

Visual Impact Provision (VIP)

Peak District (East) Project

Outline Construction Environmental Management Plan

National Grid
National Grid House
Warwick Technology Park
Gallows Hill
Warwick
CV6 3DA

July 2019

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APPENDICES

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Appendix 2B.2: National Grid's Environmental Management System (EMS)

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Appendix 2B.4: Outline Written Scheme of Investigation (WSI) for the Mitigation of Effects on Archaeological Remains

Appendix 2B.5: Outline Construction Traffic Management Plan (CTMP)

Appendix 2B.6: Outline Trans Pennine Trail Management Plan

Appendix 2B.7: Outline Asbestos Management Plan

1 INTRODUCTION

1.1.1 The Visual Impact Provision (VIP) Project represents a major opportunity to conserve and enhance the natural beauty, wildlife and environmental heritage within our most protected landscapes by relocating above ground electrical infrastructure such as overhead lines (OHL), underground. The project will make use of a £500m allocation by Ofgem to carry out work to help reduce the impact of existing transmission lines in English and Welsh Areas of Outstanding Natural Beauty (AONBs) and National Parks. In 2014, National Grid identified twelve transmission lines in eight AONBs and National Parks as having the most significant visual impact. The focus of the VIP project is on the mitigation of landscape and visual impacts.

1.1.2 In September 2015 the Project's Stakeholder Advisory Group considered a wide range of factors and recommended four Projects be taken forward for potential engineering work, one of which is the Peak District (East) Project (here on referred to as the 'Proposed Project') located near to the eastern entrance of the Woodhead Tunnel at Dunford Bridge.

1.2 Existing Infrastructure

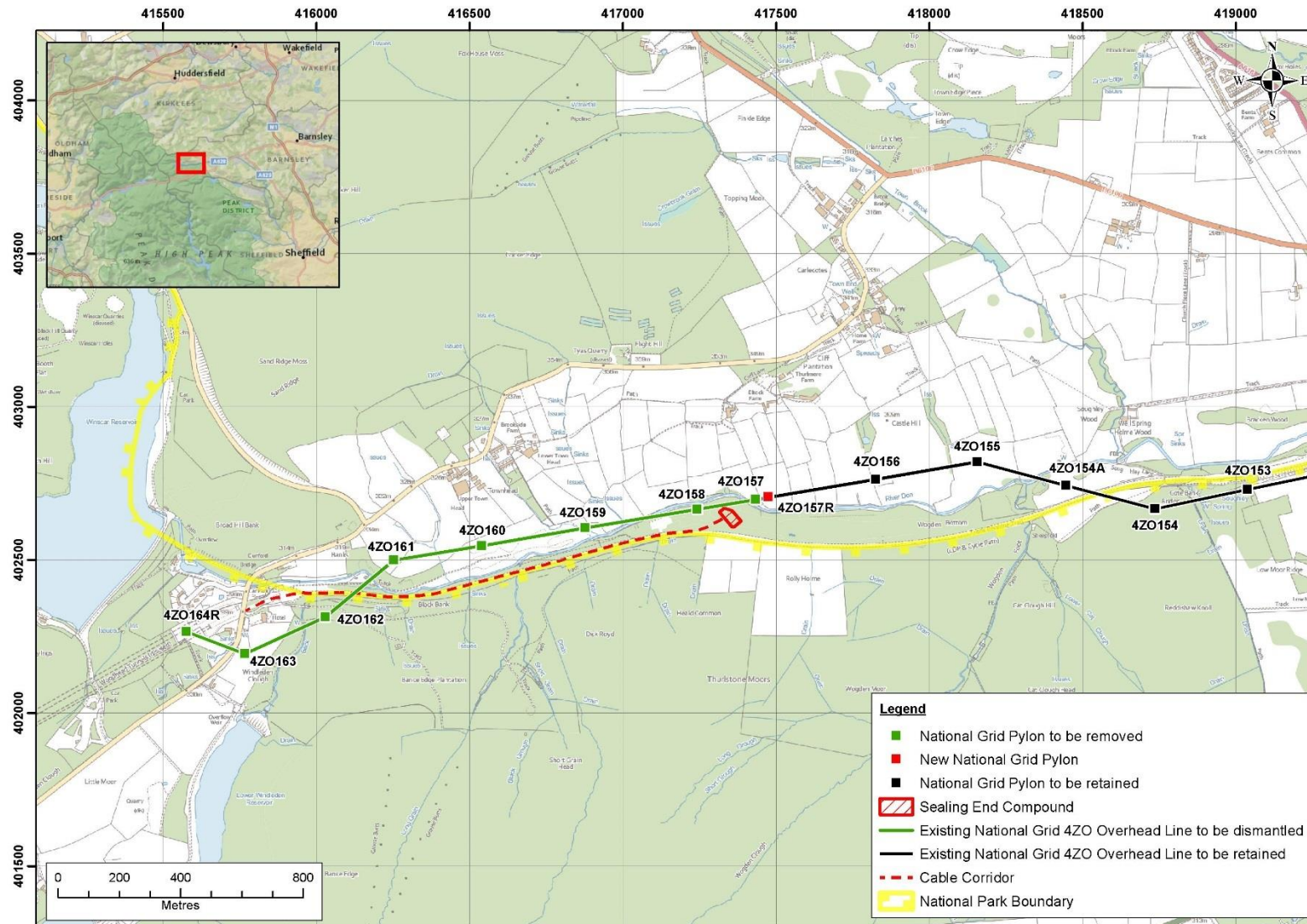
1.2.1 The existing 4ZO 400kV OHL connects Stalybridge 400kV substation, Stocksbridge 400kV and Thorpe Marsh 400kV substations. The OHL was constructed between 1966 and 1967 with standard lattice pylon design and strung with twin and quad conductor bundles along various sections. There is a high voltage cable section installed in the Woodhead Tunnel between Dunford Bridge and Woodhead connecting the eastern and western section of the OHL. The location of the National Grid 4ZO OHL and the VIP subsection is shown in Figure 1.

1.3 The Proposed Project

1.3.1 The VIP subsection (where the OHL will be re-located underground) runs eastwards from an existing Sealing End Compound (SEC) near to the eastern entrance of the Woodhead Tunnel at Dunford Bridge. It crosses the National Park boundary, and then continues north over the Upper Don River and the Trans-Pennine Trail, south of the hamlet of Townhead towards Castle Hill.

1.3.2 The Proposed Project lies within the administrative boundaries of the Peak District National Park Authority and Barnsley Metropolitan Borough Council.

Figure 1



1.3.3 The 'Proposed Project' includes the following principal elements which are described in detail in the Environmental Assessment Report (EAR):

- Removal of the existing SEC at Dunford Bridge, east of the Woodhead Tunnel (the existing tunnel shaft cap will be lowered, and mounding created over the shaft which will be surrounded by gabion baskets approximately 1m in height and width);
- Removal of the existing VIP subsection including approximately seven pylons and 2km of OHL;
- Construction of a new SEC and replacement tension pylon (with the circuits terminating onto two full tension gantries within the SEC) including permanent access (at the eastern end of the new underground cable). This is required to connect the new underground cables to the remaining existing OHL. The proposed SEC is within Wogden Foot Local Wildlife Site (LWS) and the replacement tension pylon (Pylon 4ZO157R) is located approximately 40m north east of the SEC on the northern side of the River Don;
- Underground cabling of approximately 1.8km along the Trans Pennine Trail from the entrance of the Woodhead Tunnel to the proposed new SEC at Wogden Foot;
- Jointing of the new underground cable to the existing cable within the Woodhead Tunnel;
- Temporary laydown areas, access tracks and site offices to facilitate construction activities;
- Construction and removal of a temporary Trans Pennine Trail diversion for use during the construction works. Following construction, a stretch of approximately 410m of the diversion surface would will be retained permanently to the east and west of the replacement permanent bridge. The diversion is proposed in farmland immediately north of the River Don;
- Construction and removal of temporary access roads to the pylons and along the Trans Pennine Trail to the SEC at Wogden Foot; and
- Installation of one temporary bridge and one permanent bridge required for the temporary Trans Pennine Trail diversion.

1.4 The Purpose of the Outline Construction Environmental Management Plan

1.4.1 This Outline Construction Environmental Management Plan (CEMP) supports the planning application by National Grid Electricity Transmission plc (National Grid) for the Proposed Project. The Proposed Project lies within the administrative boundary of Barnsley Metropolitan Borough Council and there are also areas that fall into the administration of the Peak District National Park Authority.

1.4.2 This document has been prepared by National Grid and presents the approach and application of environmental management and mitigation for the construction of the Proposed Project. The Outline CEMP aims to ensure that adverse effects on the environment and local communities, from the construction phase of the Proposed Project, are minimised.

1.4.3 The Outline CEMP has been prepared in accordance with the construction mitigation measures identified in the EAR Chapters and in accordance with National Grid's Environmental Management System (EMS)(Appendix 2B.2).

1.4.4 National Grid will require its contractors to adopt and implement the CEMP during the construction of the Proposed Project. This will be secured through contractual agreements. The construction Principal Contractor will be responsible for producing their own CEMP which adopts all requirements laid-out in this Outline CEMP.

1.5 Objectives

1.5.1 The objectives of the CEMP are to:

- Provide a mechanism for ensuring the delivery of mitigation measures, to reduce environmental effects identified in the EAR;
- 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 planning conditions, including reporting, remediation and any additional mitigation measures required to prevent a recurrence.

1.6 Supporting Plans

1.6.1 This Outline CEMP references a range of supporting documentation including a series of subject specific management plans for specific environmental topics and the environmental management measures that have been identified as mitigation requirements within the EAR.

1.6.2 These subject specific management plans form appendices to this Outline CEMP and comprise:

- Outline Landscape and Ecological Management Plan (LEMP)
- Outline Construction Traffic Management Plan (CTMP)
- Outline Trans Pennine Trail Management Plan (TMP)
- Outline Asbestos Management Plan (AMP)

1.6.3 The outline plans have been prepared by National Grid; these will then be updated by the Principal Contractor once detailed construction practices have been identified and refined prior to finalising these documents.

1.6.4 In addition to the above plans, the appointed Principal Contractor will be required to develop a series of specific plans to set out in detail the management systems, procedures and approaches that will be implemented during construction to comply with the Outline CEMP. These plans (see also Table 2.2) will include:

- Construction Environmental Management Plan (CEMP);
- Contractor Environmental Management System (EMS);
- Pollution Incident Control Plan (PICP);
- Construction Phase Safety, Health and Environmental (SHE) Plan;

- Site Waste Management Plan (SWMP);
- Emergency Response Plan (ERP),
- Site Drainage Plan (SDP), and,
- Soil Management Plan (SMP)

1.7 Structure of the Outline CEMP

1.7.1 Chapter 2 of this Outline CEMP provides information on general environmental management procedures and conformance, roles and responsibilities (including a summary of the specific management plans to be produced by the appointed Principal Contractor) and compliance with legislation and consents.

1.7.2 Chapter 3 describes the site-specific environmental management measures that will be implemented during construction, including:

- Waste Management
- Material/ Resource Management
- Lighting
- Security
- Welfare
- Pest Control
- Invasive Species/Injurious Plants
- Unexploded Ordnance
- Utilities
- Pollution Prevention/ Storage and Plant
- Geology, Soils and Contaminated Land
- Protection of the Water Environment
- Land Use and Agriculture
- Historic Environment
- Traffic and Transport
- Air Quality
- Noise and Vibration
- Public Rights of Way
- Biodiversity and Nature Conservation

2 ENVIRONMENTAL MANAGEMENT

2.1 Conformance with Corporate and Project EMS

2.1.1 National Grid are committed to safeguarding the environment for future generations by taking a responsible and sustainable approach in all that they do.

2.1.2 In accordance with this proactive approach to sustainable design and construction, National Grid and the appointed Principal Contractor will seek to maximise resource efficiency through reducing the amount of waste generated, minimising water consumption and making the most efficient use of energy.

2.1.3 National Grid maintain 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 ISO14001:2015. A summary of National Grid's Environmental Sustainability Policy is provided in **Appendix 2B.1**. This Outline CEMP complies with National Grid's environmental policies.

2.1.4 The EMS sets out the overall processes for:

- environmental responsibilities;
- identifying environmental aspects;
- setting and achieving environmental objective and targets;
- controlling environmental impact;
- meeting the conditions of environmental consents and permits; and
- preparing and responding to environmental emergencies and incidents.

2.1.5 The Principal Contractor will prepare their own project-based EMS in accordance with National Grid's EMS prior to construction commencing. The contractors' EMP will detail their framework for managing the environment. National Grid will approve the Principal Contractor's EMS prior to construction.

2.1.6 The contractors' EMS will address:

- the environmental aspects identified in the EAR and CEMP;
- compliance with environmental consents and permits;
- overall compliance with environmental legislation, approved codes of practice and industry best practice;
- production of the CEMP, including roles and responsibilities;
- monitoring and review arrangements;
- emergency procedures that are defined and adopted; and
- appropriate training and information for personnel.

2.2 Planning Applications and Conformance with Planning Conditions

2.2.1 The Proposed Project encompasses the planning jurisdictions of the Peak District National Park Authority and Barnsley Metropolitan Borough Council. National Grid is seeking to secure full planning permission by way of a planning application under the Town and Country Planning Act 1990 to Barnsley Metropolitan Borough Council and

Peak District National Park Authority for the following aspects of the proposed Project that require planning consent:

- Construction of a new sealing end compound, including permanent access;
- Construction of a temporary haul road from Brook Hill Lane including widened bellmouth;
- Construction of a temporary Trans Pennine Trail (TPT) diversion to be used for approximately 12-18 months; following construction approximately 410m of said diversion surface would be retained permanently; and
- Erection of two bridges (one temporary and one permanent) along the TPT diversion

2.2.2 The Principal Contractor will apply for planning permission for the temporary widening of a bellmouth at Access Point AP6 (See Appendix 2B.5 Outline Construction Traffic Management Plan) and any off-site construction compound if deemed required.

2.2.3 All other works related to the Proposed Project, including that which falls within the Peak District National Park, constitutes 'Permitted Development' under Schedule 2, Part 15, Class B(a) of the Town and Country (General Permitted Development) (England) Order 2015 (the GPDO), subject to the conditions in the order, or are considered not development, or are covered by an exemption under the Electricity Act.

2.2.4 The Electricity Act 1989 sets out that, with certain exceptions, consent must be obtained for installing and maintaining any electric OHL. Proposed works on OHLs require a fresh consent unless they are permitted under an existing consent or under an available exemption. Under Section 37 of the Act, specific electricity works require an application for consent to be submitted to the Department for Business, Energy and Industrial Strategy (BEIS). There are elements of the project that are deemed exempt from requiring consent under Section 37 of the Electricity Act 1989. This is because they are within the limitations and restrictions as set out in the Overhead Lines (Exemption) (England & Wales) Regulations 2009 and are deemed as not having a significant adverse effect.

2.2.5 National Grid are seeking confirmation notification from Barnsley Metropolitan Borough Council that the Proposed Project would be exempt from requiring Section 37 consent. The planning application and exemption regulation notification will be submitted at the same time to allow for consideration of the project elements in parallel.

2.2.6 The local planning authorities have also commented that, Article 3(1) of the GPDO 2015 places a restriction on the exercise of permitted development under Regulations 73 to 76 of the Conservation of Habitats and Species Regulations 2010, however they do not consider that the Proposed Project is likely to have a significant effect on any European designations site based on the nature of the Proposed Project and its distance from the closest site (approximately 300m away).

2.2.7 Any conditions imposed through the planning system will be appropriately discharged at the relevant stage of the proposed works by National Grid or their appointed Principal contractor.

2.3 Conformance with the Environmental Assessment Report

- 2.3.1 The Proposed Project received a Screening Opinion from both Barnsley Metropolitan Borough Council and the Peak District National Park Authority in December 2015 under Regulation 5 of The Town and Country Planning (Environmental Impact Assessment) Regulations 2011 confirming that the submission of a formal Environmental Impact Assessment (EIA) is not required. Consequently due to project evolution Barnsley Metropolitan Borough Council requested an additional screening request be submitted. National Grid made this further request for a screening opinion Impact to Barnsley Metropolitan Borough Council and the Peak District National Park Authority on 21 September 2018 under the Town and Country Planning (Environmental Impact Assessment) Regulations 2017 (as amended).
- 2.3.2 PDNPA and BMBC responded to the additional screening request on 15th October 2018 and 2nd January 2019, respectively, concluding that formal EIA would not be required given the scale and nature of the Proposed Project.
- 2.3.3 Although the Proposed Project does not constitute formal Environmental Impact Assessment (EIA) development, an environmental assessment has been undertaken for the Proposed Project and reported in a non-statutory Environmental Assessment Report (EAR). This provides supplementary information to the planning application.
- 2.3.4 The EAR includes assessments of the potential effects on the environment that are likely to be caused during the construction, operation and decommissioning phases of the Proposed Project. The EAR also describes the mitigation measures to reduce the significance of the adverse effects on the environment.
- 2.3.5 This Outline CEMP has been prepared in accordance with the mitigation measures identified in the EAR to reduce the adverse effects of the Proposed Project on the environment during construction.
- 2.3.6 National Grid, and its Principal Contractor will implement the mitigation measures identified in the EAR and in this Outline CEMP to reduce adverse effects of the construction of the Proposed Project on the environment.

2.4 Compliance with Legislation, Standards and Guidance

- 2.4.1 There is a broad range of legislation covering the different aspects of environmental protection. These are supported by additional statutory guidance; 'standards', such as British Standards (BS) or International Standards (ISO); and other 'best practice' guidance, including industry codes of practice. Where applicable, references to specific legislation, standards and guidance are included within each subsequent section of this Outline CEMP.
- 2.4.2 This aspect of the Outline CEMP will be kept under review and updated as required as a result of new or amended legislation, standards and guidance by National Grid and issued to its contractors.

2.5 Consents and Licences

- 2.5.1 A number of sections of this Outline CEMP reference consents, permits and licences that will be required during construction. A Consents Register will be maintained by the Principal Contractor's Environmental Manager which will document all existing consent conditions, record all new applications made and the status of the applications.

2.6 Roles and Responsibilities

- 2.6.1 Establishing roles and responsibilities on site is important to ensure the successful construction of the Proposed Project, including the implementation of including the implementation of the Principal Contractor's CEMP.
- 2.6.2 The responsibilities of the personnel who will be responsible for implementing, monitoring, responding to, and updating the CEMP are described at **Table 2.1**.

Table 2.1 Responsibilities of the Principal Contractor

Role	Responsibilities
Project Manager	<ul style="list-style-type: none"> Overall responsibility for ensuring conformance with the Outline CEMP; and incident investigation.
Safety, Health, Environment, Security and Quality (SHESQ) Manager	<ul style="list-style-type: none"> Reviewing risk assessments and method statements (RAMS); Manager of the Safety, Health and Environment (SHE) Plan; Reviewing, updating and issuing the CEMP; Incident investigation; Liaison with the emergency services; Site inspection; Reviewing applications for environmental consents and permits; and Sensible monitoring.
Environmental Manager	<ul style="list-style-type: none"> Site inspection; Preparing and submitting applications for environmental consents and permits; Maintaining a consents register; Liaison with third parties and licensing authorities; Organising environmental surveys; and progress monitoring.
Ecological Clerk of Works (ECoW)	<ul style="list-style-type: none"> ensure the LEMP is implemented; and oversee ecological mitigation works.
Archaeological Clerk of Works (ACoW)	<ul style="list-style-type: none"> ensure the WSI is implemented; and oversee archaeological mitigation works.
Archaeological Contractor (AC)	<ul style="list-style-type: none"> To implement the measures defined in the Archaeological WSI. Provide appropriately experienced specialist support if required

- 2.6.3 Prior to construction commencing, the Principal Contractor will prepare the specific management plans as detailed in **Table 2.2**.

Table 2.2 Plans to be Prepared by the Principal Contractor

Management Plan	Description
Construction Environmental Management Plan (CEMP)	Details the environmental mitigation measures that will be implemented during each stage of the construction works and will be in accordance with this Outline CEMP.
Contractor Environmental Management System (EMS)	Details the framework for managing the environment.
Pollution Incident Control Plan (PICP)	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.
Construction Phase Safety, Health and Environmental (SHE) Plan	Details relevant safety, health and environmental information relating to all construction activities.
Site Waste Management Plan (SWMP)	Sets out details developed from the Outline CEMP to identify site-specific measures for the collection, segregation, treatment and disposal of waste.
Emergency Response Plan (ERP)	Describes the procedure to be followed in the event of an emergency.
Site Drainage Plan (SDP)	Identifies drainage arrangements to ensure adequate management of surface water run-off (including volume and quality) and prevent pollution of controlled waters.
Soil Management Plan (SMP)	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.

- 2.6.4 The plans will be made available to any person working on the Proposed Project.
- 2.6.5 Environmental issues that arise during the construction of the Proposed Project will be reviewed at the inaugural and subsequent regular meetings held by the Principal Contractor. Where necessary, daily toolbox talks will be held by the Principal Contractors to inform the construction staff of any environmental issues and any changes to the plans.
- 2.6.6 The appointed Principal Contractor will ensure that all staff, including sub-contractors are trained and competent in the management of environmental impacts to a level that is appropriate to their role.

2.7 Environmental Procedures

Audits and Inspections

- 2.7.1 The contractor will undertake daily inspections, which will include monitoring conformance with the Outline CEMP. Daily assessment forms will be completed during the daily checks. Checks on equipment will be undertaken to reduce the risk of incidents occurring (for example oil leaks). As a minimum the following equipment and receptors will be inspected:
- Fencing;
 - waste storage facilities;
 - oil separators;
 - chemical storage facilities;
 - bund integrity;
 - foul water storage facilities;
 - silt traps;
 - drainage ditches and watercourses or other nearby environmental receptors;
 - storage vessels (including pumps, gauges, pipework and hoses);
 - secondary containment (for example, secondary skins for oil tanks);
 - spill response materials;
 - equipment with potential to leak oils and other liquids, for example, compressors and transformers; and
 - Signage, fencing and condition of the diverted Trans Pennine Trail and associated temporary bridges.
- 2.7.2 Weekly inspections and monthly audits will be undertaken by National Grid and its Principal Contractor to ensure the daily checks are being undertaken correctly and that the works are being carried out in accordance with the Outline CEMP.
- 2.7.3 The daily and weekly inspections will also include, in addition to the list at paragraph 2.7.1:
- Reviewing the daily risk assessment forms;
 - Ensuring that faults and defects are identified and rectified; and
 - Providing data for performance monitoring.
- 2.7.4 Environmental performance data will be collected and collated into the SHE Plan.
- 2.7.5 Immediate action including ceasing of all works, if necessary, will be taken should any incidents or non-conformance with the Outline CEMP be found during inspection.
- 2.7.6 All monitoring reports will be made available to statutory and non-statutory bodies on request.

Incident Procedure

Pollution Incident Control Plan (PICP)

2.7.7 The Principal Contractor will develop and implement a PICP which will detail their response in the event of any incident on site. The following measures and information will be included and detailed further in the PICP to manage any incidents and limit adverse effects on the receiving environment:

- Describe the procedure to be followed in the event of an incident (in accordance with the 'Incident Response' procedure below);
- Describe the procedure for the notification of appropriate emergency services, authorities and personnel on the construction site;
- Describe the procedure for the notification of relevant statutory bodies, environmental regulatory bodies, local authorities and local water and sewer providers;
- Provide maps showing the locations of local emergency services facilities such as police stations, fire authorities, medical facilities, other relevant authorities, such as the EA and also the address and contact details for each service and authority;
- Provide contact details for the persons responsible on the construction site for pollution incident response;
- Provide contact details of a competent spill response company which can be contacted at short notice for an immediate response.
- Ensure that site drainage plans, and flood risk management plans are available on site and are kept up-to date; and
- Ensure staff competence and awareness in implementing plans and using pollution response kit.

Incident Response

2.7.8 All incidents associated with the construction of the Proposed Project including environmental incidents and non-conformance with the Outline CEMP, will be reported and investigated using the PICP.

2.7.9 The following procedure will be followed in the event of an incident and will be detailed further in the PICP:

- Related works will stop;
- The Environmental Manager and SHESQ Manager will be contacted;
- The size of the incident will be assessed;
- If the incident is controllable by staff on Site, remedial action will be taken immediately in accordance with the PICP;
- If the incident cannot be controlled by the staff on Site, emergency assistance will be sought;
- The appropriate enforcing authority will be contacted and informed, as appropriate including:

- The Environment Agency or Barnsley Metropolitan Borough Council for incidents affecting rivers, ground or groundwater and major emissions to atmosphere;
- The local sewerage/water undertaker for incidents affecting sewers or outfall pipes;
- The Local Authority Environmental Health Department for incidents that could affect the public;
- The Food Standards Agency for incidents that have the potential to affect food through deposition on crops or land used for grazing livestock;
- The Project Manager and SHESQ Manager will instigate an investigation into the occurrence of the incident;
- The findings will be sent to the appropriate enforcing authority where necessary; and
- An action plan will be prepared to determine why the incident occurred and whether any modifications to working practices are required to prevent a recurrence. If necessary, the Outline CEMP, PICP and SHE Plan will be updated (and any other plans as appropriate) and all workers will be notified.

Training

- 2.7.10 The Principal Contractor will ensure that all site personnel and sub-contractors are aware of their responsibilities with respect to the CEMP and its appropriate implementation.
- 2.7.11 All staff, site visitors and delivery drivers will receive a relevant project induction by the Principal Contractors nominated representative to ensure they are aware of site hazards and health, safety and environmental management requirements. Site staff will be briefed daily by the Principal contractors nominated representative prior to work commencing. Site-specific risk assessments will be carried out to ensure the risk strategy of the frequently changing workplace remains relevant.
- 2.7.12 Where required, environmental training commensurate to the work task, work location and work phase, will be provided by the Principal Contractor.
- 2.7.13 Tool box talks will be given to site personnel with information provided to the workforce to ensure that staff are aware of environmental issues and how to manage them in accordance with the CEMP.

3 ENVIRONMENTAL MANAGEMENT OF SITE OPERATIONS

3.1.1 This chapter of the Outline CEMP describes the environmental management measures that will be implemented during the construction of the Proposed Project to minimise adverse effects on the environment. These are based on current best practice guidance, Guidance for Pollution Prevention (GPP) documents¹, and mitigation measures as identified in the EAR (**Chapters 6 to 14**). The Principal Contractor will provide reference to relevant guidance used.

3.2 Waste Management

3.2.1 National Grid and the appointed Principal Contractor are responsible for managing waste arising from all activities in order to prevent pollution and to meet or exceed legal requirements²³⁴⁵.

3.2.2 The Principal Contractor will prepare a Site Waste Management Plan (SWMP) which will be in accordance with the following measures:

- SWMP to contain information on the amount and type of waste that will be generated from the site;
- Demonstrate how the consumption of raw materials and generation of waste shall be minimised, through sound design and good practice in sustainable procurement and construction methods i.e. encourage the re-use of recycled or secondary resources;
- There are potentially large volumes of aggregates that will be used and generated during works. NG have produced a guide⁶ to the sustainable use of Aggregates on National Grid Projects to assist in their goal of increasing use of secondary and recycled aggregates by 10 % year on year. The Principal Contractor will include measures to increase reuse of any aggregates generated and maximise use of secondary or recycled aggregate.
- Where waste is generated, show measures taken to reduce, re-use and recycle waste within the development, including the provision of on-site separation and treatment facilities (using fixed or mobile plants where appropriate) to minimise disposal via landfill;

¹ GPPs are a series of documents that provide environmental good practice for the whole UK and environmental regulatory guidance directly to Northern Ireland, Scotland and Wales only. For businesses in England, regulatory guidance is available from GOV.UK instead. The GPPs are directly replacing a series of guidance documents called Pollution Prevention Guidelines (PPGs) that were administered by the Environment Agency. Where no GPP is yet available information provided within the relevant PPGs is still considered as best practice.

² The Waste (England and Wales) Regulations, 2011

³ Water Resources Act, 1991

⁴ Hazardous Waste Regulations, 2005

⁵ Waste Framework Directive, 2008

⁶ Sustainable Construction: A guide to sustainable use of aggregates on National Grid Projects

- Where on-site recycling, recovery and re-processing is undertaken demonstrate how these activities will comply with the requirements set out under policy WCS6 in the adopted Barnsley, Doncaster and Rotherham Joint Waste Plan.;
- Demonstrate how waste laydown/ stockpile areas have been designed to allow effective sorting and storing of recyclables and recycling and composting of waste and facilitate waste collection
- Ensure waste materials will be stored securely on site in order to prevent pollution and provide protection against vandalism, vermin or outside interference;
- Hazardous waste (e.g. paints, solvents, sealants) will be correctly segregated on-site to avoid contaminating other material;
- Storage 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 Non-Waste Framework Directive exempt
 - carried out under a waste exemption listed in the Environmental Permitting (England and Wales) Regulations 2016 and issued by the EA; or
 - carried out under an environmental permit listed in the above regulations and 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 contractors carrying waste will be authorised to do so and all sites that receive the waste will be authorised and have sufficient capacity to do so;
- Wastes generated must not prevent or prejudice the delivery and operation of waste management facilities within the vicinity of the safeguarded and allocated sites set out under policies WCS2, WCS3 and WCS5 in the adopted Barnsley, Doncaster and Rotherham Joint Waste Plan;
- Duty of Care checks on the registration of waste carriers and the permitting of sites receiving project wastes shall be performed and evidence of these checks shall be maintained;
- Disposal of all waste will be accompanied by the relevant statutory transfer documentation that adequately describes the waste;
- Waste transfer documentation shall be held for the statutory time periods, 2 years for non-hazardous waste disposals (including inert wastes) and 3 years for hazardous waste disposals;
- Quantities of waste generated will be recorded and monitored. Records will be kept for a minimum of three years;

- All employees and contractors will have a Duty of Care⁷ when controlling the carriage and disposal of waste to ensure it is handled in a responsible manner; and
- All staff and contractors working on the Proposed Project will be informed of which waste should be deposited where.

3.3 Lighting

- 3.3.1 Winter working may require task-specific lighting due to the short day lengths when lighting will be required at the beginning and end of the day. Lighting will be used only when required during core working hours, unless otherwise stated and will comprise lighting of work areas and access and egress with low level directional lighting.
- 3.3.2 Construction compounds will not be lit at night outside core working hours except for lighting within the tunnel where lighting is required at all times whilst working, and welfare and site security cabins that will include low level lighting. Motion sensor lighting will be also be used in areas of high security risk.
- 3.3.3 Motion sensor lighting will be required outside the covered structures for security and access and egress.
- 3.3.4 Other activities such as security checks required to be undertaken outside of the normal working hours may also require lighting.
- 3.3.5 The following measures will be implemented:
- Lights installed will be of the minimum brightness and/or power rating capable of performing the desired function;
 - Light fittings will be used that reduce the amount of light emitted above the horizontal;
 - Light fittings will be positioned correctly and directed downwards;
 - Direction of lights will seek to avoid spillage onto neighbouring properties;
 - Passive Infra-Red (PIR) controlled lights will be considered for use where appropriate as these may be more acceptable to neighbours than those which are controlled by a time switch or are on all the time; and
 - Unnecessary lights will be switched off.

3.4 Security

- 3.4.1 Construction sites will be controlled in accordance with the statutory duty⁸ to prevent unauthorised access to the site. Site-specific assessments of the security and

⁷ Waste Duty of Care, Code of Practice, DEFRA, March 2016

⁸ British Standard 5228-1:2009+A1:2014, Code of Practice for Noise and Vibration Control on Construction and Open Sites Noise, 2009 (amended February 2014)

trespass risk will be undertaken and appropriate control measures implemented. The control measures are likely to include:

- Use of perimeter fencing or hoarding for site security and public safety, and placed so that PRow are maintained or appropriately diverted;
- Use of motion sensor lighting in areas of high security risk;
- Use of appropriately trained and qualified security guards;
- Consultation with the Police on security proposals with regular liaison to review security effectiveness and response to incidents; and
- Immobilisation of plant out of hours, removing or securing hazardous materials from site, securing fuel storage containers and preventing unauthorised use of scaffolding.

3.5 Welfare

- 3.5.1 No living accommodation will be permitted on the construction site. Onsite welfare facilities will be provided for all site workers and visitors. Welfare facilities will be kept clean and tidy.

3.6 Pest Control

- 3.6.1 The risk of infestation by pests or vermin will be reduced by implementing appropriate storage and regular collection of putrescible waste. If infestation is found, removal and prevention measures will be implemented promptly. Any pest infestation of the construction site will be notified to the local authority as soon as is practicable.

3.7 Invasive Species/Injurious Plants

- 3.7.1 The Principal Contractor will ensure all site personnel are vigilant with regards to awareness of invasive species/injurious plants, through site briefings, inductions, training and tool box talks.
- 3.7.2 Measures contained in relevant DEFRA and Environment Agency best practice guidance on the control and removal of invasive weed species/injurious plants will be implemented where appropriate. Further details on invasive species/plants are provided in the LEMP.

3.8 Unexploded Ordnance

- 3.8.1 Risk assessments will be undertaken prior to commencement of construction activities to determine the possibility of unexploded ordnance being found within construction areas. An Emergency Response Plan for unexploded ordnance will be prepared by the Principal Contractor and will be followed to respond to the discovery of unexploded ordnance. This will include notifications to the relevant local authorities, emergency services, residents and businesses.

3.9 Utilities

- 3.9.1 Appropriate third party utility drawings will be provided by National Grid to the Principal contractor (see folder within the tender documentation site information) identifying all known utility infrastructure. The Principal contractor shall revalidate and prepare third party composite maps as required for the construction works, with the

contractor re validating the composite maps during the scheme. The Principal contractor will operate a permit to dig procedure in regards with all ground breaking activities carried out.

- 3.9.2 Prior to intrusive investigations commencing appropriate service clearance surveys and utility searches will be undertaken by the Principal contractor to identify above and below ground services and utilities to avoid damage to third party property. This will include liaison with the relevant owner and operator to accurately identify the precise location of services/utilities.

3.10 Pollution Prevention/ Storage and Plant

Storage and Handling Requirements

- 3.10.1 Details on the storage of waste will also be provided in the SWMP. Facilities will be provided for the collection, segregation, treatment and disposal of solid and liquid waste.

- 3.10.2 The following measures will be implemented on site for the storage of materials:

- All oil and diesel storage facilities will be at least 10m from any watercourse including surface water drains; and at least 50m from any borehole or well; Oil storage containers include:
 - oil drums and fixed tanks
 - intermediate bulk containers (IBCs)
 - mobile bowsters - containers designed to store and dispense oil that can be moved between locations but not under their own power
 - some types of generator and transformer
- Spill kits and drip trays (including booms) will be provided for all equipment and at locations where any liquids are stored and dispensed;
- Storage facilities will be provided for solid materials, including waste soils, to prevent deterioration of the materials and their escape (via surface run off or wind blow);
- Storage facilities will be kept secure to prevent acts of vandalism that could result in leaks or spills; and
- All containers of any size will be correctly labelled indicating their contents and any hazard warning signs.

Fuel Tanks, Mobile Bowsters and Bunds

- 3.10.3 In accordance with the Control of Pollution (Oil Storage) (England) Regulations 2001 the following measures will be implemented on site for the prevention of spills:

- Fuel tanks and mobile bowsters (and any other equipment that contains oil and other fuels) will have a secondary containment, for example, double skinned tanks;
- All tanks will be located in a sealed impervious bund, sized at not less than 110% of the largest container's storage capacity or 25% of containers aggregate storage capacity, whichever is the greater;

- Fuel fill pipes will not extend beyond the bund wall and will have a lockable cap secured with a chain;
- Any tap or valve permanently attached to a tank or bowser through which fuel can discharge, will be fitted with a lock;
- Where fuel is delivered through a pipe permanently attached to a tank or bowser:
 - the pipe will be fitted with a manual or electrically operated pump and must be fitted with a tap or valve at the delivery end which closes automatically when not in use;
 - the pump or valve will be fitted with a lock;
 - the pipe will be fitted with a lockable valve at the end where it leaves the tank or bowser;
 - the pipework will pass over and not through bund walls;
 - tanks and bunds will be protected from vehicle impact damage; and
 - tanks will be labelled with contents and capacity information.
- All valves, pumps and trigger guns will be turned off and locked when not in use.

3.10.4 Suitable precautions will be taken to prevent spillages from equipment containing small quantities of hazardous substances (for example, chainsaws and jerry cans) including:

- Each container or piece of equipment will be stored in its own drip tray made of a material suitable for the substance being handled; and
- Containers and equipment will be stored on a firm, level surface.

Drum Storage

3.10.5 In accordance with the Control of Pollution (Oil Storage) (England) Regulations 2001, where oil drums are over 200 litres it will be ensured that:

- Drum storage facilities will be at least 10m from any watercourse including surface water drains; and at least 50m from any borehole or well
- Multiple drums and containers have suitable secondary containment with sufficient capacity to contain at least 25% of the total volume of the containers or 110% of the largest container, whichever is the greatest;
- Drum storage areas will be covered to prevent rainwater getting into bunds and drum pallets;
- Drums will be labelled and positioned such that leaks cannot overshoot the bund or drip tray wall; and
- All containers are stored securely when the site is unattended.

Flammable and Hazardous Substances

3.10.6 The Principal Contractor shall ensure that all flammable and hazardous substances will be kept in accordance with the Control of Substances Hazardous to Health Regulations 2002 (COSHH) and any substance specific safety data sheets, which

would be expected to contain measures such as, within a secure bunded cupboard, cabinet or tank constructed of materials which are chemically resistant to its contents.

Deliveries and Dispensing

3.10.7 For deliveries and dispensing activities it will be ensured that:

- Site-specific procedures are in place for bulk deliveries;
- Delivery points and vehicle routes are clearly marked;
- Emergency procedures are displayed, and a suitably sized spill kit is available at all delivery points, and staff are trained in these procedures and the use of spill kits;
- Suitable facilities (for example, drip trays, drum trolleys, funnels) meet the sites specific dispensing needs and are maintained and used;
- Tank capacities and current contents levels are checked prior to accepting a delivery to ensure that they are not overfilled;
- All deliveries are supervised throughout the delivery operation;
- Spill prevention equipment is used during dispensing activities; and
- All spillages occurring during dispensing and handling activities are cleared up and reported via the SHESQ Manager and are dealt with in accordance with section 2.7 of this CEMP.

Vehicles and Plant

3.10.8 The use of vehicles and plant poses similar risks to those posed by storage of liquids. Fuel and oil may leak from such equipment which may enter drains and/or watercourses, as well as contaminating the ground itself. The following measures will be implemented to reduce this risk:

- Vehicles and plant provided for use on the site will be in good working order to ensure optimum fuel efficiency and are free from leaks. Plant with integral bunding and/or drip trays will be specified;
- Sufficient spill kits will be carried on all vehicles;
- Any hired vehicles and plant will be checked on delivery and not accepted if they are not in good working order for example, leaking, excessive fumes, excessive noise and/or smoke;
- Vehicles and plant will be regularly maintained to ensure that they are working at optimum efficiency and are promptly repaired when not in good working order;
- Vehicles and plant will not park near or over drains;
- Employee-owned vehicles will not be driven or parked in construction areas or cable swathe unless authorised to do so;
- Topping up of vehicles and plant will be carried out on hardstanding using drip trays and not over or near drains, or, where this is not reasonably practicable, drip trays and/or drain covers will be used to reduce the risk of spills;
- Vehicles and plant will not be overfilled with fuel; and

- Plant containing oils will be inspected daily and maintained to both prevent and identify leaks.

Road Sweeping

- 3.10.9 Road sweeping will be undertaken where required to remove deposits of silt from roads and reduce the risk of silt being washed into surface water gullies and watercourses.

3.11 Geology, Soils and Land Affected by Contamination

Contaminated Land

- 3.11.1 Ground investigations undertaken for the Proposed Project in 2016 and 2018 indicated that some sources of land contamination are present that have the potential to affect construction staff and members of the public during the construction phase. Asbestos Containing Materials (ACMs) have been identified within the made ground across the site, National Grid has produced an Asbestos Management Plan (AMP) that outlines the requirements for the safe management of asbestos containing soils during proposed groundworks. The Principal Contractor will ensure that measures outlined within this plan are implemented, including but not limited to:

- Appropriate PPE and good hygiene practices are implemented to reduce risk to human health.
- Work will stop in the vicinity of any previously unidentified contamination encountered until the nature and concentration of the contaminant(s) are determined and appropriate risk control measures implemented.
- Clay bungs or other vertical barriers will be constructed within trench excavations where deemed necessary to prevent the creation of preferential drainage pathways or to prevent the creation of preferential migration pathways for contaminants (where suspected).
- EA guidance on the assessment of risks from potentially contaminated land will be followed in line with Contaminated Land Report 11 (CLR11) .
- Works disturbing any made ground at the site shall be accompanied with suitable and sufficient risk assessments and method statements for the potential disturbance of low level asbestos contamination and an escalation procedure should higher risk bulk ACMs be encountered; such as clearly identifiable original form asbestos insulating board, asbestos insulation, asbestos coating and friable bulk asbestos that's original form is not identifiable.
- Asbestos removal works as applicable will be carried out along the route of the Trans Pennine Trail Diversion and within Wogden Foot whilst the Trans Pennine Trail is closed to the Trans Pennine Trail users, who will be using the temporary Trans Pennine Trail route.

Soil Management Plan (SMP)

- 3.11.2 During construction the principal impacts relate to the potential for contamination of soils or controlled waters through spillages during construction and damage to soils through construction activities and excavation works. Measures in relation to pollution prevention are outlined above in section 3. The Principal Contractor will

produce a Soil Management Plan (SMP), following DEFRA guidance and will include, but not be restricted to, the following measures, where required:

- construction traffic will be restricted to operating on the designated access roads and not on unprotected soils;
- topsoil stripping will be restricted to the width of the permanent and temporary elements of the Proposed Project (where required);
- appropriate geotextile membranes, wooden matting or aluminium trackways will be used over particularly sensitive areas;
- in peaty and soft saturated clay soils, where the use of geotextile membranes is not appropriate, wheeled vehicles may be fitted with low ground pressure bearing pneumatic tyres to allow a greater distribution of weight;
- soil loosening techniques such as deep-tine cultivation will be used to break up any compaction which has occurred during reinstatement;
- subsoil and different superficial deposits will be stored separately to prevent mixing and will be reinstated in reverse order of excavation;
- topsoil and subsoil movements will only be undertaken in suitable conditions, for example, avoiding extreme wet weather;
- soil stabilising methods will be undertaken to reduce the risk of erosion, the creation of leachate and potential water quality issues;
- early re-seeding of the reinstated ground will be undertaken to help re-establish and stabilise the structure of the topsoil; and
- soils will not be stockpiled within 10m of surface water features. Stockpiled soils will be protected by appropriate measures, for example, membranes, spraying or seeding to reduce the risk of windblown dust, surface water run-off and to reduce the risk of overland migration of silt and sediment to surface waters. Any potentially contaminated soils should be stored on an appropriate impermeable surface material.

3.12 Protection of the Water Environment

- 3.12.1 A water resources assessment has been carried out as detailed in the EAR. Appropriate industry best practice and published guidelines will be followed to reduce pollution and sediment movement during construction. Best practice measures and additional mitigation measures identified as part of the EAR are detailed below.

Surface Water and Groundwater Resources

- 3.12.2 Construction activities may adversely affect the quality of surface water or ground water as a result of contaminated runoff from, or spillages on, the construction site. The Principal Contractor will prepare a Site Drainage Plan (SDP) to identify drainage arrangements and ensure adequate management of surface water run-off (including volume and quality) and prevent pollution of controlled waters. Best practice measures to be implemented include:
- Appropriate industry best practice and published guidelines will be followed to reduce pollutant and sediment movement during construction;

- Construction will not be undertaken during extreme wet weather where erosion of sediments and risk from flooding may increase and where there is a risk of structural damage to soils during handling;
- All soils will be stored as far away from watercourses as practical and any potentially contaminated soil will be stored on an impermeable surface and covered to reduce leachate generation and potential migration to surface waters;
- Following completion of construction operations, all agricultural land will be restored to its previous condition unless otherwise stated ;
- Where it is necessary to strip and store topsoil in a floodplain all year around, methods will be employed to ensure that the soil is protected and flood waters are not impeded. Topsoil stacks will be set back from watercourses and measures such as berms and vegetated strips will be used to control sediment run-off;
- The material excavated from the trench, comprising the subsoil, rock or made ground, will be stored away from the topsoil to prevent mixing of subsoil and topsoil and used in trench backfilling/ reinstatement;
- Geotextile will be used on the ground in the immediate vicinity of watercourse/drain crossings to reduce damage to the surrounding ground and vegetation and reduce erosion, where required and practically possible;
- Deep excavations may require de-watering. Water pumped or removed from excavations will be passed through a silt-separator tank or equivalent, and discharged to ground via the principal contractor permit procedure. If there was a requirement to discharge to surface water a permit would be sought from the Environment Agency prior to undertaking such operations;
- Clay bungs or other vertical barriers will be constructed within trench excavations where deemed necessary to prevent the creation of preferential drainage pathways or to prevent the creation of preferential migration pathways for contaminants (where suspected);
- Permanent surface water/ agricultural drains will be re-installed to reinstate any pre-existing field drainage systems to pre-construction condition;
- Following the completion of all construction works, the land within the working width will be fully reinstated as near as practically possible to its former condition, or as agreed with landowners and stakeholders in advance (this will include the reinstatement of drainage ditches and existing culverts);
- All reinstated channels will have the same hydraulic properties as existing and temporary and permanent structures (culverts, flumes) should be appropriately sized except when alternative options, such as the permanent diversion of the drainage ditch adjacent to the Trans Pennine Trail for example, have been discussed and agreed with the Lead Local Flood Authority;
- Regular monitoring, to be determined by the Principal Contractor, will be put in place to ensure that the surface water features functions as intended and check on the drainage system including for ensuring that no material from the diverted Trans Pennine Trail falls into the watercourse. If this does occur the material will be removed immediately. Generally, flumes/ bridges will be installed at the start of construction activities and removed during restoration;

- The small drainage ditch present to the southern side of the Trans Pennine Trail will be temporarily diverted underground as part of construction activities but will be reinstated following construction. The waterfall feature present along the Trans Pennine Trail will be fenced off and protected during construction activities, and the water from this feature will be temporarily diverted underground. The final drainage design will be subject to temporary works designs associated with the volume of water currently running off the ground and forming the waterfall feature;
- Other watercourses and drainage ditches crossed by the Trans Pennine Trail diversion will be flumed (by the installation of temporary pipes) and ramped over to allow uninterrupted flow of water within the watercourse and a track for users of the Trans Pennine Trail and farm vehicles. Land Drainage Consents may be required from the Local Planning Authority for the installation of these temporary bridges and/or flume crossings depending on their design which will be discussed with the Local Planning Authority and constructed to minimise the risk of sediment run-off to watercourses and obstruction to migratory fish; and
- For the installation of the cable within the existing Trans Pennine Trail, where appropriate, pre-construction drainage will be installed. The design of the drainage (and of any other drainage installed as part of the Proposed Project) will pay particular attention to the need to ensure that the drains do not act as pathways for contamination or cause flooding off-site, with consultation with the Local Flood Authority wherever necessary.

Other Discharges

3.12.3 Other effluents may be produced that need to be properly managed and controlled in order to prevent contamination of surface water or groundwater. As part of best practice measures, the Principal Contractor will ensure that:

- Washing of equipment using detergent is carried out at commercial facilities only;
- Washing of vehicles and equipment without the use of detergent is only carried out at either commercial facilities, or at purpose-built wash stations where the water is contained for controlled disposal;
- All foul effluent will be contained; and
- The foul effluent container will be subject to daily inspection and a maintenance and emptying schedule as recommended by the manufacturer. The effluent will be removed by tanker and disposed of at a licensed facility.

Permitted Discharges

3.12.4 Discharges (including potentially uncontaminated surface water run-off) will require a permit from the Environment Agency (for discharges to controlled waters, including rivers, other watercourses and soakaways) or the local sewerage undertaker (for discharges to sewer). Discharges will not be made without prior consent from the EA or sewerage undertaker. To ensure discharges are appropriately authorised, the following best practice measures will be followed:

- Consult with the appropriate consenting body before any discharge is required from the site and obtain a permit, or where a permit is not required, obtain written confirmation that one is not required;

- Ensure that any permitted discharge is sampled and analysed at the frequency specified in the permit to ensure compliance and that monitoring results are kept. More frequent analysis may be required if analytical results indicate that limits are being approached or exceeded; and
- Ensure that the consenting body is advised if results indicate that limits are being exceeded and report the occurrence as an incident in accordance with the CEMP. Take immediate steps to rectify the situation; check receiving water for pollution resulting from exceedance; carry out any remediation works necessary.

Abstraction Licenses

3.12.5 Where water is required from a potable water supply or natural resource, permission will be sought from the local water company or an Abstraction Licence will be obtained from the EA, as appropriate. As part of the best practice measures:

- Any necessary Abstraction Licences are obtained where required;
- Abstraction Licence conditions will be complied with; and
- Volumes of water abstracted will be recorded.

Flooding

3.12.6 A Flood Risk Assessment (FRA) [ref: EAR appendix 9J] has been carried out and identifies mitigation measures to reduce flood risk during the construction phase of the Proposed Project. The Proposed Project has been informed by results of flood risk modelling and has been designed to avoid, where possible, areas at risk of flooding, in addition, the FRA proposes the following mitigation measures which will be built into the detailed design and implemented on site:

- The development of the SDP that may need to include temporary attenuation storage, infiltration drainage, and sediment trapping techniques as appropriate and should be driven by source control techniques where possible;
- Construction will not be undertaken during extreme wet weather. Principal Contractor to check local and national weather forecasts, and contact the Environment Agency to determine whether it has, or intends to, issue Flood Warnings in the area prior to or during the construction phase;
- The monitoring of groundwater for a short period before, during and following construction to a) phase construction stage activities to avoid the need for significant groundwater de-watering as required; and b) assess the impact of the underground assets on the local groundwater levels;
- Following the completion of all construction works, the land within the working width will be fully reinstated as near as practically possible to its former condition, and where possible all reinstated surfaces will have the same runoff properties and elevation as existing or as agreed with landowners and stakeholders in advance (this will include the reinstatement of drainage ditches and existing culverts) and replacement of community/recreational facilities impacted by the Proposed Project;
- Where possible, soils will be stored at least 10m away from watercourses, and outside of areas of floodplain. Where this is not possible, gaps will be provided in stored topsoil to prevent the impoundment of flood waters (all year around); best

practice measures will be applied where required to ensure that stockpiled soil will not be eroded/ transported by overland flow and will not enter any water bodies (such as berms, vegetated strips and silt traps will be included where required). Environmental consent may be required from Barnsley MBC for works within proximity to the river or carried out within the floodplain;

- All reinstated channels will have the same hydraulic properties as existing and temporary and permanent structures (culverts, flumes) should be appropriately sized except when alternative options, have been discussed and agreed with the Lead Local Flood Authority;
- Regular monitoring, to be determined by the Principal Contractor, will be put in place to ensure that the surface functions as intended and check on the drainage system including for ensuring that no material from the diverted Trans Pennine Trail falls into the watercourse. If this does occur the material will be removed immediately. Generally, flumes/ bridges will be installed at the start of construction activities and removed during restoration;
- The monitoring of flows in watercourses when crossing during the construction phase to avoid impeding flow. This can take the form of regular visual inspections of the temporary crossings. The visual inspections should check that the water levels on both the upstream and downstream faces of the temporary crossings remain similar throughout the duration of the crossing. This will help to confirm that each temporary crossing has been appropriately sized. The visual inspections should also check that each temporary crossing does not become blocked by debris and should be used to trigger immediate remedial action in the event of debris accumulation;
- The material excavated from the trench, comprising the subsoil, rock or made ground, will be stored away from the topsoil to prevent mixing of subsoil and topsoil and used in trench backfilling/ reinstatement;
- All bridge crossings of the River Don, whether permanent or temporary, will be designed to the 1:100-year flood level;
- Appropriate signage along the Trans Pennine Trail diversion will be deployed to warn users of the potential flood risk in certain areas from the River Don, from overland flow (surface water sources) and from groundwater;
- All above ground assets will include a 300mm freeboard allowance to allow for uncertainties in modelling and mapping of flood risk areas;
- Ensure that access roads / routes, parking bays, hardstanding areas (i.e. those that may be required for temporary access, maintenance or repairs) are laid at existing elevations and not raised compared to existing or surrounding ground levels; and
- Principal Contractor will consider temporary closure of the Trans Pennine Trail diversion in case of flooding.

3.12.7 Details of evacuation plans for different parts of the proposed project would be developed prior to commencing construction and would detail the procedure to be followed once a flood warning is received, either from the Environment Agency for fluvial flooding, or from Yorkshire Water for a reservoir breach. Primary considerations for the evacuation plan include:

- Evacuation of personnel from the working areas at risk of flooding – this is the primary safety consideration, and is the highest priority in the unlikely event that there is insufficient time to undertake the following activities;
- Making the site safe and prior to evacuation – this would include appropriate storage of equipment and materials, securing items within site compounds to prevent them being mobilised in flood water; and
- Removal of critical plant and equipment from Flood Zone 3 – this may be removal from the haul roads or from the compounds, and could include raising critical items above the design flood level or removing them from the floodplain completely to a suitable alternative compound. At construction stage, the Principal Contractor would identify the need (or not) to remove equipment from working areas based on the flood warnings.

3.12.8 Evacuation plans for users of the Trans Pennine Trail Diversion when open to the public will be the responsibility of Barnsley Metropolitan Borough Council.

3.13 Land Use and Agriculture

3.13.1 A land use and agriculture assessment has been carried out as detailed in the EAR. Potential impacts outlined within the EAR related to temporary effects on agricultural practices, the permanent loss of 0.3ha of land, along with the potential for increased disturbance to livestock as a result of the temporary diversion of the Trans Pennine Trail and construction activity. As outlined in the previous sections the Principal Contractor will be responsible for producing a CEMP and SMP which will include a number of best practice techniques for the prevention of pollution and soil management which will also mitigate the potential effects to land use and agriculture.

3.13.2 National Grid are in discussion with landowners to agree commercial terms with affected parties in relation to associated losses, including those related to ongoing payments or fines for agri-environmental stewardship schemes and the potential need to relocate livestock to other land holdings. In addition, in discussion with landowners, temporary water supplies and troughs will be provided for livestock as necessary.

3.14 Historic Environment

3.14.1 See Appendix 2B.4 (Outline Archaeological Written Scheme of Investigation (WSI)) which outlines a strategy for archaeological assessment and mitigation which is sufficient and proportionate to address potential effects to the historic environment as a result of the Proposed Project.

3.14.2 In summary, prior to any stage of construction works commencing an appropriately qualified Archaeological Clerk of Works (ACoW) will be appointed by the Principal Contractor who will be responsible for ensuring that the Written Scheme of Investigation (WSI) for the Mitigation of Effects on Archaeological Remains is implemented. Mitigation measures during construction will include:

- Watching brief by a professional archaeologist of groundworks for the development where these affected known assets are, or areas in which archaeological remains may be present;

- Condition surveys of assets prior to construction or in response to on site developments e.g. conditions survey to be undertaken of any drystone walls to be breached by accesses as necessary.

3.15 Air Quality

Dust and Emissions

3.15.1 The Principal Contractor shall implement mitigation measures to reduce the effect of dust and emissions from construction activities. These shall include, but not be limited to, the following measures:

- Dusty materials will be sheeted and prevented from becoming wind-borne;
- Wheel cleaning facilities will be provided, and road sweeping will be undertaken in accordance with the CTMP, where required;
- Where activities could create dust clouds, dust suppression techniques will be adopted, for example water sprays and dampening of access roads. Suppression techniques will be used more frequently during periods of dry weather;
- Removal of materials that have a potential to produce dust as soon as possible, unless being re-used on site. Materials kept on site, including the stockpiling of soils, will be protected by appropriate measures, for example membranes, spraying or seeding;
- Loaded vehicles that are carrying dust generating materials will be covered, for example with sheets, when leaving site to prevent escape of materials during transport;
- There will be no burning of materials on site;
- All plant and vehicles will be maintained in good order so that they do not emit dark smoke, grit or dust;
- Minimise the use of diesel generators and consider alternative battery powered generators where applicable;
- Engines will be turned off when vehicles are not in use to avoid 'idling';
- The site speed limit will be signposted and will not exceed 10mph;
- All working areas will be kept in a clean and tidy condition.

3.16 Noise and Vibration

3.16.1 A noise and vibration assessment has been carried out as detailed in the EAR (Chapter 14 (Noise)).

- 3.16.2 The Principal Contractor will ensure that all works will be undertaken in accordance with the Noise and Statutory Nuisance Act 1992 and Best Practicable Means (BPM) in accordance with British Standard for Noise and Vibration⁹.
- 3.16.3 Mitigating measures associated with BPM would include (but would not be limited to) the following:
- Working hours restricted to core hours so far as appropriate. Core hours proposed (subject to confirmation and agreement with the local authority) between 0700 and 1900 Mondays to Fridays and between 0800 and 1700 on Saturdays and Sundays
 - Selection of quieter plant and less intrusive methods (such as hydraulic plant rather than percussive) where appropriate and practicable.
 - Locating plant and equipment as far as practicably possible from receptor locations.
 - Site hoarding with acoustic properties to be provided where possible at compounds.
 - Proper maintenance of all plant and equipment.
 - Noise and/or vibration monitoring where required.
- 3.16.4 Construction noise predictions undertaken as part of the EAR have identified specific locations requiring additional noise mitigation, as detailed in Table 1 below. Where the acoustic screening indicated below is not practicable due to use of mobile plant, the Principal Contractor will adopt BPM and implement alternate mitigation to ensure a commensurate sound reduction is achieved. Where construction noise levels remain above the weekend construction noise limit of 60 dB(A) despite the implementation of BPM, there may be a requirement to restrict noisy activities to weekdays.

⁹ British Standard 5228-1:2009+A1:2014, Code of Practice for Noise and Vibration Control on Construction and Open Sites Noise, 2009 (amended February 2014)

Table 1: Noise Mitigation Required

Construction Works	Receptor	Highest Predicted Level $L_{Aeq}(t)$	Required Sound Reduction dB	Mitigation Measure (from Appendix 14.3)
Construction of access roads				
AP2	Stony Gate	83.0	23	Acoustic screening 5 to 10dB Alternative super silenced plant 5 to 10 dB
AP3	Stony Gate	74.8	15	Acoustic screening 5 to 10dB Alternative super silenced plant 5 to 10 dB
	South View	60.3	1	Acoustic screening 5 to 10dB
AP4	Well	80.3	21	Acoustic screening 5 to 10dB Alternative super silenced plant 5 to 10 dB
AP5	Bar House	71.1	12	Acoustic screening 5 to 10dB Alternative super silenced plant 5 to 10 dB
	The Laurels	72.7	13	Acoustic screening 5 to 10dB Alternative super silenced plant 5 to 10 dB
	1,2,3 The Banks	68.2	9	Acoustic screening 5 to 10dB
Trans Pennine Trail Diversion	The Laurels	71.1	12	Acoustic screening 5 to 10dB Alternative super silenced plant 5 to 10 dB
	1,2,3 The Banks	68.7	9	Acoustic screening 5 to 10dB
Maintenance of access roads				
AP2	Stony Gate	73.2	14	Acoustic screening 5 to 10dB Alternative super silenced plant 5 to 10 dB
AP3	Stony Gate	65.1	6	Acoustic screening 5 to 10dB
	South View	60.3	1	Acoustic screening 5 to 10dB
AP4	Well	67.5	8	Acoustic screening 5 to 10dB

Construction Works	Receptor	Highest Predicted Level $L_{Aeq}(t)$	Required Sound Reduction dB	Mitigation Measure (from Appendix 14.3)
AP5	Bar House	61.3	2	Acoustic screening 5 to 10dB
	The Laurels	62.9	3	Acoustic screening 5 to 10dB
Trans Pennine Trail Diversion	The Laurels	61.3	2	Acoustic screening 5 to 10dB
Reinstatement of access roads				
AP2	Stony Gate	86.0	26	Acoustic screening 5 to 10dB Alternative super silenced plant 5 to 10 dB
AP3	Stony Gate	77.8	18	Acoustic screening 5 to 10dB Alternative super silenced plant 5 to 10 dB
	South View	63.3	4	Acoustic screening 5 to 10dB
AP4	Well	83.3	24	Acoustic screening 5 to 10dB Alternative super silenced plant 5 to 10 dB
AP5	Bar House	74.1	15	Acoustic screening 5 to 10dB Alternative super silenced plant 5 to 10 dB
	The Laurels	75.7	16	Acoustic screening 5 to 10dB Alternative super silenced plant 5 to 10 dB
	1,2,3 The Banks	71.2	12	Acoustic screening 5 to 10dB
N. Access Route	Brookside Farm	63.5	4	Acoustic screening 5 to 10dB
N. Access Route reinstatement	Brookside Farm	66.6	7	Acoustic screening 5 to 10dB
Construction of Dunford Bridge Compound				

Construction Works	Receptor	Highest Predicted Level $L_{Aeq}(t)$	Required Sound Reduction dB	Mitigation Measure (from Appendix 14.3)
Dunford Bridge Compound	12 Don View	76.4	17	Acoustic screening 5 to 10dB Alternative super silenced plant 5 to 10 dB
	10 Don View	72.9	13	Acoustic screening 5 to 10dB Alternative super silenced plant 5 to 10 dB
	South View	66.9	7	Acoustic screening 5 to 10dB
	Stony Gate	66.1	7	Acoustic screening 5 to 10dB
Construction of Laydown Areas				
Cable Laydown Areas	Winscar Lodge	67.2	8	Acoustic screening 5 to 10d
	2-4 Don View	68.5	9	Acoustic screening 5 to 10dB
	6-8 Don View	70.7	11	Acoustic screening 5 to 10dB Alternative super silenced plant 5 to 10 dB
	10-12 Don View	72.2	13	Acoustic screening 5 to 10dB Alternative super silenced plant 5 to 10 dB
	Southview	67.5	8	Acoustic screening 5 to 10dB Alternative super silenced plant 5 to 10 dB
	Well	72.2	13	Acoustic screening 5 to 10dB Alternative super silenced plant 5 to 10 dB
	Bar House	68.8	9	Acoustic screening 5 to 10dB
	The Laurels	66.2	7	Acoustic screening 5 to 10dB
	1,2,3 The Banks	66.9	7	Acoustic screening 5 to 10dB
Trans Pennine Trail Diversion	Winscar Lodge	61.5	2	Acoustic screening 5 to 10dB

Construction Works	Receptor	Highest Predicted Level $L_{Aeq}(t)$	Required Sound Reduction dB	Mitigation Measure (from Appendix 14.3)
	Southview	60.5	1	Acoustic screening 5 to 10dB
	Well	64.9	5	Acoustic screening 5 to 10dB
	Bar House	69.7	10	Acoustic screening 5 to 10dB Alternative super silenced plant 5 to 10 dB
	The Laurels	70.3	12	Acoustic screening 5 to 10dB Alternative super silenced plant 5 to 10 dB
	1,2,3 The Banks	66.5	7	Acoustic screening 5 to 10dB
Rock removal at Dunston Bridge				
Dunford Bridge Rock Removal	Winscar Lodge	67.5	8	Acoustic screening 5 to 10d
	2-4 Don View	69.7	10	Acoustic screening 5 to 10dB Alternative super silenced plant 5 to 10 dB
	6-8 Don View	70.1	11	Acoustic screening 5 to 10dB Alternative super silenced plant 5 to 10 dB
	10-12 Don View	71.1	12	Acoustic screening 5 to 10dB Alternative super silenced plant 5 to 10 dB
	Southview	69.4	10	Acoustic screening 5 to 10dB Alternative super silenced plant 5 to 10 dB
	Well	70.8	11	Acoustic screening 5 to 10dB Alternative super silenced plant 5 to 10 dB
	Bar House	63.7	4	Acoustic screening 5 to 10dB
	The Laurels	62.7	3	Acoustic screening 5 to 10dB

Construction Works	Receptor	Highest Predicted Level $L_{Aeq}(t)$	Required Sound Reduction dB	Mitigation Measure (from Appendix 14.3)
Removal of Dunford Bridge SEC				
Dunford Bridge SEC Demolition	12 Don View	74.7	15	Acoustic screening 5 to 10dB
	10 Don View	71.3	12	Acoustic screening 5 to 10dB Alternative super silenced plant 5 to 10 dB
	South View	65.3	6	Acoustic screening 5 to 10dB
	Stony Gate	64.5	5	Acoustic screening 5 to 10dB
Cable Installation (Trenching)				
Cable Installation (Trenching)	10-12 Don View	73.9	14	Acoustic screening 5 to 10dB Alternative super silenced plant 5 to 10 dB
	6-8 Don View	71.0	9	Acoustic screening 5 to 10dB
	2-4 Don View	69.9	8	Acoustic screening 5 to 10dB
	Winscar Lodge	68.2	6	Acoustic screening 5 to 10dB
	Bar House	70.8	9	Acoustic screening 5 to 10dB
	The Laurels	72.2	10	Acoustic screening 5 to 10dB
	1,2,3 The Banks	68.8	7	Acoustic screening 5 to 10dB
Pylon removal				
Pylon 4ZO163	South View	69.7	10	Acoustic screening 5 to 10dB
	Well	66.8	7	Acoustic screening 5 to 10dB
Pylon 4ZO164R	12 Don View	70.2	11	Acoustic screening 5 to 10dB Alternative super silenced plant 5 to 10 dB
	10 Don View	69.7	10	Acoustic screening 5 to 10dB
	South View	62.0	2	Acoustic screening 5 to 10dB
Pylon 4ZO163	South View	69.7	10	Acoustic screening 5 to 10dB

3.17 Public Rights of Way

- 3.17.1 There are a number of PRow across the site. National Grid have provided a Trans Pennine Trail Management Plan that describes the mitigation measures to be implemented during construction to minimise disruption to Trans Pennine Trail users. Mitigation measures for other PRow within the site are detailed within the CTMP. The principal Contractor shall ensure that the measures outlined in these plans are incorporated.

3.18 Biodiversity and Nature Conservation

- 3.18.1 An ecological assessment has been carried out as detailed in the EAR . A Landscape and Ecological Management Plan (LEMP) has been prepared and describes the mitigation measures to be implemented during the construction of the Proposed Project to ensure that all protected ecological features are managed appropriately.
- 3.18.2 Prior to any stage of construction works commencing, an appropriately qualified Ecological Clerk(s) of Works (ECoW) will be appointed by the Principal Contractor who will be responsible for ensuring the LEMP is implemented.

Appendix 2B.1: National Grid's Environmental Policy

Appendix 2B.2: National Grid's Environmental Management System (EMS)

Appendix 2B.3: Outline Landscape and Ecological Management Plan (LEMP)

Appendix 2B.4: Outline Written Scheme of Investigation (WSI) for the Mitigation of Effects on Archaeological Remains

Appendix 2B.5: Outline Construction Traffic Management Plan (CTMP)

Appendix 2B.6: Outline Trans Pennine Trail Management Plan

Appendix 2B.7: Outline Asbestos Management Plan