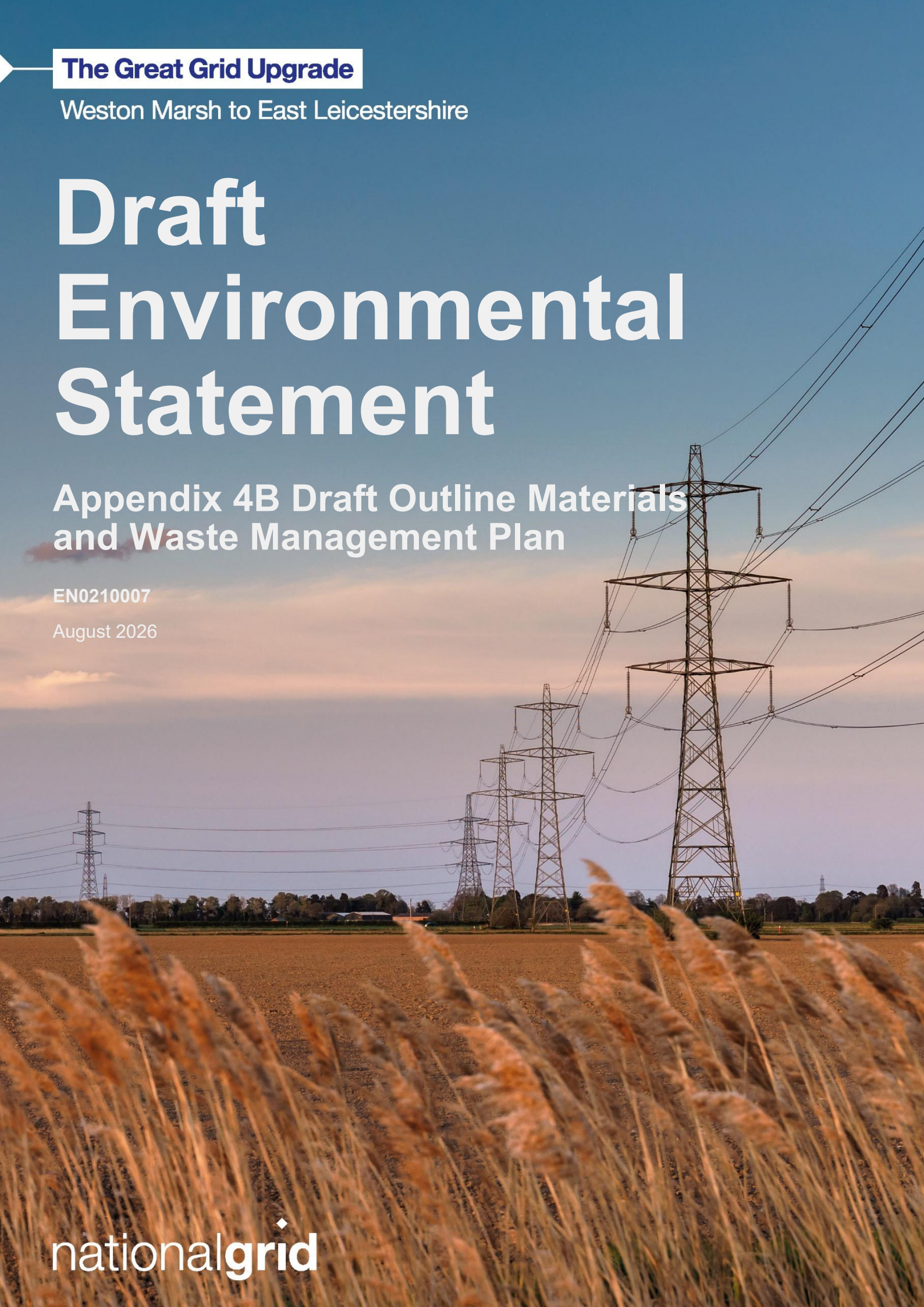




The Great Grid Upgrade

Weston Marsh to East Leicestershire

Draft Environmental Statement

Appendix 4B Draft Outline Materials
and Waste Management Plan

EN0210007

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nationalgrid

Contents

4B.	Materials and Waste Management Plan	4B-1
4B.1	Introduction	4B-1
4B.2	Project Description	4B-4
4B.3	Project Team Roles and Responsibilities	4B-9
4B.4	Engagement on the MWMP	4B-11
4B.5	Material Management	4B-12
4B.6	Waste Management	4B-14
4B.7	Implementation	4B-21
	Table 4B.1 Preliminary examples of how waste will be designed out of the Project	4B-5
	Table 4B.2 Overall roles and responsibilities relevant to the MWMP	4B-10
	Table 4B.3 Site checks relevant to the MWMP	4B-21
	Image 4B.1 The waste hierarchy	4B-16
	References	4B-24

4B. Draft Outline Materials and Waste Management Plan

4B. Materials and Waste Management Plan

4B.1 Introduction

Overview

- 4B.1.1 The Weston Marsh to East Leicestershire Project (the Project) is being developed by National Grid Electricity Transmission plc (National Grid) to increase the ability of the transmission system to transfer power between other proposed transmission infrastructure in the east of England and the Midlands. The objective of the Project is to reinforce the electricity transmission network, facilitating the connection of planned offshore wind generation, interconnectors with other countries and other sources of electricity, allowing clean green energy to be carried on the network.
- 4B.1.2 The Project is expected to include the following elements:
- approximately 60 km of new 400 kV overhead transmission line, from the proposed substation at Weston Marsh (to be delivered by the Grimsby to Walpole Project), to the west;
 - a new 400 kV substation to be built in the vicinity of the existing 4VK (Cottam – Wymondley) 400 kV overhead line to the west of Corby Glen, South Kesteven (referred to as ‘WMEL-A’);
 - a new 400 kV substation to be built in the vicinity of the existing ZA (Cottam – Sundon) 400 kV overhead line to the west of the village of Ab Kettleby and north west of Melton Mowbray, Melton (referred to as ‘WMEL-B’);
 - reconductoring of approximately 66 km of the existing ZA 400 kV overhead line from WMEL-B to the existing Grendon Substation, east of Northampton; and
 - realignment of short sections of existing 400 kV overhead line and local changes to the distribution networks to facilitate the construction of the new overhead line and substations.
- 4B.1.3 This document is an appendix to the Draft Environmental Statement (DES) (referred to in this document as “DES” and non-statutory DES”) published to support the Stage 2 Consultation on the proposed Project. The Project has been divided into five Sections, shown in **Figure 1.1 Project Location Plan** of the DES and described in **Table 4.1 of Chapter 4 Description of the Project** of the DES. These are:
- Section 1: Infrastructure within South Holland District;
 - Section 2: Infrastructure within South Kesteven District;
 - Section 3: Infrastructure within Melton Borough;
 - Section 4: Infrastructure within Harborough District; and
 - Section 5: Infrastructure within Northamptonshire (including both North Northamptonshire and West Northamptonshire unitary areas).

- 4B.1.4 National Grid and any appointed contractors will carry out all work in accordance with the Final Materials and Waste Management Plan (MWMP) that would be produced after development consent is granted and before the construction of the Project.

Relevant Policy and Guidance

- 4B.1.5 In accordance with its published approaches to sustainable design and construction outlined in National Grid's Social and Environmental Action Plan (**Error! Reference source not found.**), National Grid will seek to embed circular economy principles, maximise resource efficiency, reduce the amount of waste generated, reduce water consumption and make the most efficient use of energy.
- 4B.1.6 As part of its Environment Policy (Ref 4B.2), National Grid seeks ways to use resources more efficiently through good design, use of sustainable materials, responsibly refurbishing existing assets, and reducing and recycling waste. National Grid's policy has been prepared in accordance with the waste hierarchy as described in paragraph 4B.6.7 below.
- 4B.1.7 General measures that will be employed by National Grid and its contractors to limit effects on the environment include:
- The consumption of raw materials and waste shall be reduced through sound design and good practice in procurement.
 - Opportunities for reusing or recycling the waste will be actively sought with disposal via landfill used as a last resort.
- 4B.1.8 The following policy and guidance has been considered when producing this draft Outline MWMP:
- Achieving Good Practice Waste Minimisation and Management: Guidance for construction clients, design teams and contractors (Ref 4B.3);
 - Circular Economy Package Policy Statement (Ref 4B.4);
 - Contaminated Land: Applications in Real Environment (CL:AIRE) Definition of Waste Development Industry Code of Practice (CoP) version 2, referred to in this document as the CL:AIRE CoP (Ref 4B.5);
 - Government Review of Waste Policy (Ref 4B.6);
 - National Planning Policy for Waste (Ref 4B.7); and
 - Waste Management Plan for England (Ref 4B.8).

Purpose of the Materials and Waste Management Plan

- 4B.1.9 This is the draft Outline MWMP for the Project, which has been produced to support the DES. It sets out how the Project will seek to reduce the consumption of primary and raw materials and to encourage the use of secondary or recycled sources. It also sets out how the Project will follow the waste hierarchy by reducing waste produced in the first place before considering alternatives such as reuse, recycling and repurposing.
- 4B.1.10 The Outline MWMP will be submitted as an appendix to the Environmental Statement (ES) as part of the application for development consent. During the examination of the application, this Outline MWMP may be updated in response to comments from the Examining Authority and/or other parties. The development of the Final MWMP, substantially in accordance with the approved Outline MWMP will be secured by way of a requirement in the development consent order (DCO).

- 4B.1.11 The Project includes environmental commitments under the following mitigation categories:
- **Design mitigation measures** are those that are intrinsic to and built into the design. Design measures may include, for example, working within the existing topography to reduce tower visibility and reducing habitat loss by minimising land take. They can also include the avoidance of designated sites or valuable habitats through sensitive routeing, siting and design. Any such measures are described in each environmental aspect chapter and **Chapter 4 Description of the Project**.
 - **Standard mitigation measures** are those which would occur with or without input from the Environmental Impact Assessment (EIA) feeding into the design process. These include actions that will be undertaken to meet other existing legislative requirements or actions that are considered to be standard practice used to manage commonly occurring environmental effects. These would be embedded within the design of the Project. Any relevant measures are described in each environmental aspect chapter as well as **Appendix 4A Draft Outline Code of Construction Practice**.
 - **Additional mitigation measures** comprise measures over and above any embedded and good practice/standard mitigation measures, for which the EIA has identified a requirement to further reduce significant environmental effects, for example landscape planting. Any additional measures have been described in each environmental aspect chapter.
- 4B.1.12 The Outline Code of Construction Practice (CoCP) will be produced and submitted as part of the application for development consent and will provide a securing mechanism for all environmental commitments made on the Project (refer to paragraph 4B.1.11 above). Construction phase measures relevant to materials and waste will also be also secured within the Outline MWMP.
- 4B.1.13 Construction phase measures for all other environmental topics will be secured by one of the following seven documents:
- Outline CoCP: general construction measures and methodologies to avoid or reduce potential effects of the Project;
 - Outline Construction Environmental Management Plan (CEMP): project specific environmental management measures to avoid or reduce potential effects of the Project and manage compliance;
 - Outline Construction Traffic Management Plan: measures to manage construction traffic and impacts on the traffic network;
 - Outline Landscape and Ecological Management Plan: measures to manage construction impacts on landscape and ecology; and
 - Outline Soil Management Plan: measures to manage construction impacts on agricultural soils.
 - Outline Public Rights of Way Management Plan (PRoWMP): measures to manage impacts on Public Rights of Way;
 - Outline Written Scheme of Investigation (OWSI): mitigation measures proposed for the impacts identified through the cultural heritage assessment

4B.2 Project Description

Project Commitments

- 4B.2.1 The development of the Project involves a process of iterative design development that was introduced at Project inception. Environmental considerations will influence the Project, with knowledge gained through the EIA process, input from the Project team (including the results of site surveys) and discussions with interested parties (such as landowners, relevant planning authorities and regulators).
- 4B.2.2 The Project incorporates environmental considerations through measures embedded in the design, standard (general measures and topic-specific) measures and additional mitigation measures identified in the DES.

Circular Economy

- 4B.2.3 The circular economy is a systemic approach to the management of resources, in which materials, energy and water are used efficiently and retained at their highest value for as long as possible. It seeks to move beyond traditional linear models of consumption by designing out waste, reducing reliance on primary resources and enabling the recovery, reuse and recycling of materials across the lifecycle of assets. This approach supports improved environmental performance while maintaining long-term value in resources.
- 4B.2.4 This draft Outline MWMP has been prepared in line with National Grid's requirements by embedding circular economy principles into the Project scope and delivery approach. In line with requirements, the plan focuses on proportionate, site-specific measures to reduce material use, maximise reuse and recycling, and minimise environmental impacts across the Project lifecycle.
- 4B.2.5 The application of circular economy principles is guided by BS 8001:2017 (Ref 4B.9), which establishes a framework based on six key principles: systems thinking, stewardship, transparency, collaboration, innovation and value optimisation. Together, these principles provide a structured basis for embedding circularity within decision-making, ensuring that resource efficiency considerations are integrated from the earliest stages of design through to delivery and end of life.
- 4B.2.6 In practice, this includes designing out avoidable waste, selecting sustainable materials and adopting construction methods, such as modular or off-site manufacture, that improve material efficiency and reduce resource intensity.
- 4B.2.7 The effective delivery of circular economy principles requires a coordinated and data-led approach to resource management. This includes the use of consistent waste categorisation and reporting, the forecasting of resource requirements, and the alignment of waste management practices with broader environmental objectives and regulatory requirements. Such alignment ensures that resource efficiency measures are not only identified but also implemented and tracked effectively throughout the Project lifecycle.
- 4B.2.8 Overall, the circular economy approach is characterised by early integration, collaborative delivery and continuous optimisation. By embedding these principles within the Project's design, procurement and construction processes, it enables a transition from waste management to proactive resource stewardship, delivering improved environmental outcomes while supporting efficient and resilient delivery.

Designing Out Waste

- 4B.2.9 The Project seeks to design out waste at each step in the optioneering and design process. This includes designing the Project to avoid unnecessary elements and to seek compatibility between market supply and specification, avoiding excessive design complexity and standardising the construction process to improve efficiency and reduce waste. This also increases the ability to reuse materials and equipment between different projects.
- 4B.2.10 The Project recognises that the primary opportunity to minimise waste arises through strategic design decisions, including route alignment, infrastructure siting and design standardisation. **Table 4B.1** includes indicative construction-level examples of measures identified for the Project that demonstrate the application of the waste hierarchy.
- 4B.2.11 National Grid will continue to seek ways to design out waste which will be detailed in the ES and the Outline MWMP.

Table 4B.1 Preliminary examples of how waste will be designed out of the Project

Activity	Method	Resource Saving
New overhead line towers and associated foundations designed and pre-fabricated off-site	Prefabrication of parts of towers in an off-site facility specifically designed to limit waste and raw materials. These can also be brought to site in fewer vehicles than non-prefabricated designs.	Reduces offcuts and waste created on-site compared to non-prefabricated designs. Metals can be easily sent for recycling at the factory due to existing supply chains. Reduces vehicle numbers coming to and from site during construction compared to non-prefabricated design.
Temporary access roads materials	Temporary access routes have been designed to accommodate the required plant and machinery and allow for passing places. Other options for the new overhead line include soil stabilisation and construction without large cranes.	Reduces land take associated with two-way routes. Reduces the need for materials and vehicle movements for temporary access roads.
Vegetation removal	Reusing vegetation arisings on-site in the form of log piles and wood chippings in landscaping where this complies with ecological objectives.	Reduces the amount of waste sent off-site and also has an ecological benefit on-site.
Maximise reuse of site-won and excavated materials (including soils and engineering fill)	Define reuse routes through materials management and earthworks strategy. Confirm feasibility through ground	Reduces off-site disposal and import of materials, lowering transport impacts and waste generation.

Activity	Method	Resource Saving
	investigation (GI). Reuse uncontaminated soils on-site. Soil handling techniques to be set out within the Outline Soil Management Plan.	
Improve material efficiency through design optimisation and value engineering	Apply value engineering post-GI to reduce overdesign. Use CAD modelling to accurately estimate quantities.	Reduces over-specification, material use, and associated waste and carbon.
Design assets for durability, maintenance, repair and disassembly	Embed lifecycle thinking into design standards and ensure replaceable components are considered.	Extends asset life and reduces maintenance waste. Enables reuse at end of life.
Optimise temporary works, construction logistics and material handling	Embed design principles to avoid temporary infrastructure unless required. Implement just-in-time delivery and coordinated logistics planning across contractors.	Reduces materials waste, damage, double handling, vehicle movements and material wastage.
For reconductoring, maximise reuse and/or refurbishment of existing infrastructure (towers, foundations, hard standings, access routes, culverts) where possible	Use condition assessments to inform reuse/refurbishment and rely on existing routes where possible.	Reduces need for new materials, minimises construction and demolition waste, and lowers embodied carbon.

Consents, Licences and Permits

- 4B.2.12 The Project will be run in compliance with all relevant legislation, consents and permits in accordance with control and management measure GG01 of **Appendix 4A Draft Outline Code of Construction Practice**. Where required, permits from relevant planning authorities and/or the Environment Agency, will be sought prior to commencement of the relevant works. Engagement will be undertaken by the contractor with the appropriate bodies.

CL:AIRE

- 4B.2.13 The CL:AIRE CoP (Ref 4B.5) was developed to help facilitate the use of excavated materials as non-waste. The CoP sets out a mechanism for working outside the waste legislation framework regarding the use of excavated materials, applicable to both greenfield and brownfield sites. In order to comply with the CL:AIRE Protocol, the excavated materials assessed as part of the Project must:
- not be a risk to human health;
 - be suitable for their intended use without further processing (chemically and geotechnically); or

- be suitable for use following treatment under an appropriate Environmental Permit;
- have a certainty of use (specified in planning, remediation strategies); and
- be only the quantity that is absolutely necessary.

4B.2.14 **Chapter 12 Agriculture and Soils** of the DES and **Appendix 12A Draft Outline Soil Management Plan** and **Appendix 4A Draft Outline Code of Construction Practice** contain standard mitigation guidance for the excavation, handling, storage and final placement of soils. These documents will be updated and submitted with the ES. These measures will help protect soils during construction and allow the application of the correct processes for storage and reuse to maintain their classification as non-waste material in the Definition of Waste (Ref 4B.5).

Evidence and reporting

4B.2.15 To demonstrate compliance with the CL:AIRE CoP requirements for the protection of human health and the environment, certainty and suitability of use, and control of material quantities, the following additional information is expected to be produced:

- a Design Statement on how the use of materials will be undertaken on-site, relating to the design objectives for the site;
- desk study, site investigation and/or laboratory test information demonstrating the suitability of use of the proposed materials;
- details of the contractual arrangements; and
- the verification process, including provision of tracking systems to control material quantities, contingency arrangements, verification testing and reporting.

Resource requirements

4B.2.16 The material resources to be used, including types and quantities, will be based on the requirements of the Project, together with site investigation results indicating the ground conditions and materials to be excavated. In addition, soil surveys will be undertaken to help understand the baseline soil characteristics and to inform the storage and reinstatement of soils. Soil surveys will be carried out in 2026 and 2027 to inform design development and will be reported in full in the ES. **Chapter 12 Agriculture and Soils** of this DES outlines the proposed data collection for soils.

4B.2.17 The phasing of materials use, management and any measures relating to their use will be outlined and implemented. The reduction of material resources will be achieved through a number of measures such as attention to specifications, timescales for delivery, and storage and handling requirements. The method of transporting material resources to reduce road transport will form an important element of this process.

4B.2.18 The appointed contractor will assess the main materials to be used on the Project. This assessment will be subject to a CL:AIRE Declaration by the Qualified Person (QP)¹. The materials will be assessed to fall within one of the following categories:

¹ A Qualified Person (QP) under CL:AIRE is an independent professional who verifies that excavated materials can be reused or transferred between sites without being treated as waste.

- material is capable of being used in another place on the same site without treatment;
- material is capable of being used in another place on the same site following on-site ex situ treatment;
- material is capable of being used on another development site without treatment;
- material is capable of being used on another development following ex situ treatment on another site (designated as a hub site);
- material is not capable of being used on-site or elsewhere and as such will require recycling off-site at a recycling facility; and
- material is surplus to requirements and as such will require recovery or disposal off-site as waste.

Movement and tracking systems

4B.2.19 The movement of materials associated with the Project will be tracked and evidence generated to provide an auditable trail. The tracking system is anticipated to include:

- annotated plans of the site identifying excavation areas, stockpile locations, any treatment areas and placement locations;
- inspection and testing procedures to verify materials are as anticipated from the site investigation information;
- tracking forms and control sheets to record the movement of materials, including delivery tickets if materials are moving between sites; and
- acceptance and testing procedures if materials are moving between sites.

Site records

4B.2.20 The following records will be kept:

- copies of any relevant licences and permits;
- details of any planning or consent approvals;
- material resources tracking, treatment and delivery note records; and
- records of any contingency arrangement for materials resources and unforeseen waste arisings that had to be implemented.

Verification Plan and Verification Report (CL:AIRE)

4B.2.21 The Verification Plan will identify how the placement of materials will be recorded and the quantity of materials to be used. The Verification Report is produced to provide an audit trail to show that materials and waste have gone to the correct destination(s).

4B.2.22 The Verification Report will also document any changes arising from any alterations to the Project or contingency arrangements that have been implemented.

Qualified Person assessment

- 4B.2.23 The assessment will be subject to review and declaration by a QP, who will be registered with CL:AIRE. The assessment will be submitted to the Environment Agency for information and as a record. The declaration serves as notification that having reviewed the evidence relating to the proposed use of materials on-site, the QP is satisfied that the CL:AIRE CoP can be applied appropriately.
- 4B.2.24 Subject to acceptance and sign-off of the assessment by the QP, it is assumed that there will be no requirement for the Environment Agency to have any input to the process other than for auditing purposes. This could involve visiting the site and reviewing the assessment documentation, operation and management at the site and at any site(s) receiving the material.

Targets for Material Management and Waste Reduction

- 4B.2.25 National Grid has set out its environmental commitments in Our 2026-2031 Social and Environmental Action Plan (**Error! Reference source not found.**). This has a number of targets that are relevant to the Project and have been tailored to be Project-specific targets:
- Contribute towards carbon neutral construction: **Chapter 18 Climate Change** of this DES sets out the preliminary baseline carbon estimate for the Project and will be updated and reported in the ES. This will be used as a baseline against which the construction carbon will be measured. This will include monitoring of energy use on the Project and vehicle mileage. The contractor will report on progress against the carbon baseline on the Project quarterly.
 - The contractor appointed to construct the Project will have carbon reduction targets.
 - The Project will seek to reduce waste to landfill during construction and contribute to the target to achieve zero-waste to landfill across construction projects.
 - The Project will keep records of how it has followed the waste hierarchy to reduce waste and avoid waste being sent to landfill.
- 4B.2.26 These targets will be monitored by the contractor during construction.

4B.3 Project Team Roles and Responsibilities

Environmental Management Systems

- 4B.3.1 National Grid will implement management processes and briefings so that the works are carried out in accordance with current legislation and guidance. This will be achieved by application of well-established work processes that apply the recognised British Standard EN ISO 14001:2015 (Ref 4B.10) or equivalent.
- 4B.3.2 The contractor will have an Environmental Policy that meets the requirements of ISO 14001 or equivalent, through their internal Business Management System procedures. The policy statement will be displayed on the site notice boards, publicised to all site staff and operatives, and made available to interested parties upon request.

Project Responsibilities

- 4B.3.3 The contractor will undertake the construction works in accordance with the DCO requirements and its associated documents including the MWMP. The relevant aspects of the MWMP will be notified to the workforce at commencement of works to highlight the relevant commitments and responsibilities to those undertaking the work.
- 4B.3.4 Overall roles and responsibilities for the Project are presented in **Table 4B.2**. These roles may be delivered by multiple people across the Project, who are designated with that specific responsibility, such as the Environmental Clerk of Works (EnvCoW). The EnvCoW will also draw on the experience of the technical specialists, who will advise in specific areas, for example a soil scientist who can advise on reusing soil within the Order Limits.

Table 4B.2 Overall roles and responsibilities relevant to the MWMP

Role	Organisation	Responsibilities
Environmental Manager	Contractor	The Environmental Manager will be responsible for the maintenance of all environmental plans and registers, including monitoring that the environmental measures and mitigation are implemented on-site and as recorded within the MWMP. They will be the main point of contact for all environmental matters on the Project. They will also develop good working relationships with external stakeholders such as the Environment Agency and the relevant planning authorities.
Site Waste Manager	Contractor	The Site Waste Manager will be responsible for day-to-day waste management and maintaining site waste registers/ documentation. They will maintain the central register of all waste consignment notes together with schedules of carriers and disposal locations and waste datasheets to provide efficient tracking of waste management as part of record keeping for internal and external auditing purposes.
Environmental Clerk of Works	National Grid	The EnvCoW will monitor that the works proceed in accordance with relevant environmental DCO requirements and adhere to the required mitigation measures. The EnvCoW will be supported by appropriate technical specialist advisors depending on the location and potential impacts.
Permits and Consents Manager	Contractor	The Permits and Consents Manager will work with the Environmental Manager to draft and submit permits and consents on behalf of the Project, track the progress, provide updates and communicate approvals.
Works Supervisor	Contractor	The Works Supervisor will be responsible for delivering the site works in accordance with the requirements of the MWMP and implementing good environmental practices required by the Environmental Manager. They will be responsible for managing operatives, plant and their areas of work in accordance with the principles of good environmental practice.

Role	Organisation	Responsibilities
Technical specialist advisors	Contractor/ National Grid	These will have the relevant experience to supervise the relevant aspects of the works, which may include a land contamination specialist and a soil specialist as required depending on the nature of works.

Duty of Care

- 4B.3.5 All waste produced by National Grid and its contractor(s) is governed by waste management legislation. The producer of the waste is the holder of the waste generated by an activity. Duty of Care is a legal process designed to control the carriage and disposal of waste to ensure it is handled in a responsible manner from 'cradle to grave'.
- 4B.3.6 In line with the Duty of Care requirements, waste produced will be transferred only to an Authorised Person accompanied by a Waste Transfer Note or Hazardous Waste/Special Waste Consignment Note (see **Section 4B.6**) and not able to escape from anyone's control on-site or in transit. An Authorised Person is a registered waste carrier and/or the manager of a legitimate waste management facility, e.g. a waste disposal site. Waste shall not be allowed to leave site unless Duty of Care checks are successfully completed.
- 4B.3.7 Where a contractor is employed to undertake work that produces waste, it is the contractor's responsibility as producer of the waste to carry out the Duty of Care checks. However, National Grid, as the overall developer, retains a Duty to ensure that waste is managed in a responsible manner and will ensure that the contractor has a system of works to ensure that adequate Duty of Care checks are being undertaken.

Information Training and Awareness

- 4B.3.8 In accordance with control and management measure GG05 in the CoCP, as outlined in **Appendix 4A Draft Outline Code of Construction Practice**, all construction workers working on the Project will undergo training to increase their awareness of environmental issues as applicable to their role on the Project. This will include the following environmental topics relevant to the MWMP:
- waste management and storage; and
 - working with potentially contaminated materials.
- 4B.3.9 Employees involved with the handling and managing of waste will have the relevant training and be assessed as competent and training records retained.
- 4B.3.10 Regular environmental toolbox talks will be provided by the contractor for all staff. These will give targeted information about site-specific issues or activities taking place at that time.

4B.4 Engagement on the MWMP

- 4B.4.1 Engagement will be undertaken on this draft Outline MWMP with relevant consultation bodies, including as part of the Stage 2 Consultation. The comments will be considered when developing the Outline MWMP for submission with the application for development consent.

- 4B.4.2 The MWMP will be issued to the relevant authority in accordance with the requirements of the DCO and relevant permitting regime.

4B.5 Material Management

- 4B.5.1 National Grid and its contractor(s) will adopt control measures in relation to material management when undertaking the construction of the Project.
- 4B.5.2 Every project requires materials as part of the construction process. These can come from primary, or virgin sources, or from secondary sources. The types of materials used and the sources of these can have environmental implications. Materials also have embodied carbon, which can affect the overall carbon footprint of the Project.
- 4B.5.3 When considering materials to use on a project, the first consideration is to identify whether materials can be sourced from another project, for example the reuse of site cabins or security fencing. In some cases, secondary aggregates can be used to avoid sourcing virgin materials from quarries. If purchasing new is the only option, there are potentially more sustainable sources that should be followed, e.g. purchasing Forest Stewardship Council (FSC) certified timber. Projects can also reduce their environmental footprint through the efficient use of energy and water.
- 4B.5.4 This section sets out the principles for material management that will be followed by National Grid and its contractor when implementing the Project.

Efficient Material Use During Construction

- 4B.5.5 The following steps will be taken through the detailed design and construction phases of the Project with relevance to material management:
- Wherever practicable, the designs will seek standardisation of materials and building elements into the design, e.g. the use of prefabricated components. This will provide greater compatibility between market supply and specification. This in turn, will reduce the risk of over-specification which reduces the choice of available material sources and will increase the opportunities to reuse materials and equipment between different projects.
 - Wherever practicable, materials will be ordered to size and actual requirements in order to reduce over-ordering and potential wastage. This will include working with manufacturers to reduce the amount of packaging used during the transportation of materials and supporting suppliers who will take back packaging and returns of unused products.
 - Sourcing construction materials from suppliers with responsible sourcing certification and using local suppliers where practicable. The use of local suppliers will also reduce transport miles, reducing the carbon footprint of the Project.
 - Using 'just in time' deliveries where practicable, so that storage is optimised and to reduce the risk of oversupply and damage on-site.
 - Managing resource efficiency by storing materials in the correct way to avoid risks of damage, spillage and vandalism. Particular attention should be given around the delivery of materials to site and making sure these are unloaded in a way that reduces the risk of damage in accordance with control and management measure GG13 as outlined in **Appendix 4A Draft Outline Code of Construction Practice**.

- 4B.5.6 Timber will be obtained from recycled, reclaimed sources or be accredited to meet a sustainable forestry standard such as the FSC. Any remaining timber not sourced through the above will target a known temperate source using the Department for Environment, Food and Rural Affairs central point of expertise in timber.
- 4B.5.7 There are eight primary compounds, seven secondary compounds, two tertiary compounds, two substation compounds and sixteen laydown areas proposed to facilitate the construction of the Project. These are further detailed in **Chapter 4 Description of the Project**. These compounds will contain designated areas for the secure storage to protect certain materials from damage or wastage and away from regular site traffic to reduce the risk of accidental collision. The original package/pallets will be used to keep materials secure until required and material covers will be used where required, to protect materials sensitive to rainwater. The materials storage area will be secured out of hours to prevent unauthorised access.
- 4B.5.8 The working width of the haul road will also contain designated areas for the storage of soil and space to allow topsoil and subsoil to be stored separately.

Efficient Water Consumption During Construction

- 4B.5.9 The main uses of water on the Project will be:
- General water consumption: This includes drinking water for workers, handwashing and washing facilities and flushing of toilets. Where reasonably practicable, water consumption will be reduced by having variable flush toilets, cut-off taps and efficient washing machines where provided.
 - Trenchless crossings: Non-potable water will be used as a preference for the trenchless crossings (where required). It is assumed that this would be brought to site in tankers.
 - Dust suppression: Non-potable water will be used as a preference to suppress dust generated during the work, particularly during dry spells.
 - Cleaning of roads and working areas: Non-potable tanker water will be used to clean roads and working areas. Similarly for dust suppression, reuse of water will be sought.
- 4B.5.10 All construction compounds may be connected to mains water supply and use suitable treatment measures such as biodigesters for wastewater or for this to be taken away by tankers. The secondary and tertiary compounds are likely to have water deliveries to supply potable water to welfare facilities and foul water will be collected in septic tanks and pumped out and removed off-site at the required frequency.
- 4B.5.11 Where reasonably practicable, construction compounds will be provided with control and management measures for water conservation, for example the use of water-efficient taps within welfare facilities, waterless toilet facilities, assessment of whether water can be reused, and regular checks to hoses for water leaks. Further details on water use and consumption will be detailed in the Construction Environmental Management Plan (CEMP) for the Project.

Efficient Energy Use During Construction

- 4B.5.12 In accordance with control and management measure GG14 in **Appendix 4A Draft Outline Code of Construction Practice**, vehicles will be correctly maintained and operated in accordance with manufacturer's recommendations and in a responsible manner. All plant and vehicles will be required to switch off their engines when not in use and when it is safe to do so.
- 4B.5.13 National Grid will require contractors to propose low carbon alternative materials, where suitable (e.g. meets the technical specifications and is not disproportionate in cost). The contractors will also need to provide a more detailed breakdown of materials, assets, equipment and energy that they propose to use in construction of the Project, including the origin of materials, the transport distances, opportunities for reuse of materials and low carbon alternatives.
- 4B.5.14 The ES will report the 'carbon baseline' for the Project and the contractor will be incentivised to demonstrate a reduction in capital carbon over the duration of construction of the Project. The carbon footprint will be reviewed on a regular basis and there will be key performance indicators in place that incentivise the contractor to reduce the carbon footprint against the initial baseline.
- 4B.5.15 Temporary site units will be energy efficient, for example having the following features, where practicable:
- double glazed windows;
 - insulated walls;
 - energy efficient lighting, with motion sensors; and
 - energy monitoring and smart switching.
- 4B.5.16 It is anticipated that the primary site compounds will be connected to a mains electricity supply. Local compounds and isolated work fronts will use alternatively fuelled or hybrid generators for plant and any temporary buildings, where practicable. Generators will be appropriately sized to optimise running efficiency.
- 4B.5.17 Plant and construction vehicles will conform to relevant applicable standards for the vehicle type and consideration will be given to electrical vehicles where available.

4B.6 Waste Management

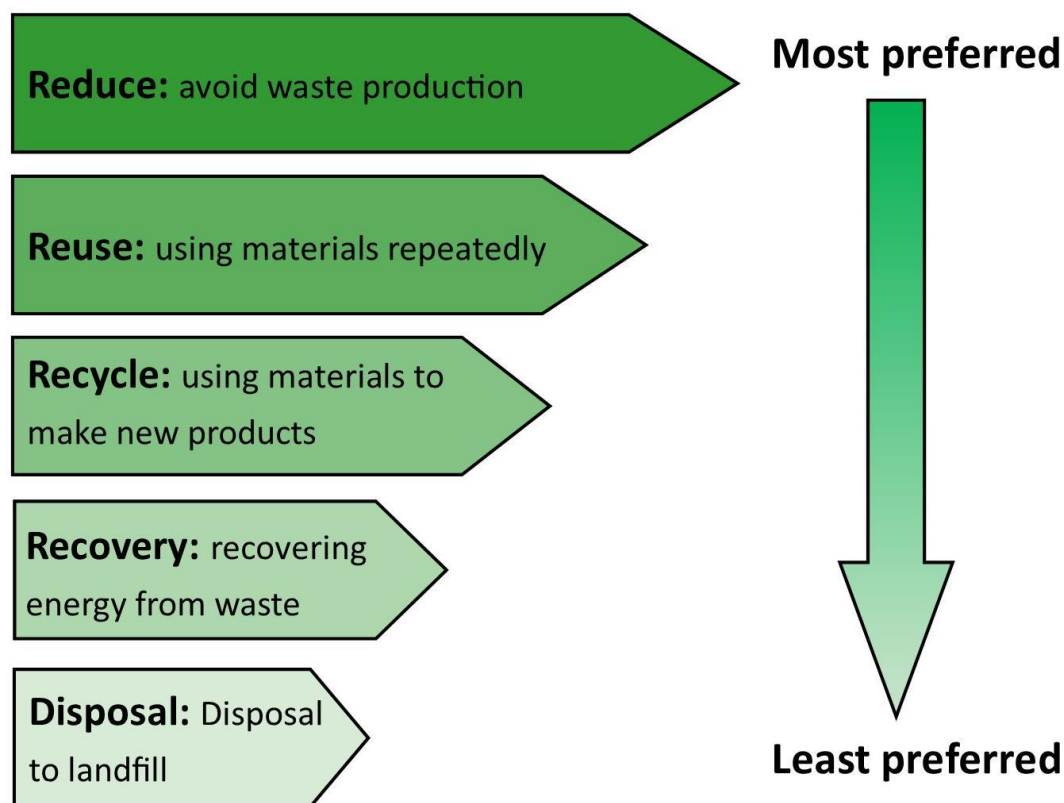
- 4B.6.1 Waste is defined in Article 3(1)(a) of the Waste Framework Directive (2008/98/EC) as *'any substance or object which the waste holder discards or intends or is required to discard'*.
- 4B.6.2 'Waste Holder' is defined in the same article and means *'the producer of the waste or the natural or legal person who is in possession of it'*. It rests, in the first place, with the producer or holder of a substance or object to decide whether it is being discarded and is waste.
- 4B.6.3 Waste is widely defined and includes excess unwanted materials, some effluents, unwanted surplus substances arising from the application of any process and any substance or article which is broken, worn out, contaminated or otherwise damaged. Waste becomes controlled by legislation when it is discarded by the holder. Materials being returned to the company stores or supplier for credit are not considered as waste. Materials sold for reuse or recycling are still classified as waste and subject to all the statutory controls, including Duty of Care.

- 4B.6.4 Waste ceases to be waste once it has achieved 'Final Recovery'. This is when the waste material (in the view of the Regulator) has been incorporated into a final product.
- 4B.6.5 Waste falls into two main classifications as defined by the Landfill Directive and European Council Decision (2003/33/EC) for the purposes of management and disposal.
- **Hazardous waste:** This means any waste which is covered by Article 1(4) of Council Directive 91/689/EEC of 12 December 1991 on hazardous waste; and
 - **Non-hazardous waste:** This means waste which is not covered by hazardous waste.
- 4B.6.6 Non-hazardous waste is further defined as:
- **Municipal waste:** This means waste from households, as well as other waste which, because of its nature or composition, is similar to waste from households.
 - **Inert waste:** This means waste that does not undergo any significant physical, chemical or biological transformations. Inert waste will not dissolve, burn or otherwise physically or chemically react, biodegrade or adversely affect other matter with which it comes into contact in a way likely to give rise to environmental pollution or harm human health. The total leachability and pollutant content of the waste and the ecotoxicity of the leachate must be insignificant, and in particular not endanger the quality of surface water and/or groundwater.

The Waste Hierarchy

- 4B.6.7 The waste hierarchy (**Image 4B.1**) is designed as a process, which starts with measures to avoid the production of waste in the first place, through reuse, recycling and recovery, so that the least amount of waste is sent for disposal. The Project will follow this hierarchy.

Image 4B.1 The waste hierarchy



Waste Management During Design and Construction

4B.6.8 The following steps will be taken through the design development and construction phases of the Project with relevance to waste management.

Design and pre-construction

4B.6.9 As outlined in **Section 4B.2**, waste will be considered during the design stage of the Project as part of seeking further opportunities to design out waste at source. During pre-construction, the contractor will manage resources in an effective manner to reduce the risk of over-ordering materials or purchasing the wrong type of material, both of which can lead to the production of waste. The contractor will use the detailed design drawings to inform the procurement strategy so that the right quantities and type of material is ordered. These steps will reduce waste being created in the first place.

Site planning and preparation

4B.6.10 The construction compounds for the Project will contain designated waste storage areas. In accordance with good practice measure GG13 in **Appendix 4A Draft Outline Code of Construction Practice**, the layout of the construction compounds will be planned to locate activities (such as material and waste storage) or equipment that may produce a noticeable nuisance from dust away from sensitive receptors such as residential properties or ecological sites where practicable.

4B.6.11 When planning the layout of the main site compound, the contractor will consider the phasing of the overall Project in terms of the types of waste that may be generated and managed at different stages of development, and how this relates to on-site storage and management.

- 4B.6.12 Materials will be reused where practicable, for example temporary site cabins and fencing can be reused on different construction projects. This can also apply to temporary site matting (such as trackway) used in temporary access routes and plastic/concrete pipes used in temporary culvert crossings. Materials will be suitably stored to avoid damage.
- 4B.6.13 Waste will be stored separately to avoid cross contamination. The type of waste will dictate the containers and laydown areas required to facilitate safe storage including measures to avoid the risk of pest and vermin. Storage containers will be labelled to indicate the type of waste or materials that may be deposited in them. Contaminated or hazardous waste will have separate designated areas within the main site compound to avoid the risk of contaminating other material and waste streams. Handling and storage of these will be dependent on the level, type or classification of the waste.
- 4B.6.14 The contractor will implement the construction and management measures for agriculture and soils set out in **Chapter 12 Agriculture and Soils** and **Appendix 12A Draft Outline Soil Management Plan**. This will protect the soil quality and structure of soils temporarily disturbed during construction and allow them to be reused during the reinstatement process. Excess soil gained from the displaced soil will be reused in local landscaping mounding or potentially in backfilling the holes created from the foundation removal of dismantled 400 kV towers. This may be required where existing 4VK and ZA overhead lines need to be reconfigured in order to connect to the new proposed substations. National Grid expects that all soil will be reused on-site; however, if it arises that excess spoil cannot be reused on-site and is required to be taken off-site, the process (including certification and licensing) will be recorded as necessary. Where soil is potentially contaminated, it will follow the measures outlined in the **Handling and Disposal of Waste During Construction** section below.

Reinstatement

- 4B.6.15 In accordance with control and management measure GG09 in **Appendix 4A Draft Outline Code of Construction Practice**, land used temporarily will be reinstated where practicable to its pre-construction condition and use. Any topsoil or subsoil removed to facilitate construction will be reused and replaced in accordance with the control and management measures in **Chapter 12 Agriculture and Soils** and **Appendix 4A Draft Outline Code of Construction Practice**.

Handling and Disposal of Waste During Construction

Typical construction waste

- 4B.6.16 During construction, various waste will be created during the works. This is likely to include the following sources (which will be stored separately to avoid cross contamination) along with the likely waste management methods:
- **Vegetation arisings:** Green waste will be created from the clearance of trees and vegetation within the working area. Some of these arisings may be retained on-site where the landowner agrees and this is identified as having a clear ecological benefit. In such cases, vegetation may be left to form dead wood habitat, log piles or chippings and mulch. Any vegetation that cannot be used on-site, and therefore highlighted as requiring removal, will be composted as green waste at a recycling facility where suitable, i.e. not containing Invasive Non-Native Species.

- **Cable drums:** It is anticipated that these would be returned to the cable drum manufacturer for reuse on other projects.
- **Mixed metal such as aluminium and steel:** Steel and aluminium are recyclable with a high degree of efficiency and will include the dismantling of existing towers potentially removed as part of the reconductoring of the overhead lines. It would also include metal offcuts, such as those from cables, towers and piling. Metal will be collected and recycled off-site at a recycling facility.
- **Highways material including asphalt and bitumen:** Spoil excavated during bellmouth construction and/or the cable trenches within highways or private roads will be segregated and tested where required. It will then be disposed of at a specialised recycling facility as required. Older roads with bituminous materials may contain coal tar and will be appropriately assessed and classified prior to reuse, recycling, or disposal, where excavation of the carriageway is required.
- **Cement and concrete:** This is likely to include concrete used in the foundations of the 400 kV new overhead line. It is anticipated that cement or concrete arisings will be collected and recycled as hardcore at a recycling facility. Cement washings will be collected into a designated area and disposed of off-site.
- **Wooden formwork/temporary works:** Timber arisings from formwork and temporary works will be managed in accordance with the waste hierarchy. Where practicable, clean timber will be reused or recycled. Timber waste will be classified in accordance with relevant waste guidance and disposed of via appropriately licensed facilities.
- **Crushed stone:** It is anticipated that virgin crushed stone will be used during the temporary works and will include the surface of the main construction compound, crane pads and some of the temporary access routes. When the temporary works are complete, the crushed stone will be carefully removed to minimise disturbance of the underlying soil. Where suitable, the stone will be reused on other construction projects or sent to a recycling facility. Other options, such as soil stabilisation or use of track matting are under consideration.
- **Drilling mud:** If Horizontal Directional Drilling is used for any potential trenchless crossings, drilling mud (for example bentonite) may be used as part of the drilling process. This will be collected and reused where practicable, or sent to a recycling facility for treatment for onward use, for example as secondary aggregate in the construction industry.
- **Greases, fuels and oils:** All greases, fuels and oils will be collected and sent to a recycling facility for treatment and disposal as hazardous waste.
- **Liquid wastes (effluent):** Domestic effluent discharged directly to sewer, subject to the agreements with the relevant utility provider, is considered to be wastewater and is excluded from the waste regulatory regime. Site toilet waste generated from the construction compound welfare facilities is waste where a sewer connection is not reasonably practicable, and will be collected and tankered off-site for disposal at a licensed treatment facility.
- **Construction and post-construction:** Plastic, concrete, brick and stone-based materials will be reused where possible as part of construction and post-construction. Any waste not suitable for reuse will be collected and sent to a recycling facility for treatment and disposal.

- **Flume pipes:** The Project will be using a number of flume pipes as part of the temporary works at watercourse crossings. These can be made of various materials depending on the size and purpose. Flume pipes will be reused/recycled where practicable through the length of the Project and either treated and reused, or sent to a recycling facility, when no longer required.

4B.6.17 Other waste may be generated during construction and would be subject to the waste hierarchy of reusing or recycling where practicable, in accordance with the Project's waste minimisation targets.

General office waste

4B.6.18 In addition to the general construction waste, there will be offices and welfare cabins at the main site compound and the smaller satellite compounds. The following items will be separated in dedicated bins so that they can be recycled at an appropriate waste facility:

- paper and cardboard;
- metal such as aluminium cans;
- plastic;
- glass (not including bulbs and fluorescent tubes);
- ink cartridges and toner cartridges; and
- batteries.

4B.6.19 The Project will also generate general office waste, which includes items that are not classified as hazardous but that cannot be reused or recycled. These will be disposed of in general waste bins and sent to an appropriate facility for recovery or disposal. General office waste includes biodegradable kitchen and canteen waste.

Unexpected contaminated soils

4B.6.20 **Chapter 11 Geology and Hydrogeology** has provided a preliminary identification that during construction there is the potential for unexpected contamination to be encountered.

4B.6.21 The CEMP will set out how unexpected contamination is identified and the process for developing working methods for managing any risks, as required by **Appendix 4A Draft Outline Code of Construction Practice**.

Other controlled and contaminated waste

4B.6.22 The following waste products are controlled or classed as hazardous waste and are required to be kept separate from other waste streams and disposed of in a suitable manner:

- **Feminine hygiene:** Feminine products (a controlled waste) will be placed in specific bins within the female toilet cubicles. A specialist contractor will be employed to collect and dispose of the waste.
- **Clinical waste:** Any sharps or material containing blood or bodily fluids such as dressings, bandages and clothing is classed as clinical waste and considered to be hazardous. Such items will be placed in specific bins. A specialist contractor will be employed to collect and dispose of the waste.

- **Sewage waste:** Where sewage facilities cannot be connected to the main sewer network, sewage from welfare facilities and site toilets will be stored on-site, collected and disposed of by an appropriately licensed waste carrier.
- **Waste electrical and electronic equipment:** Redundant computers, batteries, monitors and any other waste electrical equipment are classed as hazardous waste. They will be stored separately to other waste streams while awaiting collection by a specialist recycling or disposal contractor.
- **Fluorescent light tubes:** These may contain mercury and, as such, are classed as hazardous waste. Waste fluorescent tubes will be separated and securely stored on-site for collection and recycling or disposal by a specialist waste contractor.

Waste Management Records and Handling

- 4B.6.23 Storage of waste on-site shall 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 Environment Agency.
- 4B.6.24 All waste will be identified and allocated the appropriate waste code from the European Waste Catalogue (EWC). The assessment will be undertaken by the Site Waste Manager. Waste will be classified using the Waste Acceptance Criteria (WAC) as identified in the EWC designation table. Where required, WAC testing will be undertaken. The purpose will be to confirm that classification is correct in respect to either inert wastes or hazardous wastes. WAC testing may be required for the disposal of inert wastes, such as glass, ceramics and wood, depending on the specific waste handlers' requirements.
- 4B.6.25 Any company collecting waste must be legally authorised to do so. This requires the Project to ensure that any company collecting its waste is either:
- registered as a waste carrier (registered carriers hold a licence which must be checked); registered waste carriers are licensed by their respective environmental regulator and are issued with a Waste Carriers Licence (valid for three years);
 - exempt from requiring carrier registration; or
 - a waste collection authority in England and Wales, waste disposal authority in Scotland or a district council in Northern Ireland (licence not required).
- 4B.6.26 Any waste which cannot be used on-site will be recycled or disposed of off-site, via a registered carrier to a licensed landfill site, a licensed transfer station, a licensed recycling facility or an exempt site. Every proposed destination site will be checked to ensure that a valid environmental permit or waste exemption has been issued by the Environment Agency for the type of waste to be received. Copies of the relevant permits shall be obtained and saved in the Project file storage system.
- 4B.6.27 All non-hazardous waste arising from the work carried out by staff will be accompanied with a Waste Transfer Note when passed to a registered waste carrier for removal from a site. All Waste Transfer Notes will be signed by a trained site representative, who will also check the permit or exemption of the registered waste carrier using the information held on the Environment Agency's website.
- 4B.6.28 A Hazardous Waste/Special Waste Consignment Note will be completed for every movement of hazardous waste. Hazardous Waste/Special Waste Consignment

Notes will be signed by a trained site representative. If hazardous waste is being returned to a depot for assessment it will be handled and transported appropriately. A waste carrier's licence will also be obtained.

- 4B.6.29 All parties involved in the carriage of waste must sign and retain a copy of the transfer documentation. This is a legal requirement, and failure to maintain a record of waste collections can result in prosecution. Completed Waste Transfer Notes and Hazardous Waste Consignment Notes must be kept on file for:
- Waste Transfer Note – two years; and
 - Hazardous Waste Consignment Note – three years.

4B.7 Implementation

Implementation of the MWMP

- 4B.7.1 National Grid will put in place robust procedures to inform and supervise all those working on the Project including its contractor, to make sure the control measures set out in the MWMP are adopted when undertaking the construction of the Project. The main responsibility for implementing these control measures will fall to the contractor.
- 4B.7.2 The contractor will brief all operatives on the specific details within the MWMP prior to the commencement of works. The briefings will be delivered by a suitably trained member of the team such as the site supervisor, Construction Manager, Environmental Manager or EnvCoW.

Site Checks and Reporting

- 4B.7.3 Regular site checks will be carried out across the Project to monitor compliance with the MWMP. The programme of site inspections will be controlled by the Environmental Manager and implemented by the EnvCoW. The overarching inspections are summarised in **Table 4B.3**. Immediate action including, if necessary 'stopping a job', will be taken should any incidents or non-conformance with the MWMP be found during inspection.
- 4B.7.4 Site checks and inspections will include checks against compliance with good practice measures in the CoCP, detailed in **Appendix 4A Draft Outline Code of Construction Practice**, and other commitments made by the Project. The programme of site inspections will be controlled by the Environmental Manager and implemented by the EnvCoW, who will draw on appropriate suitably experienced specialists for specific tasks.

Table 4B.3 Site checks relevant to the MWMP

Inspection Type	Purpose	Who	Frequency
General Site Inspection			
Environmental Inspections	To monitor compliance with Project commitments and the environmental standards.	Environmental Manager EnvCoW	Weekly

Inspection Type	Purpose	Who	Frequency
	To record adherence to good practice measures and raise actions where concerns are identified. To check mitigation measures for sensitive features are in place.		
Audits (External/Internal)	Formal audit process for internal Management System.	Internal or External Auditor Environmental Manager	Annual
Site Checks	To ensure that working practices are carried out in accordance with approved methods, standards and good practice measures.	Works Supervisor	Daily visual check in working area
Environmental Observations	Allows all staff to raise concerns or good practice ideas to safeguard continual improvement and innovation.	All staff	As required

Materials and Waste Management

Visual Inspection	Visual inspection of stockpiles, waste storage and skips. Ensuring secure, appropriately segregated and tidy.	Works Supervisor	Weekly
Audits (External/Internal)	Checking conformance with Waste Duty of Care requirements. Undertaking checks of Waste Transfer Notes, waste carrier licences and ensuring that Environmental Permits are in place for waste management sites	Site Waste Manager	Monthly

4B.7.5 The results of inspections will be recorded in an Environmental Log. Findings will be disseminated to the wider construction team as appropriate and additional procedures put in place if required.

- 4B.7.6 Each quarter, the actual waste figures for the previous period will be updated to enable the Project team to review up-to-date waste data and progress against the Project targets.
- 4B.7.7 Records will be kept, setting out a description of the waste type and the EWC if appropriate and also the quantities of waste produced. Records will also be kept of the disposal documentation including waste carriers registration number and the transfer and consignment notes, marked with the time and date of collection.
- 4B.7.8 The data will be available for review by the relevant planning authorities and the Environment Agency on request.

Non-Compliance Procedure

- 4B.7.9 The EnvCoW will be responsible for undertaking site audits to check compliance with the MWMP and method statements. All incidents associated with the construction of the Project, including environmental incidents and non-conformance with the MWMP, will be reported and investigated as per the steps that will be outlined in the CEMP.

Change Process

- 4B.7.10 This document is a draft provided to support the Project's Stage 2 Consultation and is subject to change based on responses to that consultation, and ongoing design development, assessment, and engagement. Any relevant changes adopted will be included in the Outline MWMP submitted with the application for development consent. The Outline MWMP may be updated during examination.

References

- Ref 4B.1 National Grid (2026). Our 2026-2031 Social and Environmental Action Plan.
- Ref 4B.2 National Grid (2016). Environment Policy.
- Ref 4B.3 Waste and Resource Action Programme (2008). Achieving Good Practice Waste Minimisation and Management: Guidance for Construction Clients, Design Teams and Contractors.
- Ref 4B.4 Department of Environment, Food and Rural Affairs (2022). Circular Economy Package Policy Statement. [online]. Available at: <https://www.gov.uk/government/publications/circular-economy-package-policy-statement/circular-economy-package-policy-statement> [Accessed: 15 April 2026].
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- Ref 4B.6 Department of Environment, Food and Rural Affairs (2011). Government Review of Waste Policy in England 2011. [online]. Available at: <https://www.gov.uk/government/publications/government-review-of-waste-policy-in-england-2011> [Accessed: 15 April 2026].
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- Ref 4B.8 Department of Environment, Food and Rural Affairs (2021). Waste Management Plan for England 2021. [online]. Available at: <https://www.gov.uk/government/publications/waste-management-plan-for-england-2021> [Accessed: 15 April 2026].
- Ref 4B.9 British Standards Institution (2017). BS 8001:2017 - Framework for implementing the principles of the circular economy in organizations.
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