.

Figure 2.1 – Waste hierarchy



- 2.4.2 National Grid adopt good construction and management practices and will apply the waste hierarchy to ensure that waste arising during the construction of the Project, if consented, is minimised as far as possible and that the storage, transport and eventual disposal of waste have no significant environmental effects. The application of the waste hierarchy will be supported by the implementation of the proximity principle, whereby waste will be managed as close as reasonably practicable to the point of origin. However, in some locations this may not be feasible and spoil may need to be removed off-site where it cannot be re-used for example for landscape screening bunds.
- 2.4.3 National Grid has made a number of commitments relating to sustainable waste and resource management in its 2021 – 2026 Environmental Action Plan⁶. These include, achieving zero waste to landfill by 2026, reducing the waste intensity of construction projects, increasing the rate of recycling and adopting the principles of the circular economy using internationally recognised standards such as the BS8001 – Circular Economy Standard⁷ and ISO20400 Sustainable Sourcing Guidance⁸.
- 2.4.4 The contractor(s) will prepare a **Site Waste Management Plan (SWMP)** in accordance with Requirement 6 of the draft DCO (**Volume 3, Document 3.1**), which would be submitted to and approved by the relevant planning authorities. Works will be in accordance with the following measures:

⁶ National Grid (2021). Our 2021–2026 Environmental Action Plan. National Grid; London.

⁷ British Standards Institute. (2022). The rise of the Circular Economy BS 8001 - A new standard is available. BSI; London.

⁸ISO. (2017). ISO 20400:2017 Sustainable procurement — Guidance. ISO; Geneva.

- the consumption of raw materials and waste shall be minimised, through sound design and good practice in sustainable procurement;
- where waste is generated, opportunities for reusing or recycling the waste will be considered prior to disposal in line with National Grid’s commitment set out in its Environmental Action Plan to achieve zero waste to landfill across its construction projects by 2026;
- waste materials will be stored securely on site in order to prevent their escape and protect them against vandalism, vermin or outside interference;
- hazardous waste (e.g., paints, solvents, sealants) will be segregated and stored appropriately on-site to avoid contaminating other material and waste streams;
- disposal of waste on site will either be:
 - within the scope of, and comply with, the requirements of one or more of the activities specified as exempt from Waste Management Licensing; or
 - carried out under an environmental permit issued by the EA.
- waste management activities on sites operating under an environmental permit will be managed by a nominated technically competent manager;
- all waste disposal contractor(s) carrying waste will be authorised to do so and all sites that receive the waste will be authorised to do so;
- disposal of all waste will be accompanied by the relevant statutory transfer documentation that adequately describes the waste;
- quantities and types of waste generated will be recorded and monitored. Records will be kept for a minimum of three years;
- all employees and contractor(s) will have a Duty of Care when controlling the carriage and disposal of waste to ensure it is handled in a responsible manner; and
- all staff and contractor(s) working on the Project will be informed of which waste should be deposited and where this should be.

2.4.5 The SWMP for the Project in addition to the general measures outlined above would include:

- a detailed action plan for the management of waste, including roles and responsibilities, methods of data collection and reporting procedures;
- an initial estimate and type of likely waste arisings, based upon the final design of the Project;
- proposals for managing the waste following the waste hierarchy to ensure that waste arisings are minimised, including ‘designing out waste’ and waste prevention measures;
- an analysis of waste management facilities, in accordance with Overarching National Policy Statement (NPS) EN-1⁹; and

⁹ Department of Energy and Climate Change. (2011). Overarching National Policy Statement for Energy (EN-1). (Online). Available: https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/47854/1938-overarching-nps-for-energy-en1.pdf (Accessed 12 October 2022)

- details of any site waste storage facilities including the requirements of environmental permits and pollution control measures.

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3. Construction Good Practice

3.1 Introduction

- 3.1.1 As part of the Environmental Impact Assessment, good construction practice measures have been identified that would reduce impacts from the Project on the environment. These are generally measures that would normally be implemented on a well-run construction site, but also include a number of good construction practice measures that are specific to the Project and its location. Implementation of these good practice measures has been assumed ahead of the assessment of the Project within the Environmental Statement.
- 3.1.2 Many of these measures are included in this CoCP, and their implementation is secured under Requirement 5 of the draft DCO (**Volume 3, Document 3.1**). In addition to the CoCP, Requirement 5 also secures the construction plans listed in **Table 1.1**.
- 3.1.3 Additional measures and mitigation may be required under other DCO mechanisms that complement these CoCP measures.
- 3.1.4 **Table 3.1 to Table 3.11** show good practice measures and environmental measures to be implemented. These are minimum standards that are binding for the contractor(s) whilst working on the Project.
- 3.1.5 General good practice and environmental management measures that are relevant across the Project can be found in **Table 3.1**. **Table 3.2 to Table 3.11** list the good practice and environmental management measures which are relevant to a specific aspect, such as hydrology. Each good practice measure has been assigned a reference number (for example **GM01**). These reference numbers are used in the **Embedded Measures Schedule (Volume 5, Document 5.3.3A)** which provides a summary of all environmental measures embedded into the Project.

3.2 General measures

- 3.2.1 Good construction practice measures to control construction activities that are applicable to a number of topics and relevant Project-wide are set out in **Table 3.1**.

Table 3.1 - General good construction practice measures

Ref.	Good Construction Practice Measures
GM01	The Project will be constructed in accordance with the construction working hours set out in Requirement 7 of the draft DCO (Volume 3, Document 3.1).
GM02	Speed limits will be imposed on all temporary access roads (as opposed to public/private roads with existing speed limits in place) to minimise the risk of road traffic collisions with fauna, to minimise dust and for safety reasons (see Section 2.3 of this document).
GM03	A lighting scheme of all temporary lighting will be developed once contractor(s) are appointed, in accordance with Requirement 6 of the draft DCO (Volume 3,

Ref.	Good Construction Practice Measures
	Document 3.1). The principles of lighting design which will form part of this Project are defined in Section 2.3 General site management of this document. The design informed by the joint guidance provided by the Bat Conservation Trust and Institution of Lighting Professionals ⁵ (2018). The lighting scheme will account for the potential effects on biodiversity by taking measures to minimise lighting usage, minimise light spill, use most appropriate wave lengths of light and locate lighting in the most appropriate locations – this is to decrease the potential displacement effects on light sensitive fauna such as bats.
GM04	Where required, construction lighting would be limited to directional task lighting positioned to minimise impacts to residents and informed by BS EN 12464-2:2014 Lighting of outdoor workplaces ¹⁰ and guidance provided by the Chartered Institution of Building Services Engineers (CIBSE) Society of Light and Lighting ¹¹ , The Bat Conservation Trust and the Institution of Lighting Professionals ⁵ .
GM05	The construction work area will be reinstated to pre-existing conditions as far as reasonably practical in line with the Soil and Aftercare Management Plan (Requirement 6(1)(a)) and Defra 2009 Code of Construction Practice for the Sustainable Use of Soils on Construction Sites PB13298 ¹² .
GM06	Any disposal off-site of excavated material will be undertaken in accordance with the Waste (England and Wales) Management Regulations 2011 ¹³ .

3.3 Landscape, visual and arboriculture

- 3.3.1 Desk studies and field assessment have identified the landscape and visual receptors where potentially significant effects may occur as a result of the Project including non-statutory landscape designations and landscape character areas.
- 3.3.2 Visual receptors potentially affected by the Project were identified with the aid of Zone of Theoretical Visibility computer generated mapping, covering the identification of a range of receptors including those with the highest sensitivity to the Project comprising settlements, scattered dwellings and users of promoted recreational routes including long distance footpaths and national cycle routes, Representative viewpoints were discussed with the local planning authorities and key stakeholders. Field assessment was carried out in winter when deciduous planting was not in leaf to assess the maximum visibility of the Project in the landscape.

¹⁰ British Standards Institute. (2014). BS EN 12464-2:2014 Light and lighting. Lighting of work places - Outdoor work places. BSI; London.

¹¹ CIBSE. (2022). Society of Light And Lighting (SLL). (online) Available at: [REDACTED] (Accessed October 2022).

¹² DEFRA. (2009). Construction Code of Practice for the Sustainable Use of Soils on Construction Sites. (Online). Available at: https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/716510/pb13298-code-of-practice-090910.pdf (Accessed 12 October 2022).

¹³ UK Government. (2011). The Waste (England and Wales) Regulations 2011. (Online). Available at: <https://www.legislation.gov.uk/ukxi/2011/988/contents/made> (Accessed 12 October 2022).

- 3.3.3 Arboricultural surveys of trees with the potential to be affected by the Project within and adjacent to the Order Limits were conducted in accordance with BS 5837 (2012)¹⁴. The surveys and associated desk study identified Ancient Woodland, Veteran trees and Tree Preservation Orders (TPO) in addition to grading the trees in accordance with BS 5837 (2012).
- 3.3.4 This information has been used to inform the proposed environmental measures that will be adopted during the construction phase of the Project.
- 3.3.5 The Project is likely to result in some significant landscape and visual effects during construction. A number of management measures have been identified with regards to landscape, visual and arboricultural effects to minimise effects during the construction phase.
- 3.3.6 **Table 3.2** contains good construction practice measures particularly relevant to Landscape and Visual topics.

Table 3.2 - Landscape, visual and arboriculture good practice measures

Ref.	Good Construction Practice Measures
LV01	Soil stripped from the construction compounds will be stored around the perimeter of the compounds where space allows at a height of 2-3m with 1 in 3 slopes and will be protected from erosion by grass seeding or covering with geotextile to minimise erosion. Where insufficient soil is available and/or space does not allow the storage of soil, the perimeter of the construction compounds will be bounded by a solid 2.4m high timber screen fence to minimise views of materials and ground level activity within the construction compounds from the wider landscape with particular focus on reducing visibility of compounds within non-statutory landscape designations (Tadcaster Area) and close to nationally and regionally promoted recreational routes (Overton Substation), see Section 2.3 for further detail.
LV02	A lighting scheme will specify the type, location and timing of the lighting in accordance with the Institute of Lighting Engineers Guidance Notes for the Reduction of Obtrusive Light (GN01:2011) ¹⁵ in so far as it is reasonably practicable and applicable to construction works. Detailed measures are set out in Section 2.3 above that would reduce the length of time that targeted lighting needs to operate. The measures would also reduce light spill such that in combination with the temporal reduction the resulting effects upon landscape character and nuisance to visual receptors including residents and users of PRow and transport routes would be minimised to a level that is Not Significant.
LV03	Permanent earth mounds up to 3.5m high and with 1:3 slopes would be created in the vicinity of the Overton and Monk Fryston Substations as illustrated in the Outline Landscape Mitigation Strategy (ES Figures Chapter 3.10 to 3.12, Volume 5, Document 5.4.3) . The mounding would be formed from the soils excavated from the foundations for the substations and would be planted with woodland at the earliest opportunity and prior to completion of the substation infrastructure. The formation of permanent earth mounds and advance planting at the earliest opportunity in areas

¹⁴ British Standards Institute (2012). BS EN 5837:2012 Trees in relation to design, demolition and construction. Recommendations. BSI; London.

¹⁵ Institute of Lighting Professionals. (2011). Guidance Notes for the Reduction of Obtrusive Light. Institute of Lighting Professionals; Rugby.

Ref. Good Construction Practice Measures

that would not be affected by construction works. in the construction programme would assist in minimising adverse effects upon landscape character and visual amenity.

LV04 The reinstatement of vegetation will be carried out in accordance with the measures set out in the **Arboricultural Impact Assessment (Volume 5, Document 5.3.3I)**, the **Landscape Mitigation Strategy (ES Chapter 3 Figures Volume 5, Document 5.4.3)**, secured via Requirement 8 (Landscaping and mitigation planting) and the **Biodiversity Mitigation Strategy (Volume 5, Document 5.3.3D)** secured via Requirement 5 of the draft DCO (**Volume 3, Document 3.1**). Further details are provided in **Section 2.3** above.

AR01 A Tree and Hedgerow Protection Strategy will be secured by Requirement 6(1)(g) of the draft DCO (**Volume 3, Document 3.1**).

The **Arboricultural Impact Assessment (AIA) Appendix 5.3.3I, Volume 5, Document 5.3.3I** submitted with the Application includes an Outline Arboricultural Method Statement as Annex D and will be secured by requirement 10 of the draft DCO.

An Arboricultural Method Statement will be developed post consent to ensure the protection and retention of significant individual trees and groups as fully as possible. Key principles include:

- Top soil stripping will not take place within the Root Protection Areas (RPA) of trees to be retained unless specifically agreed otherwise and soil levels within RPAs will be maintained at existing levels.
- Retained trees at risk of damage due to their proximity to construction operations will be protected with temporary fencing and/or ground protection.
- Plant and vehicles will not track over the unsurfaced RPA of retained trees unless ground protection measures are in place or proposed access would not represent a change from the existing use of the route.
- No storage, washing, discharge or application of fuels, herbicides, oils, cements or other materials potentially toxic to tree roots and soils will take place within the RPA of a retained tree or where run off could reach the RPA.
- Trees to be removed, coppiced or pruned will be managed in such a way as to avoid damage to retained trees, this could include directional felling, dismantling and rigging techniques as appropriate.

AR02 Treatment of material arising from tree and hedgerow removal, coppicing and pruning will be undertaken in accordance with British Standard 3998: 2010 Tree Work Recommendations¹⁶ and will observe good biosecurity best practice such as the Arboricultural Association Guidance Note 2 Application of Biosecurity in Arboriculture¹⁷. Where it is to be retained in situ disease free woodchip mulch will not

¹⁶ British Standards Institute (2010). BS EN 3998:2010 Tree work. Recommendations. BSI; London

¹⁷ The Arboricultural Association (2018), Guidance Note 2 Application of Biosecurity in Arboriculture. The Arboricultural Association; Romsey/

Ref. Good Construction Practice Measures

be piled around the stem base of trees to be retained (a minimum 1m gap will be observed) and will not exceed 100mm depth within an RPA. The stumps of felled trees (where they are not intended to regenerate as coppiced trees) should be left in situ or where removal is required be ground out with a stump grinder where they are located within the RPA of other trees to be retained.

3.4 Historic environment

- 3.4.1 A series of archaeological investigations and desk studies have been undertaken to inform the proposed environmental measures that will be adopted during the construction phase of the Project.
- 3.4.2 Archaeological investigation by geophysical survey and trial trenching has been undertaken at the sites of the Overton and Monk Fryston Substations and at Tadcaster to investigate the cable route, CSEC and associated compound. A geophysical survey of pylon YN006 and associated access routes was undertaken in September 2022. At Overton, the archaeological investigation identified an absence of archaeological remains while at Monk Fryston, remains of settlement and agricultural activity dating to the later-prehistoric period were observed.
- 3.4.3 An Archaeological Mitigation Written Scheme of Investigation (**Appendix 5.3.3.C, Volume 5, Document 5.3.3C**) has been produced based on the results of the initial archaeological investigations. This is secured in Requirement 5(2)(b) of the draft DCO (**Volume 3, Document 3.1**). It identifies where further archaeological work is required, specifies what types of intervention are planned and sets standards for those works.
- 3.4.4 During construction, access is required through Scheduled Monument 1020326 (Medieval manorial complex, garden and water management features, St Mary's chapel, and a linear earthwork forming part of the Aberford Dyke system) to provide access for erection of a scaffold to protect the crossing of the B1217 in the span XC497 – XC498. Access methods for this work have been agreed with Historic England and are set out in a specific Method Statement (**ES Appendix 5.3.7H, Volume 5, Document 5.3.7H**). The use of trackway must be adhered to unless otherwise agreed in writing with Historic England.
- 3.4.5 While the Project is not considered likely to give rise to significant adverse effects other than those addressed by archaeological mitigation, a variety of good practice construction measures would provide opportunities to minimise any effects arising during the construction of the Project, primarily by minimising disturbance and reducing the potential for inadvertent harm.
- 3.4.6 **Table 3.3** contains good construction practice measures particularly relevant to Historic Environment topics.

Table 3.3 - Historic environment good construction practice measures

Ref.	Good Construction Practice Measures
HE01	Plant access to pylons and other work sites will use existing access routes as far as possible to minimise disturbance and preclude compaction of archaeological remains.
HE02	Use of trackway panels for access and working platforms to avoid movement or construction activity on archaeologically sensitive areas, as set out in paragraph 3.6.6 – 3.6.8 of the ES Chapter 3: Description of the Project (Volume 5, Document 5.2.3).
HE03	Trackway to be installed as per the Method Statement set out in ES Appendix 7H (Volume 5, Document 5.3.7H).
HE04	Temporary access routes will be removed and reinstated following the completion of the construction/dismantling works.
HE05	Working methods for access which may affect designated heritage assets through inadvertent damage or disturbance will be specified to ensure that appropriate protective measures are in place.
HE06	Identification and demarcation of sensitive structures or sites in immediate proximity to access routes and working areas (including but not limited to NHLE 1188762, NHLE 1132447, NHLE 1132445, NHLE 1132446) and an appropriate buffer zone defined to avoid inadvertent harm/disturbance. Specific work instructions to be issued to the contractor(s).
HE07	Best-practice pollution control measures to avoid inadvertent contamination of archaeological remains.
HE08	Best-practice noise abatement measures to minimise audible change to setting.
HE09	Retention and/or restoration of mature trees and hedgerows where possible to minimise change to historic landscape character and setting in accordance with the Tree Removal and Protection Plan (provided in Annex C to the Arboricultural Impact Assessment, Appendix 5.3.3I, Volume 5, Document 5.3.3I) which will form the basis for the tree and hedgerow protection strategy secured in Requirement 6(1)(a) and 10 of the draft DCO (Volume 3, Document 3.1).

3.5 Biodiversity

- 3.5.1 Biodiversity baseline surveys have been carried out for the Project Order Limits, and the design evolution of the Project has avoided many features of biodiversity importance. Good practice measures have also been identified and committed to by the Project.
- 3.5.2 A Biodiversity Mitigation Strategy (BMS) (**Volume 5, Document 5.3.3D**), secured in Requirement 5(2)(c) of the draft DCO (**Volume 3, Document 3.1**) outlines ecological good practice and receptor-specific mitigation that will negate or minimise the risk of any potential impacts on ecological receptors, that have the potential to be within or close to working areas at the time of works, and avoid contravention of associated legislation. The measures within the BMS have been informed by the existing baseline survey data

for the Project. The BMS outlines the requirement for pre-construction surveys if existing data need to be updated or supplemented, i.e., to maintain up-to-date baseline data for known ecological receptors to inform mitigation requirements, or to identify potential additional ecological receptors which may become established within the Project corridor (i.e., mobile species) prior to construction commencing.

- 3.5.3 The BMS should be read in conjunction with this CoCP. National Grid and appointed contractor(s) are required to comply with the measures set out in the outline BMS.
- 3.5.4 Additional control measures provided within this CoCP, relating to factors such as pollution prevention and control of dust, noise, vibration and lighting, would be implemented during the construction phase to further avoid damage and disturbance ecological receptors.
- 3.5.5 Habitat Regulations Assessment (HRA) screening has been undertaken to consider impacts on the following designated sites within the National Site Network:
 - Lower Derwent Valley Ramsar Site; and
 - River Derwent Special Area of Conservation.
- 3.5.6 The screening process concluded that the Project, alone or in combination with other developments, would result in no Likely Significant Effects on any of the qualifying features of these sites, and a No Significant Effects Report (NSER) has been prepared for the Project, and submitted as part of the DCO application (see **HRA NSER, Volume 6, Document 6.4**)¹⁸.

Table 3.4 - Biodiversity good construction practice measures

Ref.	Good Construction Practice Measures
BD01	Construction works will be carried out in accordance with the BMS (Volume 5, Document 5.3.3D,) which outlines ecological good practice and receptor-specific mitigation that will negate or minimise the risk of any potential impacts on ecological receptors and avoid contravention of associated legislation.
BD02	Best practice dust management measures set out in Table 3.10 of the CoCP will be used to ensure that any risk of effects on ecological features is negligible.

3.6 Hydrology and flood risk

- 3.6.1 An assessment of effects of Project construction activities on the surface water environment has been based on a range of desk studies supplemented by site walkovers. These assessments considered potential impacts on water quality, watercourse morphology, water resources and flood risk.
- 3.6.2 It was concluded that, provided the embedded environmental measures identified in the assessments were incorporated into the Project, that hydrology and flood risks arising from the Project would be Not Significant in EIA terms. These included the good construction practice measures for the surface water environment listed below in **Table 3.5**. References are provided for measures outlined in the **ES Chapter 9: Hydrology**

¹⁸ HRA screening process has been informed by consultation undertaken with relevant stakeholders during statutory consultation, and the conclusions presented in the draft NSER were agreed with Natural England during further technical engagement.

(Volume 5, Document 5.2.9) (i.e., HY1) and the FRA (Appendix 5.3.9D, Volume 5, Document 5.4.9D) (i.e., FM1) where relevant.

Table 3.5 - Hydrology and flood risk good construction practice measures

Ref.	Good Construction Practice Measures
HY1	<p>Inspection and monitoring</p> <p>An inspection and monitoring schedule will be implemented by the contractor to ensure that the measures taken to protect the surface water environment are effective.</p>
HY2/FM2	<p>Stand-off from watercourses</p> <p>Where possible, a stand-off distance from the top of bank of all watercourses/waterbodies will be established (with the exception of crossings and where existing field access roads are already located adjacent to watercourses are to be utilised). To align with Environment Agency and Internal Drainage Board (IDB) consenting requirements, it is proposed that this will be 8m for non-tidal Main Rivers, 7m from adopted drains within the Kyle and Upper Ouse IDB district and 9m from adopted watercourses within the Ainsty IDB. These stand-off distances would also apply to flood defences.</p> <p>Appropriate stand-off distances would also be implemented where Project construction activities coincide with water supply and sewerage infrastructure. These are to be agreed on a case-by-case basis.</p> <p>For any instances where the stand-off distances stated above cannot be achieved between construction works and watercourses, these works would be subject to the appropriate consent by the relevant drainage authority (Flood Risk Activity Permit (FRAP) for main rivers, Ordinary Watercourse Consent (OWC) for ordinary watercourses).</p>
HY3/FM3	<p>Drainage Management Plan (DMP)</p> <p>Appropriate control of runoff from working areas will be achieved through implementation of a DMP for the construction phase. The DMP will use sustainable drainage systems (SuDS) principles, promoting infiltration of runoff wherever possible and specifying appropriate treatment and attenuation storage to ensure any discharges to watercourses are uncontaminated and limited to greenfield rates. The DMP will cover all aspects of construction works and temporary infrastructure.</p> <p>Drainage measures will be phased to be completed before the commencement of earthwork operations, in a specific area, and will be retained until the drainage system of the completed Project is fully operational, or site restoration works are completed. This will include the temporary diversion of existing agricultural drainage around working areas, if required, followed by reinstatement on completion of works. The DMP is secured by Requirement 6(1)(b) of the draft DCO (Volume 3, Document 3.1).</p>
HY4	<p>Water discharges off-site</p> <p>No silty water would be discharged directly into any watercourse. Runoff from access routes/haul road and working areas should be allowed to infiltrate wherever possible. Where practicable, groundwater dewatered from excavations (e.g., pylon foundation excavations) should be discharged to adjacent grassed/vegetated agricultural land, away from watercourses.</p>

Ref. Good Construction Practice Measures

Where there remains the potential for this silty water to runoff into nearby surface water features or agricultural land used for crops, additional control measures would be put in place as specified in the DMP (secured by Requirement 6(1)(b) of the draft DCO (**Volume 3, Document 3.1**)). These may include surrounding the discharge area (grassed/vegetated agricultural land) with sediment fencing or passing the silt-laden water through a Siltbuster® or similar. Infiltration is the preferred option for any dewatering discharges. The discharge rate must match the rate of infiltration into the soil which will vary with the soil type, amount of vegetation cover and the gradient.

In the unlikely scenario that in-channel works are needed to construct a discharge outfall, a consent (FRAP for main river; OWC for ordinary watercourses) would be required.

Groundwater dewatering should cease if a Flood Alert or Flood Warning has been issued by the Environment Agency for a working area or an area downstream. Actions to be taken in the event of Flood Alerts or Warnings being issued will be detailed in the Flood Emergency Response Plan (HY14) secured by Requirement 6(1)(e) of the draft DCO (**Volume 3, Document 3.1**). If the groundwater pumped from excavations is suspected to be contaminated, appropriate measures would be taken in accordance with Environment Agency guidance and the Environmental Permitting Regulations¹⁹ to prevent uncontrolled or unauthorised releases of contaminated water to ground or to the surface water environment.

HY5 Soil stockpiles

Areas of exposed ground and stockpiles will be minimised where reasonably practicable to reduce silty runoff. Geotextiles will be used as necessary to shield stockpiles, and soil stockpiles to be left for more than three months will be seeded

HY6/FM5 Open trenching in watercourses and floodplains

All open trenching within the watercourse will be undertaken in an isolated, dry channel. The flows from the watercourse will be over-pumped and discharged to the channel downstream.

Appropriate silt protection would be put in place, such as silt fencing and silty water would not be released to the watercourse.

The works will only be performed during a dry period, when flows in the watercourse are low, and will be timed to be outside of fish spawning periods.

All watercourse trenches will be infilled, with the channel bed and banks returned to pre-construction condition. Banks will be re-seeded and appropriate erosion protection provided (e.g. geotextiles) to allow vegetation to re-establish.

HY7 Construction access watercourse crossing design

Where possible, existing watercourse crossings will be used. However, in some locations new temporary crossings may be required. Temporary bridges will be used in preference to culverts for main rivers and Water Framework Directive (WFD) reportable watercourses and designed to ensure an appropriate level of flood conveyance in the construction phase and to avoid the requirement for in-

¹⁹ UK Government (2016). The Environmental Permitting (England and Wales) Regulations 2016 (online). Available at: <https://www.legislation.gov.uk/ukxi/2016/1154/contents> (Accessed October 2022)

Ref.	Good Construction Practice Measures
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channel works. Paragraph 9.10.5 of **Chapter 9: Hydrology (Volume 5, Document 5.2.9)** sets out those main rivers to which this applies.

Culverts will be used for crossing of other watercourses. These will either be arch culverts, leaving the natural bed undisturbed, or they would be installed with the invert set below the natural bed level to allow for a semi natural bed to establish within the culvert.

All construction related, temporary crossings will be designed to ensure that existing channel conveyance and floodplain storage are preserved.

Specific detailed designs for each watercourse crossing, consistent with these design principles, will be prepared by the construction contractor. These will be subject to the appropriate consent by the relevant drainage authority (FRAP for main rivers, OWC for ordinary watercourses).

Temporary watercourse crossings will be removed within 12 months of completion of construction, and the bed and banks restored to their pre-construction condition, as far as possible, secured by Requirement 13 of the draft DCO (**Volume 3, Document 3.1**).

HY8	Pylon footings
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Corrosion and pH resistant concrete formulas will be utilised for pylon foundations to minimise the risk of leaching of harmful compounds into soil and groundwater and watercourses.

HY9	Fuel, oil and chemicals storage
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All fuels, chemicals and oils will be stored within bunded areas in accordance with good practice guidance such as Above Ground Oil Storage Tanks, GPP 2²⁰; Use and Design of Oil Separators in Surface Water Drainage Systems²¹, PPG 3; and Safe Storage – Drums and Intermediate Bulk Containers, GPP 26²²

Fuel and chemical storage would be located in Flood Zone 1 and a minimum of 10m away from any watercourse.

Areas of construction compounds that are used for fuel storage, plant maintenance and refuelling would be surfaced with fully impermeable materials to prevent any infiltration of contaminated runoff and contain bunding.

Where large, stationary, construction related plant require refuelling in situ, outside of construction compounds, adequate appropriate mitigation will be put in place. This will likely include the use of “plant nappies” (impermeable sheets or absorbent pads) with spill kits available.

All water runoff from designated refuelling areas would be channelled to an oil separator or an alternative treatment system prior to discharge.

²⁰ Natural Resources Wales, Northern Ireland Environment Agency and Scottish Environment Protection Agency (2020) GPP 1: A general guide to preventing pollution. (online) (Accessed October 2022).

²¹ Natural Resources Wales, Northern Ireland Environment Agency and Scottish Environment Protection Agency (2018) Above ground oil storage tanks: GPP 2. (online) (Accessed October 2022).

²² Natural Resources Wales, Northern Ireland Environment Agency and Scottish Environmental Protection Agency (2018) GPP 26: Safe storage of Drums and Intermediate Bulk Containers (IBCs). (online) (Accessed October 2022).

Ref.	Good Construction Practice Measures
	<p>A Pollution Incident Control Plan (PICP) (secured by Requirement 6(1)(c) of the draft DCO (Volume 3, Document 3.1) would be developed to ensure any spillages or potential pollution incidents are dealt with appropriately including the provision of containment for spills of contaminating liquids^{23,24}.</p> <p>Mobile plant would be maintained in good working order. Larger items of plant such as excavators would undergo recorded inspections by a competent person (usually the operator) for any defects. Where defects are evident, the item or plant shall be removed from the land within the proposed construction working area immediately and serviced or replaced as soon as possible.</p> <p>Leaking or empty oil drums would be removed from land within the proposed construction working area immediately and disposed of via an appropriately licensed waste disposal contractor.</p>
HY10	<p>Soil Management Plan</p> <p>Excavated materials during construction works would be segregated and stored/re-used on-site in accordance with an Outline Soil Management Plan and Soils and Aftercare Management Plan (in compliance with the CL:AIRE Definition of Waste: Code of Practice²⁵). Any temporary on-site storage of excavated materials suspected or confirmed to be contaminated would be on impermeable sheeting, covered over and with adequate leachate/runoff drainage to prevent migration of contaminants from the stockpile. Materials would be segregated where possible to prevent cross-contamination occurring. Such materials would only be reused if they are confirmed as suitable for use in line with the requirements of the Soil Management Plans (secured via DCO Requirements 5(3) and 6(2)(a)).</p>
HY11	<p>Foul drainage from temporary compounds</p> <p>Appropriate treatment and disposal of sewage will be provided where no foul sewer is available to ensure protection of the water environment. Should discharge of treated effluent to watercourses or to land be required, this would be subject to an Environmental Permit.</p>
HY12/FM6	<p>Reinstatement of working areas</p> <p>Once constructed, all temporary access route and temporary working area construction material will be removed and the ground reinstated to its pre-construction state (or similar), with the soil stockpile material used to backfill any excavations (to a level slightly above natural ground level to allow for settlement).</p>
HY13/FM1	<p>Preserve floodplain storage and conveyance</p> <p>Access roads and working areas in the floodplain are to be as close to ground level as possible (a slight raised surface, relative to the adjacent land, is often required to allow for drainage). This is to minimise the loss of floodplain storage</p>

²³ Natural Resources Wales, Northern Ireland Environment Agency and Scottish Environmental Protection Agency (2021) GPP 21: Pollution Incident Response Plans. (online) (Accessed October 2022).

²⁴ Natural Resources Wales, Northern Ireland Environment Agency and Scottish Environmental Protection Agency (2018) Dealing with spills: GPP 22. Version 1. (online) (Accessed October 2022).

²⁵ CL:AIRE (2011). The Definition of Waste: Development Industry Code of Practice Version 2 (online) (Accessed October 2022)..

Ref.	Good Construction Practice Measures
	<p>volumes associated with raised structures. Cross drainage will be provided as necessary at topographic low points.</p> <p>Material stockpiles will be located outside of the floodplain wherever possible, although noting that it may not be possible to move soil between different fields/land holdings. Stockpile impacts in the floodplain, where unavoidable, will be mitigated through appropriate alignment, leaving gaps and cross-drainage.</p> <p>Approaches to bridges and culverts in Flood Zones will minimise ramping up to the bridge deck so to minimise loss of floodplain storage.</p> <p>Works will not be carried out during flood flows to avoid undue erosion of the riverbeds and/or banks, to protect construction personnel and plant, and to ensure that flood conveyance is not reduced.</p>
HY14/FM7	<p>Emergency Response Plan for Flood Events (ERPFE)</p> <p>A ERPFE (secured by Requirement 6(1)(e) of the draft DCO (Volume 3, Document 3.1)) will be prepared for those construction activities which must take place in areas of higher flood risk. This will describe the flood hazard, assess the risk to infrastructure and personnel, specify roles and responsibilities, arrangements for receiving Flood Alerts and Warnings, responses to Flood Alerts and Warnings (including evacuation as required), and evacuation routes. In addition, the ERPFE will set out arrangements for cessation of excavation dewatering activities should a flood warning be received, to minimise any impacts on flood flow conveyance and to maintain access for watercourse maintenance.</p>

3.7 Geology and hydrogeology

- 3.7.1 Geological and hydrogeological information has been collated from published data sources, commercial data providers, records held by the regulatory authorities, and data collected through site inspections and intrusive ground investigations.
- 3.7.2 In addition, good practice measures have been identified and committed to by the Project. **Table 3.6** contains good construction practice measures specifically relevant to Geology and Hydrogeology.

Table 3.6 - Geology and hydrogeology good construction practice measures

Ref.	Good Construction Practice Measures
GH01	Compliance with relevant health and safety legislation ^{26 27} , including measures specific to the risks of land contamination and ground gas to be specified as part of contractor(s) Risk Assessment Method Statements. This will include the use of appropriate Personal Protective Equipment (PPE) and statutory health and safety compliance (for example, compliance with the Confined Spaces Regulations 1997 ²⁶

²⁶ UK Government (1997). The Confined Spaces Regulations 1997 (SI 1997/1713). (online) Available at <https://www.legislation.gov.uk/ukxi/1997/1713/contents/made> (Accessed July 2021).

²⁷ UK Government (2012). The Control of Asbestos Regulations 2012 (SI 2012/632). (online) Available at <https://www.legislation.gov.uk/ukxi/2012/632/contents/made> (Accessed August 2021).

Ref. Good Construction Practice Measures

in relation to ground gas risks from working in trenches), to minimise the potential risks associated with encountering expected and/or unexpected contamination or ground gas. This embedded measure will include compliance with The Control of Asbestos Regulations 2012²⁷ associated industry guidance for the application of these regulations to work with soil. This will ensure that any unexpected asbestos finds are identified, assessed and dealt with correctly.

GH02 To minimise the risk of inadvertent exposure to contaminants in the ground, or release of contaminants from the ground to an aquifer due to unexpected ground conditions during construction, ground investigation and testing will be undertaken prior to construction to verify the anticipated ground conditions where further detail is needed, in accordance with Requirement 12 of the draft DCO (**Volume 3, Document 3.1**).

Additionally, contingency procedures will be in place for the eventuality that unexpected contamination is encountered during construction. These will comprise a 'stop protocol', testing and risk assessment, followed by the implementation of any remediation or additional protection measures identified to be necessary by this process.

Dust suppression and stockpile management (for example, sheeting) will be provided as necessary to minimise airborne emissions and/or leachate generation from soils affected by contamination.

GH03 The risk of deterioration of groundwater quality due to discharges from the Project (for example, water pumped from excavations during construction) will be mitigated by ensuring that all discharges follow best practice, including appropriate pre-treatment (for example, de-silting) where required.

GH04 Contamination of groundwater, or harm to human health, resulting from the leakage or incorrect handling or storage of fuels and chemicals will be prevented through the following measures (Requirement 12 of the draft DCO) (**Volume 3, Document 3.1**):

1. Correct environmental management, handling and storage of fuels and chemicals (for example, compliance with The Control of Pollution (Oil Storage) Regulations 2001²⁸ and Environment Agency guidance 'Protect groundwater and prevent groundwater pollution'²⁹).
2. Use of oil-water separators as necessary (for example, for drainage from refuelling areas).
3. Collection of process water from the washout/cleaning of ready-mix concrete vehicles and equipment for treatment/disposal.
4. Appropriate training of construction workers in the use and handling of chemicals.
5. General construction site good environmental and waste management procedures (for example, regular vehicle checks, use of spill kits, correct waste storage and disposal).

²⁸ UK Government (2001). Control of Pollution (Oil Storage) Regulations 2001 (SI 2001/2954) (online). Available at: <https://www.legislation.gov.uk/uksi/2001/2954/contents/made> (Accessed July 2021)

²⁹ Environment Agency (2017). Protect groundwater and prevent groundwater pollution. (online) Available at <https://www.gov.uk/government/publications/protect-groundwater-and-prevent-groundwater-pollution/protect-groundwater-and-prevent-groundwater-pollution> (Accessed July 2021)

Ref. Good Construction Practice Measures

GH05	<p>In addition to the measures in G4, restrictions will be applied for any work within Groundwater Source Protection Zones (SPZ) 1 & 2 (see Figure 10.4, Volume 5, Document 5.4.10), as follows:</p> <ol style="list-style-type: none">1. Vehicle parking, fuel storage, de-icer storage, rock salt storage, and washout/cleaning of ready-mix concrete vehicles and equipment will be sited outside SPZ1 and outside SPZ2 designations where possible.2. Application of salt grit (for example, to prevent access tracks freezing) to comply with recommended rates in CIRIA 648³⁰, with control of run-off during any application in SPZs.
GH06	<p>Contamination of groundwater due to piling activities will be prevented through suitable piling design. This will include consideration of pile type (for example, driven versus bored) as necessary to minimise pollution risks. All piling activities will be conducted in line with a risk assessment prepared in accordance with Environment Agency guidance documents 'Piling and penetrative ground improvement methods on land affected by contamination: guidance on pollution prevention'³¹ and 'Piling into contaminated sites'³².</p>
GH07	<p>The risk that earthworks involved with the construction of the Project could leave a legacy of soil contamination that may present a future risk to health or the environment will be mitigated through conducting all earthworks or material movements under appropriate environmental permits, exemptions or in accordance with CL:AIRE 'The Definition of Waste: Development Industry Code of Practice'²⁵, to ensure proper control on the chemical suitability of these materials.</p>
GH08	<p>Herbicides to be used in accordance with DEFRA Code of Practice for Using Plant Protection Products³³ and the Plant Protection Products (Sustainable Use) Regulations 2012³⁴.</p>

3.8 Agriculture and soils

3.8.1 Agriculture and soils information has been collated from published data sources, and data collected through detailed soil surveys. An Outline Soil Management Plan (**Volume 5: Document 5.3.3E, Appendix 5.3.3E**) has been produced for the Project, which has been submitted as part of the DCO application and will be secured through Requirement 5(3) of the draft DCO (**Volume 3, Document 3.1**). A detailed soil and aftercare management plan will be prepared, submitted to, and approved by the relevant

³⁰ CIRIA. (2006). Control of water pollution from linear construction projects Technical Guidance. CIRIA; London.

³¹ Environment Agency, (1999). REP NC/99/73 Piling and penetrative ground improvement methods on land affected by contamination: guidance on pollution prevention. Environment Agency; Bristol.

³² Environment Agency (2002). Piling into contaminated sites. Environment Agency; Bristol.

³³ DEFRA. (2006). Pesticides Code of practice for using plant protection products. (Online). Available at:

https://www.hse.gov.uk/pesticides/resources/C/Code_of_Practice_for_using_Plant_Protection_Products_-_Complete20Code.pdf (Accessed 12 October 2022)

³⁴ UK Government. (2012). The Plant Protection Products (Sustainable Use) Regulations 2012. (Online). Available at: <https://www.legislation.gov.uk/uksi/2012/1657/contents/made> (Accessed 12 October 2022).

planning authority prior to authorised development commencing, which would be secured by Requirement 6(1)(a) of the draft DCO.

3.8.2 In addition, good construction practice measures have been identified and committed to by the Project. **Table 3.7** contains good construction practice measures specifically relevant to Agriculture and Soils.

Table 3.7 - Agriculture and soils good construction practice measures

Ref.	Good Construction Practice Measures
AS01	Construction works will be carried out in such a way as to ensure that disturbance to agricultural operations and other land uses, is controlled and that appropriate measures are adopted to protect the agricultural land and soils of these areas in accordance with relevant good practice and statutory provisions/legislative requirements
AS02	Sources of good practice guidance for the sustainable management of soils, including soil handling and aftercare include, but are not limited to the following documents, including any superseding versions that may be published: <ul style="list-style-type: none">• DEFRA (2011) Code of Practice for the Sustainable Use of Soils on Construction Sites³⁵.• The Institute of Quarrying (2021) Good Practice Guide for Handling Soils in Mineral Workings³⁶, which updates and supersedes the MAFF Good Practice guide for Handling Soils (2000). In particular it includes guidance notes on soil wetness, and soil handling with a range of different machinery.• British Society of Soil Science (2022) Benefitting from Soil Management in Development and Construction³⁷.• IEMA Assessing Land and Soils for Environmental Impact Assessments (2022)³⁸. In particular the following sections:<ul style="list-style-type: none">– Annex E – Soil Handling for Peat and Peaty Soils– Annex F – Soil Handling for Restoration to Agriculture, Ecology and Landscape design– Annex J – Process for the Sustainable Use of Soil Resources and Other Excavated Materials– Annex K – Soil Handling Guidance for Site Agents and Contractors.

³⁵ DEFRA (2009) Construction Code of Practice for the Sustainable Use of Soils on Construction Sites. (online) Available at: https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/69308/pb13298-code-of-practice-090910.pdf (Accessed 6 September 2022).

³⁶ Institute of Quarrying (2022). Good Practice Guide for Handling Soils in Mineral Workings. (online) (Accessed 6 September 2022).

³⁷ British Society of Soil Science (2022). Benefitting from Soil Management in Development and Construction. (online) (Accessed 6 September 2022).

³⁸ IEMA (2022). A New Perspective on Land and Soil in Environmental Impact Assessment. IEMA; Lincoln.

Ref. Good Construction Practice Measures

- AS03 An Outline Soil Management Plan (OSMP) has been produced for the Project (**Volume 5: Document 5.3.3E – Appendix 5.3.3E**) this includes an overview of measures that should be undertaken to ensure the sustainable management of soil resources, and is prepared from the relevant guidance in relation to the Project specifically.
- To minimise the risk of damage to soil structure, the following main rules must be observed during all soil handling tasks:
- no trafficking/driving of vehicles/plant or materials storage to occur outside designated areas (access roads, construction working areas and material storage areas within the Order Limits);
 - no trafficking/driving of vehicles/plant on reinstated soil (topsoil or subsoil);
 - where practicable only direct movement of soil from donor to receptor areas (no triple handling and/or ad hoc storage);
 - no soil handling to be carried out when the soil moisture content is above the lower plastic limit (test detailed in the OSMP);
 - soils should only be moved under the driest practicable conditions and this must take account of prevailing weather conditions (rainfall “stop” criteria detailed in the OSMP);
 - no mixing of topsoil with subsoil, or of soil with other materials;
 - soil only to be stored in designated soil storage areas;
 - where practicable plant and machinery to work only when ground or soil surface conditions enable their maximum operating efficiency, to be determined by the Site Foreman;
 - all plant and machinery must always be maintained in a safe and efficient working condition, which should be monitored by the Site Foreman following H&S procedures; and
 - daily records of construction activities undertaken, and site and soil conditions should be maintained (summary of monitoring and record keeping schedule provided in the OSMP).
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- AS04 To reduce the impact of the temporary loss of best and most versatile (BMV) land, where temporary land take occurs on agricultural land, land will be reinstated to the same quality (same ALC grade) or better than the baseline, and would be returned to agricultural use, in line with Requirement 11 of the draft DCO (**Volume 3, Document 3.1**). Facilitated by the correct management of the supporting soil resources (AS03).
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- AS05 To reduce the temporary loss of BMV land use through indirect causes, such as field severance and separation of livestock from water supplies, feedback from landowners will be taken into account when managing construction works (taking into account environmental and engineering constraints) which would be facilitated by landowner communications through the Project’s Land Team.
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- AS06 To reduce the damage to and loss of soil resources, the use of trackway panels rather than stoned roads to access construction areas, where practicable, will minimise the stripping and handling of soil resources. The proposed use of trackway is set out in

Ref.	Good Construction Practice Measures
	paragraph 3.6.6 – 3.6.8 of the ES Chapter 3: Description of the Project, Volume 5, Document 5.2.3 . Where practicable, all construction traffic should be confined to designated temporary access roads, construction compounds and land that is protected from trafficking, such as with trackways.
AS07	No peat deposits or peaty soils are identified in the available published data which fall within the Order Limits or have been found during detailed site surveys. Should peat deposits or peaty soils subsequently be identified impacts to these areas would be avoided, where practicable, in line with the requirements of other disciplines and engineering constraints. A provision for this is also included in the Outline Soil Management Plan (Volume 5: Document 5.3.3E – Appendix 5.3.3E).
AS08	All land subject to disturbance within the Order Limits should be subject to a detailed survey to accurately record the baseline conditions. The detailed soil survey results should inform the site-specific Detailed Soil Management Plans (SMP) which will be produced following the Outline Soil Management Plan (Volume 5: Document 5.3.3E – Appendix 5.3.3E) with site specific information, constraints and equipment to be used.
AS09	Low ground pressure models (LGP models) and tracked vehicles should be used where ground conditions indicate this measure is required. This will greatly minimise the extent and/or intensity of the soil loosening required after construction and/or site aftercare. Consequently, it will reduce the costs and potential delays due to the need for additional soil cultivation.

3.9 Traffic and transport

- 3.9.1 Traffic surveys and modelling have been carried out for the Project. A Construction Traffic Management Plan (CTMP) (**Volume 5, Document 5.3.3F**) and Public Right of Way Management Plan (PRoWMP) (**Volume 5, Document 5.3.3H**) have been prepared for the Project. These plans provide details of the management measures required during construction for the management of construction traffic flows and effects on PRoWs.
- 3.9.2 The measures within the CTMP and PRoWMP have been informed by the existing baseline survey and modelling data for the Project as well as the Project design.
- 3.9.3 Both the CTMP and PRoWMP should be read in conjunction with this CoCP. National Grid and its contractor(s) are required to comply with the measures set out in the CTMP and PRoWMP, which will be secured by Requirement 5(2)(d) and Requirement 5(2)(e) of the draft DCO (**Volume 3, Document 3.1**).
- 3.9.4 **Table 3.8** summarises the good construction practice measures specifically relevant to Traffic and Transport topics.

Table 3.8 - Traffic and transport good construction practice measures

Ref.	Good Construction Practice Measures
TT01	Construction works will be carried out in accordance with the CTMP (Volume 5, Document 5.3.3F) which will be secured by Requirement 5(2)(d) of the draft DCO (Volume 3, Document 3.1) and outlines good practice and traffic

Ref.	Good Construction Practice Measures
	management measures that will negate or minimise the risk of any potential impacts on users of local highways.
TT02	Construction works will be carried out in accordance with the PRowMP (Volume 5, Document 5.3.3G) which outlines good practice and management measures that will negate or minimise the risk of any potential impacts on users of local PRowS.
TT03	The contractor(s) will prepare a crossing schedule which includes crossing methodology for each crossing of road, rail, PRow and watercourse. The crossing schedule will be in accordance with the schedule set out in the CTMP (Volume 5, Document 5.3.3F) and in Annex C of the FRA (Volume 5, Document 5.3.9D).

3.10 Air quality

- 3.10.1 An assessment of the potential of adverse effects associated with emissions of dust during the construction phase has been undertaken using guidance from the Institute of Air Quality Management (IAQM). This assessment is detailed in **Chapter 13, Volume 5, Document 5.2.13**. The assessment leads to the recommendation of appropriate measures to ensure that the impact of dust emissions is not significant. These measures are included in this CoCP.
- 3.10.2 In addition, good practice measures have been identified and committed to by the Project. **Table 3.9** contains good construction practice measures specifically relevant to Air Quality topics.

Table 3.9 - Air quality good construction practice measures

Ref.	Good Practice Measure
Monitoring	
AQ01	Carry out regular site inspections (on and off-site) to monitor compliance with the dust management measures set out in the CoCP, record inspection results, and make an inspection log available to the relevant Local Authority when asked. This should include regular dust soiling checks of surfaces such as street furniture.
AQ02	Increase the frequency of site inspections by the person accountable for air quality and dust issues on site when construction activities with a high potential to produce dust are being carried out and during prolonged dry or windy conditions.
AQ03	Consider the need for dust deposition, dust flux, or real-time PM ₁₀ continuous monitoring locations with the relevant Local Authority through the Pollution Incident Control Plan (secured in Requirement 6(1)(c) of the draft DCO, Volume 3, Document 3.1)
Operating Vehicle/Machinery and Sustainable Travel	
AQ04	Ensure all vehicles switch off engines when stationary - no idling vehicles.
AQ05	Avoid the use of diesel or petrol- powered generators and use mains electricity or battery powered equipment where practicable.
AQ06	Comply with measures set out in the Construction Traffic Management Plan (Volume 5, Document 5.3.3F) to manage the sustainable delivery of goods and materials.

Ref.	Good Practice Measure
AQ07	Adhere to maximum speed limits imposed during the construction phase on all temporary and permanent access roads (as opposed to public/private roads with existing speed limits in place) (see Section 2.3 of this document).
AQ08	Comply with measures set out in the Construction Traffic Management Plan (Volume 5, Document 5.3.3F) supports and encourages sustainable travel (public transport, cycling, walking, and car-sharing).
Dust management measures	
AQ09	Only use cutting, grinding or sawing equipment fitted or in conjunction with suitable dust suppression techniques such as water sprays or local extraction, for example, suitable local exhaust ventilation systems.
AQ10	Ensure an adequate water supply on the site for effective dust/particulate matter suppression/mitigation, using non-potable water where possible and appropriate.
AQ11	Use enclosed chutes and conveyors and covered skips.
AQ12	Minimise drop heights from conveyors, loading shovels, hoppers and other loading or handling equipment and use fine water sprays on such equipment wherever appropriate.
AQ13	Ensure equipment is readily available on site to clean any dry spillages and clean up spillages as soon as reasonably practicable after the event using appropriate cleaning methods.
Preparing and maintaining the site	
AQ14	Plan site layout so that machinery and dust causing activities are located away from receptors, as far as is possible.
AQ15	Consider the use of solid screens or barriers around dusty construction activities in areas where construction works are within 100m sensitive receptors.
AQ16	Avoid site runoff of water or mud.
AQ17	Keep site fencing, barriers and scaffolding clean to avoid the transfer of dust when these elements are transported.
AQ18	Remove materials that have a potential to produce dust from site as soon as possible, unless being re-used on site. If they are being re-used on-site cover as described below.
AQ19	Comply with the outline Soil Management Plan (secured in Requirement 5(3), of the draft DCO, Volume 3, Document 3.1) in relation to the covering, seeding or fencing of stockpiles to prevent wind whipping as soon as it is practical.
Site Management	
AQ20	Record all dust and air quality complaints, identify cause(s), take appropriate measures to reduce emissions in a timely manner, and record the measures taken (see Section 2.2 Community Liaison of the CoCP).
AQ21	Make the complaints log available to the local authority when asked.
AQ22	Record any exceptional incidents that cause dust and/or air emissions, either on- or offsite, and the action taken to resolve the situation in the logbook.
Waste Management	

Ref.	Good Practice Measure
AQ23	No bonfires and burning of waste materials.
	Measures specific to Dismantling
AQ24	Ensure effective water suppression is used during dismantling. Handheld sprays are more effective than hoses attached to equipment as the water can be directed to where it is needed. In addition, high volume water suppression systems, manually controlled, can produce fine water droplets that effectively bring the dust particles to the ground.
AQ25	Bag and remove any biological debris or damp down such material before dismantling takes place.
	Measures specific to earthworks
AQ26	Comply with measures set out in the Outline Soil Management Plan (OSMP) to minimise the risk of dust from earthworks (Volume 5: Document 5.3.3E – Appendix 5.3.3E).
	Measures specific to construction materials
AQ27	Ensure sand and other aggregates are stored in bunded areas and are not allowed to dry out, unless this is required for a particular process, in which case ensure that appropriate additional control measures are in place.
AQ28	Avoid scabbling (roughening of concrete surfaces) if possible.
AQ29	Ensure bulk cement and other fine powder materials are delivered in enclosed tankers and stored in silos with suitable emission control systems to prevent escape of material and overfilling during delivery.
AQ30	For smaller supplies of fine powder materials, ensure bags are sealed after use and stored appropriately to prevent dust.
	Measures specific for trackout
AQ31	Use water-assisted dust sweeper(s) on the access and local roads, to remove, as necessary, any material tracked out of the site.
AQ32	Avoid dry sweeping of large areas.
AQ33	Ensure vehicles carrying materials which may produce dust entering and leaving sites are covered to prevent escape of materials during transport.
AQ34	Inspect temporary access roads as required for integrity and instigate necessary repairs to the surface as soon as reasonably practicable.
AQ35	Record all inspections of temporary access roads and any subsequent action in a site logbook.
AQ36	Implement a wheel washing system (with rumble grids to dislodge accumulated dust and mud prior to leaving the site) at appropriate locations and where reasonably practicable.
AQ37	Ensure there is an adequate area of hard standing within construction compounds between the wheel wash facility and the site exit, wherever site size and layout permits.

3.11 Noise and vibration

- 3.11.1 Baseline noise surveys were undertaken to aid the assessment in the areas surrounding the Overton and Monk Fryston Substations and the Shipton North/South 400kV CSECs and Tadcaster Tee West/East 275kV CSECs to aid the assessment.
- 3.11.2 Best Practicable Means (as defined by Section 72 of the Control of Pollution Act 1974³⁹) will be applied to minimise construction noise and vibration on neighbouring sensitive receptors.
- 3.11.3 The following hierarchy of methods of noise management and noise control will be applied to all activities and operations:
- selection of plant, equipment and working methods to minimise noise and vibration emissions;
 - management of hours of working and ‘on’ time for noisy operations;
 - attenuation of noise and vibration at source; and
 - attenuation of noise and vibration during transmission from source to receiver.
- 3.11.4 A Noise and Vibration Management Plan (NVMP) (**Volume 5, Document 5.3.3H**) has been produced to provide a framework for managing noise at the site. The NVMP is secured in Requirement 5(2)(f) of the draft DCO (**Volume 3, Document 3.1**).
- 3.11.5 In addition, good practice measures have been identified and committed to by the Project. **Table 3.10** contains good construction practice measures specifically relevant to noise and vibration.

³⁹ UK Government (1974). Control of Pollution Act 1974 (online). Available at: <https://www.legislation.gov.uk/ukpga/1974/40> (Accessed October 2022).

Table 3.10 - Noise and vibration good construction practice measures

Ref.	Good Construction Practice Measures
NV01	All construction activities will be undertaken within the Order Limits including areas designated as stockpiles and temporary access roads.
NV02	Prior to construction works, the detailed design, working methods and mitigation proposals will be developed and approved by National Grid and its contractor(s) to minimise adverse effects at off-site receptors, as far as can reasonably be achieved.
NV03	National Grid will have a system for the receipt and recording of any noise or vibration complaints, and procedures for investigating and acting appropriately as necessary upon those complaints. This is detailed in the NVMP (Volume 5, Document 5.3.3H).
NV04	Acoustic screens will be used where appropriate and necessary to mitigate noise in accordance with the NVMP (Volume 5, Document 5.3.3H) and the Acoustic Screening Strategy set out in ES Appendix 5.3.14D, Volume 5, Document 5.3.14D .
NV05	<p>All construction contractor(s) will be required to follow standard good construction practice as outlined in BS 5228-1:2009+A1:2014⁴⁰ and BS 5228-2:2009+A1:2014⁴¹. This includes, but is not limited to, the measures set out below. Plant, equipment and systems of work, will be selected or designed to achieve the lowest noise and / or vibration emission levels from the site wherever practical.</p> <p>The following measures will be adopted, where it is practicable and required to do so:</p> <ul style="list-style-type: none">• adoption of construction methods and plant that are not inherently noisy;• semi-static equipment or other continuous noisy plant will be sited as far as possible from sensitive receptors and fitted with suitable enclosures;• noisy activities will be conducted during less sensitive periods or staggered;• Where practicable, battery-powered generators will be used in preference to diesel-powered generators, where a fixed power supply is not available;• low noise generators and compressors will be used;• effective exhaust silencing and plant muffling equipment will be fitted and maintained in good working order;• mobile construction plant will be located away from adjacent occupied buildings or as close as possible to noise barriers or site hoardings to provide additional screening from sensitive noise receptors;• plant will not be operated with covers open or removed;• all plant and equipment will be properly maintained;• engines will be switched off when not in use;• all equipment will be used in the mode of operation which minimises noise emissions;

⁴⁰ British Standards Institute. (2009). BS 5228-1:2009+A1:2014 Code of practice for noise and vibration control on construction and open sites – Noise. BSI; London.

⁴¹ British Standards Institute. (2009). BS 5228-2:2009+A1:2014 Code of practice for noise and vibration control on construction and open sites – Vibration. BSI; London.

Ref.	Good Construction Practice Measures
	<ul style="list-style-type: none"> • plant will be started up sequentially, rather than simultaneously; and • static plant known to generate significant levels of vibration will be fitted with vibration dampening.
NV06	Only designated temporary access roads will be used on-site.
NV07	Temporary access roads will be well maintained to minimise noise generated from vehicles travelling over uneven surfaces and potholes.
NV08	Temporary access roads will avoid steep gradients where practicable to reduce HGV engine noise emissions.
NV09	Where health and safety obligations can be achieved and where it is possible to do so, mobile construction plant will be fitted with low noise or broadband reversing alarms to minimise potential for annoyance to sensitive receptors.
NV10	Loading/unloading activities will be located away from sensitive receptors and acoustically screened (see NV04), where practicable.
NV11	Materials will be handled in a manner than minimises noise. This will include restricting drop heights during lorry loading to the minimum required for safe and efficient operations.
NV12	Where night-time work is required, it will be carried out in a manner that minimises noise and vibration at all times.
NV13	Where night-time work is required close to receptors, prior warning will be given.
NV14	No amplified sound will be generated at any time within the site or at any time during any phase of works for the development. This constraint will not apply in the event of emergencies or emergency drills to the extent necessary to deal with an emergency or drill, or other health and safety requirements. This constraint will also not apply to the amplified noise generated by construction plant as a reversing alarm.
NV15	Training and instruction will be provided to site personnel on methods and techniques to minimise off-site noise and vibration impacts.
NV16	On-site 'toolbox' training will be provided to enable site workers to understand how their actions will interact with the environment and potentially impact upon sensitive receptors near to their work areas.
NV17	Riverbank stability and vibration at the edge of the River Ouse will be monitored during the piling activities undertaken at pylon ID XC421.

3.12 Climate Change

3.12.1 A greenhouse gas (GHG) emissions assessment has been completed where GHG emission sources associated with the construction of the Project have been identified, and these GHG emissions have been estimated. This CoCP details measures proposed to minimise GHG emissions during construction in line with National Grid's Environmental Action Plan⁶ commitments which aim to deliver carbon neutral construction by 2026.

- 3.12.2 Climate change resilience (CCR) of the Project has also been assessed (**Chapter 17: Climate Change, Volume 5, Document 5.2.17**), considering the effects of a changing climate on the vulnerability of the Project. Environmental measures are proposed to manage the effects of climate change and extreme weather on the Project assets during construction.
- 3.12.3 **Table 3.11** contains good construction practice measures particularly relevant to the GHG and the CCR assessment.

Table 3.11 - Climate Change good construction practice measures

Ref.	Good Construction Practice Measures
CC01	Embodied carbon: There are embodied GHG emissions associated with the raw materials used to construct the Project. Where possible, choice of local sourcing of construction should be encouraged. Circular economy principles should be considered and deployed where possible. Carbon measuring and reporting would be undertaken.
CC02	Vehicle emissions: There are GHG emissions associated with construction traffic. Deliveries should be consolidated where possible and there should be no idling vehicles. Measures set out in the Construction Traffic Management Plan (Volume 5, Document 5.3.3F) seek to ensure the movement of people and materials in a sustainable manner and minimise the number of construction trips where feasible.
CC03	Extreme heat and hot and dry conditions: All construction activities will be planned through use of contractor(s) Risk Assessment Method Statement (RAMS) alongside issued safety bulletins such as alerts for upcoming hot spells. The RAMS will identify measures such as altering shift patterns to cooler times of the day, additional rest breaks and Personal Protective Equipment (PPE). All staff will undergo toolbox talks regarding working in hot weather. The RAMS will identify measures such as dust management and measures to avoid wildfire events such as delaying the activity
CC04	Drought conditions: Construction compounds would utilise water brought in using tankers for all activities within construction compounds including dust suppression.
CC05	Heavy rainfall: All construction activities will be planned through use of a RAMS alongside issued safety bulletins such as alerts to upcoming rainfall events. The RAMS will identify measures such as signing up to the Environment Agency's flood risk warning system, appropriate PPE, and delaying the activity. The FRA will assess the flood risk from more frequent flooding events across the construction timeframe. An emergency response plan for flood events (secured in Requirement 6(2)(e) of the draft DCO, Volume 3, Document 3.1) would be prepared and implemented for the construction phase, including safe access and egress routes where required. Works within flood risk zones will be programmed to be out of the winter months where possible. Weather warning systems will allow for mobile construction equipment to be moved to avoid flood damage in response to any potential flooding events.
CC06	Storm events: All construction activities will be planned through use of a RAMS alongside issued safety bulletins such as alerting to upcoming high winds or storm events. The RAMS will identify measures such as identifying wind speeds in which cranes will not operate or are restricted, delaying the activity and making the site safe ahead of storm events.

Ref. Good Construction Practice Measures

All construction activities will be planned through use of a RAMS alongside issued safety bulletins such as alerting to upcoming lightning or storm events. The RAMS will identify measures such as checking of lightning risk when working near existing assets. Where lightning risk is identified, the activity will be delayed.

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