

M60/M62/M66 Simister Island Interchange

TR010064

6.5 FIRST ITERATION ENVIRONMENTAL MANAGEMENT PLAN

APFP Regulation 5(2)(a)

Planning Act 2008

Infrastructure Planning (Applications: Prescribed
Forms and Procedure) Regulations 2009

VOLUME 6

April 2024

Infrastructure Planning

Planning Act 2008

**The Infrastructure Planning
(Applications: Prescribed Forms and
Procedure) Regulations 2009**

**M60/M62/M66 Simister Island Interchange
Development Consent Order 202[]**

FIRST ITERATION ENVIRONMENTAL MANAGEMENT PLAN

Regulation Reference	Regulation 5(2)(a)
Planning Inspectorate Scheme Reference	TR010064
Application Document Reference	TR010064/APP/6.5
Author	M60/M62/M66 Simister Island Interchange Project Team

Version	Date	Status of Version
P01	April 2024	DCO Application Issue

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1 Introduction and background to the Scheme

1.1 Purpose of the Environmental Management Plan

- 1.1.1 This document is the First Iteration Environmental Management Plan (EMP) for the M60/M62/M66 Simister Island Interchange (the "Scheme"). This relates to an application made by National Highways (the "Applicant") to the Secretary of State for Transport via the Planning Inspectorate (the "Inspectorate") for a Development Consent Order (DCO) under the Planning Act 2008 (the "2008 Act"). A detailed description of the Scheme can be found in Chapter 2: The Scheme of the Environmental Statement (ES) (TR010064/APP/6.1).
- 1.1.2 An Environmental Impact Assessment (EIA) has been undertaken for the Scheme and is reported in the Environmental Statement (TR010064/APP/6.1) in accordance with the Infrastructure Planning (EIA) Regulations 2017. The Environmental Statement (TR010064/APP/6.1) contains the assessment of the potential impacts on the environment that may arise during construction, operation and maintenance of the Scheme and describes the mitigation measures to be provided to avoid, prevent, reduce or, where practical and appropriate, offset the potential environmental impacts associated with the construction of the Scheme. This First Iteration EMP brings together these measures and details how they will be delivered.
- 1.1.3 This First Iteration EMP is based on the preliminary design for the Scheme which forms the application for development consent which the draft DCO (TR010064/APP/3.1) relates. It has been prepared in accordance with the Manual of Contract Documents for Highways Works (Standards for Highways, 2014), the Design Manual for Roads and Bridges (DMRB) LA 120 Environmental management plans (Standards for Highways, 2020) and DMRB GG 182 Major Schemes: Enabling Handover into Operation and Maintenance (Standards for Highways, 2020).
- 1.1.4 This First Iteration EMP provides details on roles and responsibilities, details of consents and permissions, collection and submission of environmental data, environmental maintenance and monitoring requirements including procedures for monitoring and reviewing compliance. The First Iteration EMP also covers induction, training and briefing procedures for those carrying out the Scheme.
- 1.1.5 For the purposes of this First Iteration EMP, the following definitions apply:
- The Authority is the Applicant. The Applicant would assist the Principal Contractor (PC) in the preparation the Second Iteration EMP and other Management Plans defined as being required within the First Iteration EMP, detailed method statements required by the First Iteration EMP; and variations to these and other matters as stated within the First Iteration EMP. The Applicant would also assist the PC in the preparation of the Third Iteration EMP and other management plans defined as being required.
 - The PC means any contractor appointed by the Applicant to deliver the construction works (and shall also include any sub-contractors appointed by the PC to carry out any part of any construction works); and

- The Applicant will maintain the Scheme once operational and once the Scheme is complete in its entirety. Prior to full completion this would be the PC. Some components of the completed Scheme will be maintained by Bury Metropolitan Borough Council.
- 1.1.6 The First Iteration EMP will be developed into a more detailed EMP (Second Iteration EMP) once the detailed design has been finalised (subject to DCO being granted). The Second Iteration EMP will include more detailed information and methodologies on the design and construction of the Scheme. It would also include the implementation of appropriate industry standard practices and control measures for environmental impacts arising from construction works.
- 1.1.7 On completion of construction, the PC will prepare a final version of the EMP (Third Iteration EMP) for the operational and maintenance phase of the Scheme.
- 1.1.8 The purpose of the First Iteration EMP is to:
- Document all environmental actions and commitments that are required to manage and minimise the environmental effects of the Scheme as identified in the Environmental Statement (TR010064/APP/6.1). Actions and commitments are combined into a Register of Environmental Actions and Commitments (REAC) (Table 3.2).
 - Provide the equivalent of a Code of Construction Practice (CoCP) containing the control measures and standards to be implemented during construction, including those to avoid or reduce environmental effects.
 - Form the basis for the more detailed iterations of the EMP (Second and Third Iterations) that will follow.
 - Enable the Examining Authority and the Secretary of State for Transport to identify those mitigation measures within the Scheme which are secured within this First Iteration EMP.
- 1.1.9 The First Iteration EMP has been prepared in parallel with the development of the Scheme design, Construction methodologies and the EIA. Measures within this First Iteration EMP include design and construction, and mitigation measures, which in part, arise from the technical assessments presented in the Environmental Statement (TR010064/APP/6.1).
- 1.1.10 The technical assessments within the Environmental Statement (TR010064/APP/6.1) have taken account the measures within the First Iteration EMP prior to the definition of potential Scheme environmental effects. Mitigation measures included in the Scheme design are shown on Figure 2.3: Environmental Masterplan of the Environmental Statement Figures (TR010064/APP/6.2) and detailed within the outline management plans contained within the appendices and the REAC at Chapter 3 of this First Iteration EMP.
- 1.1.11 Management plans are key documents which ensure that the construction related mitigation measures and actions set out in the REAC are successfully implemented on site. The relevant management plans inform the works and the

development of associated task specific Risk Assessments and Method Statements (RAMS).

The following specific management plans have been prepared, in outline format at this stage, for the Scheme:

- Air Quality and Dust Management Plan (Appendix A)
- Noise and Vibration Management Plan (Appendix B)
- Site Waste Management Plan (Appendix C)
- Environmental Control Plan: General Ecology (Appendix D)
- Environmental Control Plan: Invasive Species (Appendix E)
- Soil Handling Management Plan (Appendix F)
- Materials Management Plan (Appendix G)
- Surface and Groundwater Management Plan (Appendix H)
- Construction Compound Management Plan (Appendix I)
- Contaminated Land Management Plan (Appendix J)
- Energy and Resource Use Management Plan (Appendix K)
- Emergency Procedures and Environmental Incidents (Appendix L)
- Placeholder (Environmental Constraints Map) (Appendix M)
- Landscape and Ecology Management Plan (Appendix N)
- Carbon Management Plan (Appendix O)

1.1.12 The specific management plans included for key environmental disciplines will be updated and developed into the final management plans, by the PC, prior to construction and included in the Second Iteration EMP.

1.1.13 In addition to the specific management plans listed above the Second Iteration EMP will, as a minimum, include the following appendices:

- Environmental Method Statements – where required and where commitments have been made to produce specific method statements including Arboricultural Method Statement and Tree Protection Plan, which would be prepared during the detailed design phase, refined following final design agreement and in place prior to works affecting trees commencing.
- Copy of Evaluation of Change Register – to identify changes to the Scheme that have occurred during the detailed design phase.
- Final Environmental Investigation and Monitoring Reports – to include copies of or reference to the location of relevant survey reports (e.g. protected species) and environmental monitoring reports.

- 1.1.14 All contractors would be required to comply with applicable environmental legislation, together with any additional environmental controls imposed within the draft DCO (TR010064/APP/3.1).
- 1.1.15 The Environmental Statement (TR010064/APP/6.1) and the assessments within it are based on the works as shown on the Works Plans (TR010064/APP/2.4) and the Engineering Section Drawings (TR010064/APP/2.8).
- 1.1.16 The measures defined in the Second Iteration EMP would be applied by the PC as stipulated in the relevant parts of the First Iteration EMP, throughout the duration of their contract to provide planning, management, and control during the construction phase of the Scheme with the aim of controlling potential impacts upon the natural and historical environment, people and businesses.
- 1.1.17 Table 1.1 provides an illustration of the EMP relationship from the First to Third iterations and gives an overview of which authorities are responsible for measures implemented at each stage. The EMP will provide a clear audit trail outlining the modifications made from any previous iteration.

Table 1.1 Development of the EMP through construction and handover

Scheme Stage	EMP iteration	Responsibility
Design, DCO production and determination	First Iteration	The Applicant
Construction	Second Iteration	Principal Contractor
Maintenance	Third Iteration	Maintenance Authority

- 1.1.18 The Second Iteration EMP (and any other document that forms part of it) would be a live document that would be maintained by the PC throughout the construction phase of the Scheme.
- 1.1.19 As a minimum, the Second Iteration EMP would be reviewed every six months to ensure that it is maintained and up to date, particularly to take account of the following:
 - Changes in external factors such as regulations and standards
 - Any unforeseen circumstances as they arise such as new protected species or new archaeological finds
 - The results of inspections and audits
 - Learning points from environmental near misses and incidents
- 1.1.20 Towards the end of the construction phase, the PC will develop the Second Iteration EMP into a Third Iteration EMP for the operational and maintenance phase of the Scheme, which will be subject to the approval of the Secretary of State for Transport, in consultation with the relevant planning authorities. The indicative contents of a Third Iteration EMP are set out in DMRB LA 120 (Standards for Highways, 2020). The Third Iteration EMP will be implemented

by the maintenance authority responsible for the maintenance of the Scheme during the operational phase.

1.2 The Scheme

1.2.1 The Scheme comprises improvements to the M60 Junction 18 (J18) interchange (also known as Simister Island) and widening the M60 carriageway between J17 and J18 to five lanes and a discontinuous hard shoulder.

1.2.2 In line with the Scheme objectives this will improve air quality and reduce road traffic noise, delivering overall improvements to road safety. The Scheme will:

- Create a free-flow link from M60 eastbound to M60 southbound (clockwise), including a new bridge over the M66 and junction 18 slip roads.
- Realign the M66 motorway as it heads south under junction 18 and introduce additional capacity through the junction to accommodate the merging traffic from the new loop.
- Provide an improved two-lane free-flow link from the M60 northbound to the M60 westbound (anti-clockwise) to replace the existing single lane.
- Widen the carriageway between M60 junctions 17 and 18, providing 5 lanes in both directions with a discontinuous hard shoulder.
- Provide new traffic signals, signs, and street lighting at junction 18 and its approaches.
- Provide new gantries on the M66 southbound and between the M60 junctions 17 and 18.
- Further details on how the Scheme meets its objectives can be found in the Case for the Scheme (TR010064/APP/7.1). A high-level summary of the Scheme is as follows with a detailed description in Chapter 2: The Scheme of the Environmental Statement (TR010064/APP/6.1).

Location

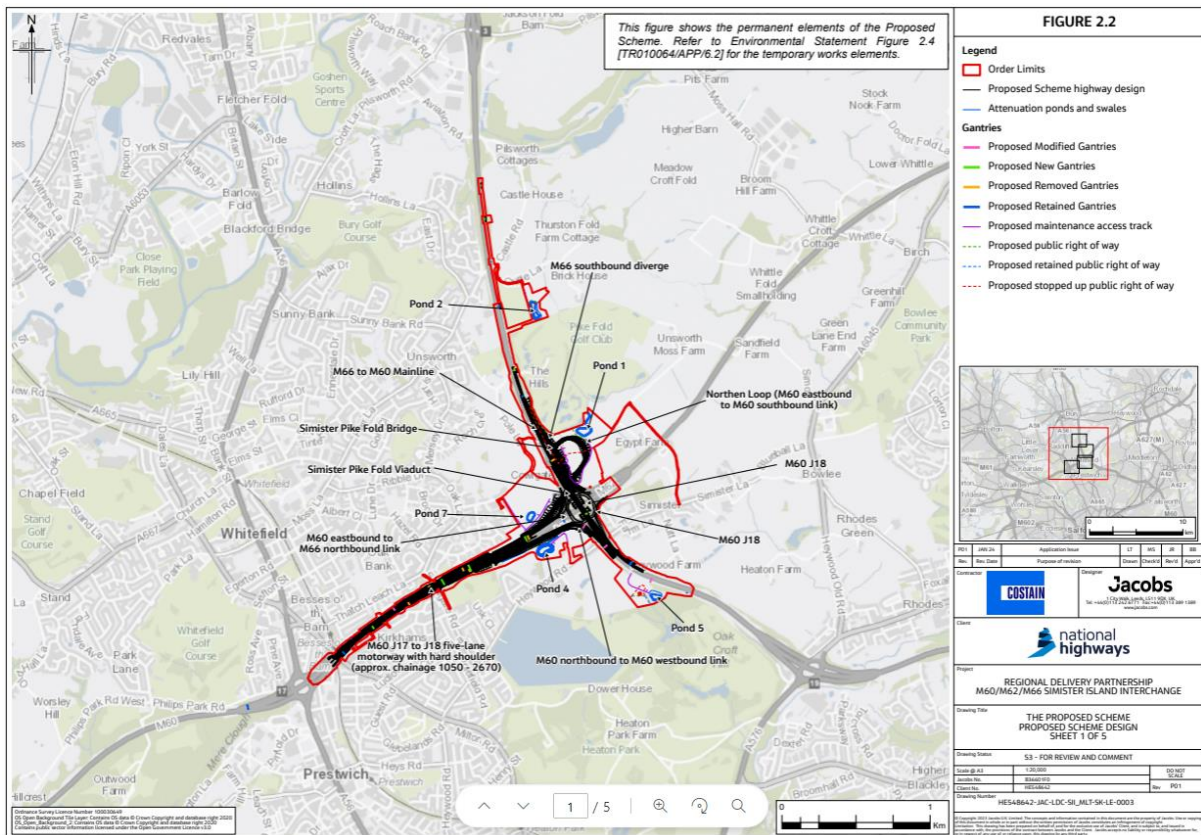
1.2.3 The Scheme would be implemented on land within the administrative boundaries of Bury Metropolitan Borough Council, located in the west of England. Further details can be found on the Location Plan (RR010064/APP/2.1)

Need for the Scheme

1.2.4 The M60 is an important economic link and commuter route in Manchester. It connects the M60 / M62 / M66. Full details of the need for the Scheme are provided in the Case for the Scheme (TR010064/APP/7.1) and Chapter 2: The Scheme, of the Environmental Statement (TR010064/APP/6.1).

Brief outline of works

Figure 1.1 - The Scheme



Programme

- 1.2.5 Construction is scheduled to commence in 2025. The Scheme would take approximately four years to construct, with an assumed opening year of 2029. Key dates are shown in Table 1.2.
- 1.2.6 To minimise the disruption caused by construction of the Scheme, certain works (referred to as pre-commencement works) would be undertaken ahead of the main construction works to allow these works to proceed, and to optimise the overall delivery programme for the Scheme.
- Pre-commencement works would primarily comprise works associated with archaeological investigations and mitigation works, ecological surveys and mitigation works, investigations for the purpose of assessing ground conditions, remedial work in respect of any contamination or other adverse ground conditions, erection of any temporary means of enclosure, receipt and erection of construction plant and equipment, treatment of any invasive species and the temporary display of site notices or advertisements, the establishment of construction compounds, including construction of accesses. These works would also include preliminary site clearance works, haul road and site access works, and permanent/temporary works to public rights of way (PRoW).

1.2.7 The main construction works would commence following on from pre-commencement works with some phasing or overlap between the two. Full details of the construction programme and details on pre-commencement works are provided in Chapter 2: The Scheme, of the Environmental Statement (TR010064/APP/6.1). The pre-commencement works are set out within Article 2 of the draft DCO (TR010064/APP/3.1).

Table 1.2 Key milestones and targeted dates

Milestone	Targeted date
Secretary of State DCO decision	Q2 2025
Start-on-site date	Q3 2025
Pre-commencement works (post-DCO decision)	Q3 2025
Start of main works	Q4 2025
Full Scheme open to traffic	Q4 2029

2 Project team roles and responsibilities

2.1 Competent Expert Statement

2.1.1 The environmental specialists who have authored this report are committed environmental professionals who are appropriately qualified and have a demonstrable knowledge, experience, and competence in the environmental management field. They have worked in close collaboration with designers and engineers through the various stages of the Scheme’s development to maximise the opportunity to avoid or reduce adverse environmental effects early in the design process and identified mitigation measures to address those effects that cannot be avoided or reduced at source. The production of this First Iteration EMP has been overseen by the Environmental Lead for the Applicant, who is a full member of the Institute of Environmental Management and Assessment (IEMA) and a Chartered Environmentalist (CEnv).

2.2 Roles and Responsibilities

2.2.1 The roles, identified in Table 2.1, define the roles and responsibilities associated with the construction works, that the PC must establish and maintain. The responsibilities defined in the table include those relating directly to the development and implementation of the Second Iteration EMP, final management plans and the wider environmental responsibilities. The PC will be required to delegate responsibilities to onsite personnel within key areas of the site and compounds. The delegation of responsibility will be clearly identified within relevant documents and site files.

2.2.2 Individual names and contact details will need to be confirmed and inserted where applicable by the Applicant and the PC once appointed and confirmed.

2.2.3 It is anticipated that prior to the commencement of the construction programme, individuals would be identified to fulfil the relevant roles.

Table 2.1 Environmental Roles and Responsibilities

Role	Responsibilities
The Applicant	<p><u>Second Iteration EMP responsibilities:</u></p> <p>To assist in the development of the Second Iteration EMP for implementation during construction. The Second Iteration EMP is secured through Requirement 4 of the draft DCO (TR010064/APP/3.1).</p> <p><u>Overall responsibilities:</u></p> <p>Set the framework and policy for environmental requirements and objectives for the Scheme.</p> <p>To monitor the PCs’ performance against the contract including any environmental commitments and targets agreed for the Scheme.</p> <p>Primary responsibility for all matters under the draft DCO (TR010064/APP/3.1), its requirements and the Second Iteration EMP.</p>

Role	Responsibilities
<p>The Principal Contractor's Project Manager (PM)</p>	<p><u>Second Iteration EMP responsibilities:</u></p> <p>Production of the Second Iteration EMP, prepared by the Environment Manager (EM), for the relevant phase of works.</p> <p>Ensure that all controls specified within the Second Iteration EMP, and associated management plans, are implemented by employees and sub-contractors.</p> <p><u>Overall responsibilities:</u></p> <p>Responsible for the delivery of the Scheme. Has overall responsibility for the environmental performance of the Scheme and all staff.</p> <p>Regular communication with the Applicant and the relevant statutory environmental bodies on all environmental matters (as they arise).</p> <p>The PM would be required to:</p> <ul style="list-style-type: none"> • Provide information on contract requirements to the EM prior to start of works on site. • Ensure environmental and waste requirements are included on requisitions and in subcontracts and orders. • Ensure that all required consents and licenses are in place for the relevant works. • Log and monitor incidents and non-compliances. Report incidents and non-compliances to the Applicant at the earliest possible opportunity. • Ensure that the Applicant is informed of all environmental complaints. • Provide an initial point of contact for members of the public and local community who have queries regarding the works. • Ensure employees and sub-contractors receive Induction Training (including environmental) and toolbox talks, as appropriate. • Verify actions resulting from non-compliances and observations raised during audits are completed by the deadlines set. • Undertake inspections alongside the EM to ensure that the environmental controls as set out within the second Iteration EMP and management plans are in place and working effectively. • Ensure all records are retained and readily available on site.
<p>Principal Contractor's Environmental Manager (EM)</p>	<p><u>Second Iteration EMP responsibilities:</u></p> <p>Preparing the Second Iteration EMP and management plans based on the First Iteration EMP and outline management plans.</p>

Role	Responsibilities
	<p>Undertake site inspections to monitor compliance with the environmental licenses/consents for the works and the measures within the Second Iteration EMP/Management Plans.</p> <p>Prepare any changes to the Second Iteration EMP and management plans in consultation with the PM.</p> <p>Maintaining and updating the Second Iteration EMP and management plans on an ongoing basis as required during the relevant project phase.</p> <p>Managing the delivery of the various management plans defined within the appendices of the Second Iteration EMP, using appropriate technical expertise as required.</p> <p>Managing the delivery of the monitoring required under the Second Iteration EMP and management plans, alongside relevant specialists, and reporting to relevant stakeholders at a frequency to be defined in the Second Iteration EMP.</p> <p><u>Overall responsibilities:</u></p> <p>Responsible for ensuring that the Scheme complies with all environmental legislation, consents, objectives, targets, and other environmental commitments, including those arising from the REAC contained within Chapter 3 of this First Iteration EMP throughout the relevant project phase.</p> <p>The EM will be required to:</p> <ul style="list-style-type: none"> • Monitoring compliance of construction activities in line with the EMP/Management Plans and the relevant environmental legislation, consents, and permissions throughout the construction period. • Assist with the delivery of environmental training (e.g. toolbox talks and environmental inductions) to all staff involved in the relevant phase of the Scheme. • Deal with queries and correspondence on environmental issues including liaison with relevant consultees/stakeholders. • Provide appropriate professional and practical advice to contractors, consultants and project team members associated with environmental and ecological issues (e.g. identification of key environmental concerns on site as the Scheme progresses) and where appropriate resolve issues in a practical and efficient way. • Ensure that the environmental elements of the Scheme have been created and maintained in accordance with the First Iteration EMP and Second Iteration EMP to the appropriate standard. The EM should approve this by way of sign off. • Management of environmental specialists.

Role	Responsibilities
	<ul style="list-style-type: none"> Investigate environmental incidents and implement follow-up corrective actions to ensure compliance with UK regulations and legislation. Identification of cost savings and best practice activities.
<p>Principal Contractor's Ecological Clerk of Works (ECoW)</p>	<p><u>Second Iteration EMP responsibilities:</u></p> <p>Review of relevant sections of the Second Iteration EMP.</p> <p>Responsible for ensuring that all ecological elements of the Second Iteration EMP are complied with.</p> <p>Prepare ecological method statements and other applicable ecological management plans as identified by the First Iteration EMP</p> <p>.</p> <p><u>Overall responsibilities:</u></p> <p>Responsible for ensuring that the Scheme complies with all ecological legislation and consents, including the draft DCO (TR010064/APP/3.1) and those arising from the Environmental Statement (TR010064/APP/6.1). throughout the construction phase</p> <p>The ECoW will be required to:</p> <ul style="list-style-type: none"> Monitor ecological compliance of construction activities in line with the management plans and the relevant environmental legislation, consents, and permissions throughout the construction phase. Monitor and supervise construction activities (e.g. watching briefs during site clearance activities) to ensure that any unanticipated discoveries of notable flora and fauna, including invasive species, are appropriately dealt with. Identify any new ecological constraints on site and appropriate mitigation measures for them in accordance with the draft DCO (TR010064/APP/3.1). Give toolbox talks, where required, to inform all site personnel of the ecological constraints on site. Deal with queries and correspondence on environmental issues. Provide appropriate professional and practical advice to contractors, consultants and project team members associated with ecological issues and where appropriate resolve issues in a practical and efficient way. Approve by way of sign off, that the ecological elements of the Scheme have been created and maintained in accordance with the second iteration EMP to the appropriate standard. Monitor and provide guidance in respect of the Series 3000 landscape and ecology specification and design as well as Appendix N: Landscape and Ecology Management Plan during the creation of ecological habitats.

Role	Responsibilities
	<ul style="list-style-type: none"> • Identification of cost savings and best practice activities.
<p>Principal Contractor's Landscape Architect</p>	<p><u>Second Iteration EMP responsibilities:</u></p> <p>Review of relevant sections of the Second Iteration EMP.</p> <p>Responsible for ensuring that all landscape elements of the Second Iteration EMP are complied with.</p> <p><u>Overall responsibilities:</u></p> <p>Responsible for ensuring that the Scheme complies with all landscape legislation and consents, including the draft DCO (TR010064/APP/3.1) and those arising from the Environmental Statement (TR010064/APP/6.1) throughout the construction phase.</p> <p>The Landscape Architect will be required to:</p> <ul style="list-style-type: none"> • Monitor landscape compliance during construction in line with the Series 3000 landscape and ecology specification and design, the Soil Handling Management Plan (Appendix F) of this first Iteration Environmental Management Plan (TR010064/APP/6.5), Arboricultural Method Statement (to be produced for Second Iteration EMP), Tree Protection Plan, Appendix N: Landscape and Ecology Management Plan and relevant environmental legislation, consents, and permissions throughout the construction phase. • Identify and assess any new landscape constraints onsite and appropriate mitigation measures for them in accordance with the draft DCO (TR010064/APP/3.1). • Give toolbox talks, where required, to inform all site personnel of the landscape constraints onsite. • Deal with queries and correspondence on landscape issues. • Monitor and provide guidance in respect of the Series 3000 landscape and ecology specification and design during the implementation, establishment, and maintenance of planting. • Identify cost savings and best practice activities. • Provide appropriate professional and practical advice to contractors, consultants and project team members associated with landscape issues and where appropriate resolve issues in a practical and efficient way. • Approve by way of sign off, that the landscape elements of the Scheme have been created and maintained in accordance with the Second Iteration EMP to the appropriate standard.
<p>Principal Contractor's Archaeological Clerk of Works (ACoW)</p>	<p><u>Second Iteration EMP responsibilities:</u></p> <p>Responsible for ensuring that all archaeological and heritage elements of the Second Iteration EMP are complied with.</p>

Role	Responsibilities
	<p>Liaise with and provide guidance for contractors in relation to the requirements of the Archaeological Mitigation Strategy (AMS) and Written Schemes of Investigation (WSI).</p> <p><u>Overall Responsibilities:</u></p> <p>Responsible for ensuring that the Scheme complies with all archaeological and heritage legislation and consents, including the draft DCO (TR010064/APP/3.1) and those arising from the Environmental Statement (TR010064/APP/6.1) throughout the relevant project phase.</p> <p>The ACoW will be required to:</p> <ul style="list-style-type: none"> • Review the Written Schemes of Investigation prepared by the Archaeological Contractor. • Co-ordinate archaeological site works and act as coordinator in respect of access and monitoring arrangements with the Client's representative and the Curators (archaeological planning advisors to the local authorities and Historic England). • Monitor the work undertaken by the Archaeological Contractor to ensure compliance with the (AMS) and the WSI (to be produced for Second Iteration EMP). • Organise and attend site meetings to be held with the relevant Curators. • Review interim statements and provide these to the Client's representative and the Curators. • Manage the sign-off process with the Client's representative and the Curators and submit a completion statement before construction activity can commence. • Give toolbox talks to inform all site personnel of the archaeological and historical environment constraints on site, the protection measures that are required and their obligations under the AMS to ensure that these are put in place and complied with. • Inspect areas where any unexpected archaeological remains are located and liaise with the relevant curators to determine the requirement for appropriate mitigation measures for them in accordance with the draft DCO (TR010064/APP/3.1). • Review and comment on the Post Excavation Assessment Report (PEAR) and Archaeological Research Design during the post-excavation phase where appropriate.
Principal Contractor's Environmental Specialist(s)	<p>As required, archaeologists, ecologists, geotechnical engineers, geo-environmental engineers, and hydrologists, etc will be responsible for undertaking pre-construction surveys and watching briefs, as well as providing advice on specific issues (as they arise) throughout the construction phase.</p> <p><u>Second Iteration EMP responsibilities:</u></p>

Role	Responsibilities
	<p>Review of relevant sections of the Second Iteration EMP/Management Plans.</p> <p>Responsible for ensuring that all relevant elements of the Second Iteration EMP/Management Plans are complied with.</p> <p>Preparing relevant Management Plans to the Second Iteration EMP as listed in the draft DCO (TR010064/APP/3.1).</p> <p><u>Overall responsibilities:</u></p> <p>Responsible for ensuring that the Scheme complies with all relevant legislation and consents, including the draft DCO (TR010064/APP/3.1) and those arising from the Environmental Statement (TR010064/APP/6.1) throughout the relevant project phase.</p> <p>Provide appropriate professional and practical advice to PCs, consultants and project team members associated with environmental and ecological issues and where appropriate resolve issues in a practical and efficient way.</p> <p>Other responsibilities as necessary and appropriate.</p>
<p>Principal Contractor's Community Liaison Manager</p>	<p><u>Second Iteration EMP responsibilities:</u></p> <p>Review of relevant sections of the Second Iteration EMP.</p> <p><u>Overall responsibilities:</u></p> <p>Coordinate the Community Liaison team's communications with the public and interested parties, including outreach activities and education, as appropriate. The role would include the following responsibilities:</p> <ul style="list-style-type: none"> • Ensuring a project 24-hour reporting system (e.g. hotline number) is established prior to construction works commencing. • Assisting the Applicant with responses to public concerns or complaints about the works received by the Applicant correspondence team and the out-of-hours 'phone service. • Assisting the Applicant with responses to public concerns or complaints about the works received by the Applicant correspondence team and the out-of-hours 'phone service. • In collaboration with the PM and EM, addressing landowner or occupier (if applicable) and community concerns relating to the works and liaising directly with concerned parties in conjunction with the Applicant, as required. • Keeping the PM and the EM informed of any environmental complaints received. • Keeping the public informed of project progress and any construction activities that may cause inconvenience to local communities.
<p>Principal Contractor's</p>	<p><u>Second Iteration EMP responsibilities:</u></p>

Role	Responsibilities
<p>Agricultural Liaison Officer (ALO)</p>	<p>Preparing and review of relevant management plans to the Second Iteration EMP.</p> <p><u>Overall responsibilities:</u></p> <p>The ALO will be appointed by the PC prior to the commencement of the works and would be the prime contact for ongoing engagement about practical matters with the landowners, the occupier (if applicable) and their respective agents prior, throughout and after the construction of the Scheme. The PC would be permitted to appoint more than one ALO if required.</p> <p>The ALO (or their company) would be contactable between 07:00 and 19:00 during the construction phase of the Scheme and a project 24 - hour reporting system (e.g. hotline number) will be established prior to construction works commencing for use in the event of an emergency.</p> <p>The PC would seek to appoint an ALO with relevant experience of working with landowners and agricultural businesses, with knowledge of the compulsory acquisition process and working on a linear infrastructure project.</p> <p>The ALO would remain appointed for up to one year after land is returned to affected landowners/occupiers.</p> <p>The role would include the following responsibilities:</p> <ul style="list-style-type: none"> • Coordinating the provision of the schedule of condition and preconstruction soil survey. • Undertaking preconstruction liaison with affected parties to minimise disruption, where practicable, to existing farming regimes and timings of activities. • Providing preconstruction survey information to landowners including company name, survey type and equipment to be used and an estimate of how long the surveys are expected to take. • Coordinating drainage surveys with the landowner or occupier. • Coordinating water supply statements. • Ensuring the landowner and the occupier (if applicable) are consulted in respect of requirements to field entrances and accesses across the works to landlocked and severed land parcels. • Liaising with owner/occupiers regarding measures to be implemented to maintain livestock water supplies which may be affected due to construction works and fencing requirements both during and post construction. • Discussing the location, grouping, and marking of inspection chambers with the landowner and the occupier (if applicable). • Where necessary, advising on risks relating to the translocation of soil diseases.

Role	Responsibilities
	<ul style="list-style-type: none"> • Liaising with affected landowners/occupiers about activities which may affect their land/business prior to public release of information about those activities. • Liaising with the affected landowners/occupiers regarding drainage attenuation pond locations. • Liaising with the affected landowners/occupiers regarding gate design where agricultural access is required. • Liaising with private water supply abstractors should any pollution incidents occur which may impact on private water supplies. • Arranging regular meetings with the landowner, the occupier (if applicable) or their respective agent representatives. • Undertaking preconstruction and day-to-day discussions with affected owner/occupiers to minimise disruption, where practicable, to existing farming regimes and timings of activities. Undertaking site inspections during construction to monitor working practices and compliance of the contractor/s with their obligations to owner/occupiers under this First Iteration EMP. • As early as is reasonably practicable discussing and agreeing reinstatement measures for land which would be returned to the affected landowners/occupiers.
Principal Designer	<p><u>EMP responsibilities:</u></p> <p>Ensure environmental aspects are considered and included in drawings, design details, specifications bills of quantity and design calculations.</p> <ul style="list-style-type: none"> • Design in-line with environmental legislation, REAC and ES etc. • To provide advice and guidance to the construction team on the design • To liaise with stakeholders to gain approval for designs as appropriate and required. • To share best practice. • To reduce carbon throughout design
All Site staff	<p><u>EMP responsibilities:</u></p> <p>Ensure adherence to all environmental policies, procedures and rules as set out in the Second Iteration EMP and any supporting management plans.</p> <p>Organise work to be carried out to the required standards with the aim of minimum risk to the environment. All site personnel to receive instructions on their responsibilities to ensure correct environmental practice in line with the Second Iteration EMP.</p> <p><u>Overall responsibilities:</u></p>

Role	Responsibilities
	<p>To receive general environmental awareness training and undertake work in accordance with all works method statements and toolbox talks. Only trained personnel are to manage tasks such as refuelling plant and equipment, managing the stores, water quality monitoring and supervising the segregation and collection of waste. The responsibilities of all staff on site throughout the construction of the works will include the following:</p> <ul style="list-style-type: none">• All staff are to be appropriately trained to carry out their respective tasks.• Adhere to legislation and where appropriate codes of practice and guidance notes relevant to their work.

3 Environmental actions and commitments

3.1 Introduction

- 3.1.1 The Register of Environmental Actions and Commitments (REAC) is available in Table 3.2 in Section 3.2 below. The REAC summarises the actions and commitments identified within the Environmental Statement (TR010064/APP/6.1) to address the potential environmental effects of the Scheme.
- 3.1.2 The REAC will be updated by the Principal Contractor (PC) when they prepare the Second Iteration EMP and then updated as required, as the Scheme progresses to track progress of the commitments and record outcomes and evidence of the actions taken, as well as recording and addressing any additional environmental issues that arise during construction.
- 3.1.3 The REAC will be finalised at the end of construction, on completion of the Scheme, where it will inform the development of, and be included within the Third Iteration EMP. The Third Iteration EMP will be the mechanism for passing essential environmental information to the Applicant and those responsible for the future maintenance and operation of the Scheme.

3.2 Guide to the REAC

- 3.2.1 The REAC does not detail general legislative requirements. All activities outlined in the REAC would however comply and be undertaken in accordance with all applicable legislation.
- 3.2.2 Table 3.1 provides a summary of the scope of each column within the REAC.

Table 3.1 Guide to the REAC

Column	Explanation
Reference Number (Ref No.)	A unique identifier defined within the REAC to enable simple reference to individual measures.
Source reference (Source Ref.)	The source of the action, including references to source documentation, for example the Environmental Statement (TR010064/APP/6.1) and, where relevant, confirmation of commitments agreed with stakeholders.
Topic	Topic of the action/commitment.
Action/commitment	Clear and specific description of the action/commitment, including the specific location where appropriate. Where no location is given, the measure is normally one which is relevant across the Scheme (e.g. working hours).
Monitoring required	Details of any monitoring required.

Column	Explanation
Objective	The outcome which the defined action is designed to achieve.
Assumptions	Assumption(s) on which the action/commitment is based.
Achievement criteria	The criteria which define the successful implementation of the action, such as a document approval or an audit which confirms the action has been undertaken.
Responsible person(s)	The person or body responsible for delivery of the action; this would often be the contractor.
Stage	The anticipated project stage of implementation or achievement of commitment.
How the action is to be implemented	The contractual or other relationship between the relevant parties, which ensure that the action would be delivered.

3.2.3 Unless otherwise stated, the REAC does not typically define how the action is to be implemented or achieved, other than beyond a contractual obligation, and does not consider the risk management of individual items, unless these elements are implicit within the action.

3.2.4 The REAC does not include a column to define the 'source of the action', since this is generally clear from the Source Reference. However, in preparing a Second Iteration EMP, the PC would include within this column confirmation of commitments agreed with stakeholders.

3.2.5 When preparing the Second Iteration EMP, the PC would include new columns for approval and sign off actions in accordance with DMRB LA 120 Environmental Management Plans (Highways England, 2020c).

3.2.6 The references to guidance documents within the REAC are not intended to be exhaustive and in preparing the Second Iteration EMP and related topic specific plans, the PC shall have due regard to any relevant technical guidance in individual subject areas and draw upon and reference these as appropriate.

Delivery of environmental actions and commitments

3.2.7 The REAC present the environmental actions and commitments for the Scheme. The PC would deliver the actions and commitments with the application of standard best practice or scheme essential mitigation measures as presented within this First Iteration EMP and/or within the applicable section of the Environmental Statement (TR010064/APP/6.1) for the Scheme design as shown on the Environmental Masterplan (included in Figure 2.3 of the Environmental Statement Figures (TR010064/APP/6.2)).

3.2.8 If the PC identifies:

- An alternative measure, or;

- Measures included in the REAC, which would achieve the same environmental effects at the relevant location

3.2.9 The use of the alternative measures would be within the terms of the DCO (TR010064/APP/3.1 and would not lead to any materially new or materially different environmental effects compared to those as presented in the Environmental Statement (TR010064/APP/6.1).

3.3 REAC

3.3.1 The REAC is provided in Table 3.2 below. The REAC summarises the actions and commitments identified within the Environmental Statement (TR010064/APP/6.1) to address the potential environmental effects of the Scheme.

Table 3.2 Register of Environmental Actions and Commitments (REAC)

Ref. No	Action/Commitment (incl. Location where relevant)	Assumption(s) on which the action is based	Objective	How the action is implemented	Source reference (incl. Commitments agreed with stakeholders)	Responsible person(s)	Achievement criteria	Stage	Monitoring (if required)
General									
G1	<p>The Principal Contractor will develop this First Iteration Environmental Management Plan (EMP) into the Second Iteration EMP in line with DMRB LA 120 Environmental management plans (Highways England, 2020).</p> <p>The Second Iteration EMP will be approved by the Secretary of State (SoS) following consultation with the relevant planning authority and the Environment Agency, prior to construction works commencing on site.</p>	The environmental assessment assumes that the Second Iteration EMP would be implemented throughout the construction phase of the Scheme.	To provide a framework for the implementation of environmental requirements on site.	<p>Contractual responsibilities between the Applicant and Principal Contractor</p> <p>Development Consent Order (DCO) (TR010064/APP3.1)</p> <p>Requirement 4 (Environmental Management Plan)</p>	<p>Chapter 2: The Scheme, of the Environmental Statement (TR010064/APP/6.1)</p> <p>First Iteration EMP</p>	Principal Contractor	<p>Secretary of State approval of the Second Iteration EMP.</p> <p>Reported on the Requirements Register published on the Applicants Scheme website.</p>	Pre-construction	Review of Scheme Requirements Register if there is a subsequent discharge request following an update to the Second Iteration EMP.
G2	<p>The measures contained in the Second Iteration EMP will be reviewed and updated by The Principal Contractor in consultation with the Applicant on a regular basis. As a minimum the measures will be reviewed and updated every six months as follows:</p> <ul style="list-style-type: none"> To incorporate changes to legislation, policy or other requirements To incorporate the outcomes of environmental audits and inspections Following the outcome of environmental incident investigation on site <p>In response to near miss and good practice reporting</p>	The environmental assessment assumes that the EMP would be implemented throughout the construction phase of the Scheme.	To ensure the framework for the implementation of environmental requirements on site is kept up to date.	Contractual responsibilities between the Applicant and Principal Contractor	First Iteration EMP	Principal Contractor	6-monthly updated version of the Second Iteration EMP available in Principal Contractor records	Construction	Ongoing reviews

Ref. No	Action/Commitment (incl. Location where relevant)	Assumption(s) on which the action is based	Objective	How the action is implemented	Source reference (incl. Commitments agreed with stakeholders)	Responsible person(s)	Achievement criteria	Stage	Monitoring (if required)
	The measures reviewed in accordance with this provision will be at least as effective as those contained in the Second Iteration of the EMP and will be in accordance with the Second Iteration of the EMP approved by the Secretary of State.								
G3	<p>The Principal Contractor will inform the public of the nature, timing and duration of particular construction activities and the duration of the construction works, for example, by newsletters, letter drops and liaison with the relevant planning authority.</p> <p>A Communication Plan (that includes community engagement) will be developed before work commences on site.</p>	Likely effect on the local community during construction	To promote positive stakeholder engagement including community and members of the public are kept up to date on the works.	Preparation and implementation of a Communication Plan	First Iteration of the EMP	Principal Contractor	Communication Plan	Pre-construction and Construction	Feedback from the community
G4	<p>Unless agreed in advance with the relevant planning authority (Bury Council), the following hours of work will be adhered to on site:</p> <p><u>Daytime</u></p> <ul style="list-style-type: none"> • Weekdays - 07:00 to 19:00 • Saturdays - 07:00 – 13:00 <p>During the summer months, the working hours could extend to 07:00 to 21:00 to make use of the longer daylight hours.</p> <p><u>Evening and Night-time</u></p> <ul style="list-style-type: none"> • Mon to Sat - 19:00 to 07:00 <p><u>Saturday off-peak</u></p>	Likely effect on the local community during construction	To limit impacts of construction works to members of the public.	Draft DCO (TR010064/APP/3.1) (Environmental Management Plan)	Chapter 2: The Scheme and Chapter 11: Noise and vibration, of the Environmental Statement (TR010064/APP/6.1)	Principal Contractor	<p>Adherence to the specified working hours throughout the construction phase.</p> <p>Agreement in writing following consultation with the relevant planning authority.</p>	Pre-construction and Construction.	Ongoing review

Ref. No	Action/Commitment (incl. Location where relevant)	Assumption(s) on which the action is based	Objective	How the action is implemented	Source reference (incl. Commitments agreed with stakeholders)	Responsible person(s)	Achievement criteria	Stage	Monitoring (if required)
	<ul style="list-style-type: none"> • 13:00 to 19:00 <p>There may be some requirement for working on Sundays, Bank Holidays and Public Holidays and this will be agreed with the relevant planning authority in advance.</p> <p><u>Sunday and Bank Holiday working hours</u></p> <ul style="list-style-type: none"> • 07:00–21:00 Sunday and Bank Holidays • 21:00–07:00 Sunday and Bank Holidays <p>In addition, there would be an hour before and after standard working hours for site set up and close down.</p>								
G5	<p>The Principal Contractor will provide appropriate advanced notice of all evening/nighttime/off-peak works to the relevant planning authority which will include:</p> <ul style="list-style-type: none"> • Installation, maintenance, and removal of traffic management layouts • Demolition of existing structures, construction of new structures, and any potential movements of large transporters to deliver bridge superstructures and gantry steel sections to their permanent locations. • Piling works for structures and retaining walls. • Removal, modification and installation of new signage/technology to 	Likely effect on the local community during construction	To enable specific construction works to be carried out and to limit the impacts of such works to members of the public.	Relevant planning authority Advanced notice to be given	Chapter 2: The Scheme, of the Environmental Statement (TR010064/APP/6.1)	Principal Contractor	relevant planning authority Communication Plan	Construction	Review of stakeholder feedback

Ref. No	Action/Commitment (incl. Location where relevant)	Assumption(s) on which the action is based	Objective	How the action is implemented	Source reference (incl. Commitments agreed with stakeholders)	Responsible person(s)	Achievement criteria	Stage	Monitoring (if required)
	<p>existing gantries and traffic signs.</p> <ul style="list-style-type: none"> • Central reservation works where daytime working is not suitable due to existing carriageway widths or proximity to existing slip merges/diverges. • Works on slip roads and designated free flow links where carriageway widths will not allow for daytime works. • Online works within the verges which cannot be safely completed under the daytime working room available behind the temporary vehicle restraint barrier. • Cross carriageway duct crossings • Installation/removal of street lighting and traffic signals • Resurfacing and white lining of the existing carriageway and surfacing works to tie-in the existing carriageway to the new carriageway. Some compounds may be in 24-hour operation at certain stages of the construction programme to facilitate off-peak working. • Emergency and planned carriageway maintenance and repair works • Maintenance of plant and equipment requiring 24/7 operation such as pumps. 								

Ref. No	Action/Commitment (incl. Location where relevant)	Assumption(s) on which the action is based	Objective	How the action is implemented	Source reference (incl. Commitments agreed with stakeholders)	Responsible person(s)	Achievement criteria	Stage	Monitoring (if required)
G6	<p>The Principal Contractor will implement the following measures for lighting during construction:</p> <ul style="list-style-type: none"> Temporary lighting used for construction will be switched-off when not in use and positioned so as not to spill on to adjacent land. Directed lighting will be used to minimise light pollution/glare. Lighting levels will be kept to the minimum necessary for security and safety by the Principal Contractor. Work during hours of darkness will be avoided as far as practicable and, where necessary, directed lighting will be used to minimise light pollution/glare. Lighting levels will be kept to the minimum necessary for security and safety. Temporary lighting at site compounds will be designed to avoid impacts to residential properties. 	Likely effect on sensitive receptors / landscape character from construction lighting	<p>To minimise impacts to sensitive receptors from Scheme construction lighting.</p> <p>To limit impacts to adjacent Landscape Character Areas from Scheme construction lighting.</p> <p>To minimise the use of energy by the Scheme</p>	Draft DCO (TR010064/APP/3.1) Requirement 4 (Environmental Management Plan)	Chapter 7: Landscape and Visual, of the Environmental Statement (TR010064/APP/6.1)	Principal Contractor	<p>Lighting Design</p> <p>Site environmental inspection reports</p>	Construction	No
G7	<p>A suitable lighting strategy will be developed for implementation across the Scheme in accordance with industry standards and good practice guidance on lighting with regards to protected species. This will include:</p> <ul style="list-style-type: none"> Avoidance of artificial lighting of watercourses, particularly during the hours of darkness to prevent impacts to fish behaviour or passage and otters. Avoidance of light spill using directional and or baffled lighting. 	Likely effect on sensitive receptors / landscape character from construction lighting	<p>To reduce disturbance to fauna and flora, throughout the Scheme.</p> <p>To protect sensitive mammal habitats from illumination, throughout the Scheme.</p> <p>To protect bats</p>	<p>Contractual responsibilities between the Applicant and Principal Contractor</p> <p>Draft DCO (TR010064/APP/3.1) Requirement 4 (Environmental Management Plan)</p>	<p>Appendix D: Outline General Ecology Management Plan, First Iteration EMP and</p> <p>Chapter 8: Biodiversity of the Environmental Statement (TR010064/APP/6.1).</p>	Principal Contractor	<p>Lighting Strategy</p> <p>Site environmental inspection reports</p> <p>General Ecology Management Plan – Second Iteration EMP</p>	Construction	No

Ref. No	Action/Commitment (incl. Location where relevant)	Assumption(s) on which the action is based	Objective	How the action is implemented	Source reference (incl. Commitments agreed with stakeholders)	Responsible person(s)	Achievement criteria	Stage	Monitoring (if required)
	<ul style="list-style-type: none"> · Positioning of lighting columns away from habitats of value to foraging and commuting bats (hedgerows, trees, woodland). · Reducing the height of lighting columns to reduce light spill onto adjacent habitats. · Avoidance use of blue-white short wavelength lights and high UV content. · The use of construction lighting will be in accordance with industry standards and follow best available guidance on lighting with regards to protected species ((e.g. Bat Conservation Trust (2009) and Institute of Lighting Engineers (2007)). The construction lighting design will consider the need to avoid illuminating sensitive mammal habitats (e.g. for bats) in locations such as: adjacent to watercourses, along woodland edges and where there is known activity identified through pre-construction ecological surveys. Where this is not possible the Principal Contractor will agree any exceptions with the ECoW, the Applicant and the relevant planning authority. 		from road traffic accidents.						
G8	Prior to commencement of construction, the Principal Contractor will sign up to and thereafter adhere to the National Considerate Constructor's Scheme (CCS).		To implement and demonstrate best construction practices and promote good community relations and innovations.	Contractual responsibilities between the Applicant and Principal Contractor	First Iteration EMP	Principal Contractor	Site registration CCS monitor report and score	Pre-construction Construction	CCS monitor report and score

Ref. No	Action/Commitment (incl. Location where relevant)	Assumption(s) on which the action is based	Objective	How the action is implemented	Source reference (incl. Commitments agreed with stakeholders)	Responsible person(s)	Achievement criteria	Stage	Monitoring (if required)
Air Quality									
AQ1	The Principal Contractor will consult with the relevant planning authority, Bury MBC and other relevant stakeholders regarding appropriate best practice dust mitigation prior to construction, such as those outlined in the Institute of Air Quality Management (IAQM) Guidance on the assessment of dust from demolition and construction (IAQM, 2023).	Dust is likely to be an issue without mitigation during construction	To reduce dust nuisance and impacts on both human health and ecological receptors.	Consultation with relevant planning authority Draft DCO (TR010064/APP/3.1) Requirement 4 (Environmental Management Plan)	Chapter 5: Air quality, of the Environmental Statement (TR010064/APP/6.1). Appendix A: Outline Air Quality and Dust Management Plan in First Iteration EMP	Principal Contractor	Consult with relevant planning authority. Air Quality and Dust Management Plan in Second Iteration EMP	Pre-construction	No
AQ2	The Principal Contractor will implement dust mitigation in accordance with the Air Quality and Dust Management Plan in the Second Iteration EMP (to be developed from the Outline Air Quality and Dust Management Plan in the First Iteration EMP) during construction.	Dust is likely to be an issue without mitigation during construction	To reduce dust nuisance and impacts on both human health and ecological receptors.	Contractual responsibilities between the Applicant and Principal Contractor Draft DCO (TR010064/APP/3.1) Requirement 4 (Environmental Management Plan)	Chapter 5: Air quality, of the Environmental Statement (TR010064/APP/6.1). Appendix A: Outline Air Quality and Dust Management Plan in First Iteration EMP	Principal Contractor	Feedback from the monitoring regime	Construction	At the minimum a log will be kept as per IAQM guidance (2023) relevant planning authority
Cultural Heritage									
CH1	Trial trench investigation of the known archaeological remains Structures off Corday Lane (HER 3915.1.0) and Structures South of Mode Hill Lane (HER 3919.1.0) will be undertaken prior to construction in accordance with an approved Written Scheme of Investigation.	The presence of buried archaeological remains	To determine the presence, and value of buried archaeological remains and to inform the need for, and scope of, mitigation	Contractual responsibilities between the Applicant and Principal Contractor Draft DCO (TR010064/APP/3.1) Requirement 9 (Archaeological Remains)	Agreed with Greater Manchester Archaeological Advisory Service Chapter 6: Cultural heritage, of the Environmental Statement (TR010064/APP/6.1).	Principal Contractor	Trial trench investigation sufficiently prior to construction to allow reporting and the formulation of a robust approach to mitigation. Trial trench investigation report six months prior to start of construction	Pre-construction	Archaeological monitoring of the trial trenching works
CH2	Archaeological watching brief on the site of a possible oven (HER 3921.1.0) will be undertaken in accordance	The presence of buried archaeological remains	To mitigate the impacts of construction on	Contractual responsibilities between the	Agreed with Greater Manchester Archaeological Advisory Service	Principal Contractor	Reporting of results after completion of fieldwork	Construction	Archaeological monitoring of overburden strip at

Ref. No	Action/Commitment (incl. Location where relevant)	Assumption(s) on which the action is based	Objective	How the action is implemented	Source reference (incl. Commitments agreed with stakeholders)	Responsible person(s)	Achievement criteria	Stage	Monitoring (if required)
	with an approved Written Scheme of Investigation.		possible buried remains	Applicant and Principal Contractor Draft DCO (TR010064/APP/3.1) Requirement 9 (Archaeological Remains)	Chapter 6: Cultural heritage, of the Environmental Statement (TR010064/APP/6.1).				the site of a possible oven
Landscape and Visual									
LV1	The Northern Loop eastern embankment is constructed in accordance with the preliminary design.	The preliminary design for the loop is implemented.	To limit landscape change in the Special Landscape Area	Contractual responsibilities between the Applicant and Principal Contractor Draft DCO (TR010064/APP/3.1) Requirement 3 (Detailed Design)	Figure 2.3: (Environmental Masterplan) of the Environmental Statement Figures (TR010064/APP/6.2) Chapter 7: Landscape and visual of the Environmental Statement (TR010064/APP/6.1)	Principal Contractor	Detailed design accords with preliminary design and the Scheme is constructed accordingly.	Pre-construction and construction	No
LV2	The ponds will be designed to provide landscape integration and planting opportunities.	The environmental design presented in Figure 2.3 (The Environmental Masterplan) of the Environmental Statement (TR010064/APP/6.2) will be implemented.	To be sensitive to landscape character and maximise biodiversity opportunities	Contractual responsibilities between the Applicant and Principal Contractor Draft DCO (TR010064/APP/3.1) Requirement 3 (Detailed Design) Draft DCO (TR010064/APP/3.1) Requirement 4 (Environmental Management Plan) Draft DCO (TR010064/APP/3.1) Requirement 5 (Landscaping)	Figure 2.3: (Environmental Masterplan) of the Environmental Statement Figures (TR010064/APP/6.2) Chapter 7: Landscape and visual of the Environmental Statement (TR010064/APP/6.1)	Principal Contractor	Detailed Design delivers landscape integration and planting opportunities, and the Scheme is constructed accordingly.	Pre-construction and construction	No
LV3	Existing vegetation clearance within the temporary works areas will be minimised as far as practicable. Particular	Existing vegetation would be retained as far as practicable.	To be sensitive to landscape character and visual amenity.	An Arboricultural Method Statement and Tree Protection Plan would be prepared in	Appendix 7.5: (Arboricultural Impact Assessment) of the Environmental	Principal Contractor	Compliance with Arboricultural Method Statement and Tree Protection Plan	Pre-construction and construction	Ongoing review

Ref. No	Action/Commitment (incl. Location where relevant)	Assumption(s) on which the action is based	Objective	How the action is implemented	Source reference (incl. Commitments agreed with stakeholders)	Responsible person(s)	Achievement criteria	Stage	Monitoring (if required)
	attention will be given to the retention of mature vegetation including individual trees, linear tree belts and woodlands.		To limit impacts on natural habitat.	accordance with BS 5837:2012 identifying measures for the protection of retained vegetation prior to the commencement of site clearance works. These measures will be complied with during construction, and all works to trees and vegetation removal would be implemented under the supervision of the ECoW.	Statement Appendices (TR010064/APP/6.3)				
LV4	All planting and seeding will use native species as appropriate to the location and design overseen by Ecologists and Arboriculturists.	The environmental design presented in Figure 2.3 (The Environmental Masterplan) of the Environmental Statement (TR010064/APP/6.2) will be implemented.	To be sensitive to landscape character and visual amenity, landscape integration and biodiversity value.	Contractual responsibilities between the Applicant and Principal Contractor. Series 3000 Landscape and Ecology Specification will be developed. Draft DCO (TR010064/APP/3.1) Requirement 5 (Landscaping)	Figure 2.3: (Environmental Masterplan) of the Environmental Statement Figures (TR010064/APP/6.2) Chapter 7: Landscape and visual of the Environmental Statement (TR010064/APP/6.1)	Principal Contractor	Scheme constructed in accordance with approved landscaping scheme.	Pre-construction and construction	Ongoing review
LV5	New hedgerow planting will be delivered in areas adjacent to the environmental areas, along the new highway boundary and around ponds	The environmental design presented in Figure 2.3 (The Environmental Masterplan) of the Environmental Statement (TR010064/APP/	To be sensitive to landscape character and visual amenity. To maximise biodiversity value and strengthen landscape pattern.	Contractual responsibilities between the Applicant and Principal Contractor Draft DCO (TR010064/APP/3.1) Requirement 5 (Landscaping)	Figure 2.3: (Environmental Masterplan) of the Environmental Statement Figures (TR010064/APP/6.2) Chapter 7: Landscape and visual of the Environmental Statement	Principal Contractor	Scheme constructed in accordance with approved landscaping scheme	Pre-construction and construction	Ongoing review

Ref. No	Action/Commitment (incl. Location where relevant)	Assumption(s) on which the action is based	Objective	How the action is implemented	Source reference (incl. Commitments agreed with stakeholders)	Responsible person(s)	Achievement criteria	Stage	Monitoring (if required)
		6.2) will be implemented.			(TR010064/APP/6.1)				
LV6	New hedgerow tree planting will be delivered to strengthen new and existing hedgerows.	The environmental design presented in Figure 2.3 (The Environmental Masterplan) of the Environmental Statement (TR010064/APP/6.2) will be implemented.	To be sensitive to landscape character and visual amenity To further help integrate the motorway infrastructure into the local landscape.	Contractual responsibilities between The Applicant and Principal Contractor Draft DCO (TR010064/APP/3.1) Requirement 5 (Landscaping)	Figure 2.3: (Environmental Masterplan) of the Environmental Statement Figures (TR010064/APP/6.2) Chapter 7: Landscape and visual of the Environmental Statement (TR010064/APP/6.1)	Principal Contractor	Scheme constructed in accordance with approved landscaping scheme.	Pre-construction and construction	Ongoing review
LV7	Planting will be delivered to link existing field boundary vegetation with other areas of existing vegetation in areas around the Northern Loop.	The environmental design presented in Figure 2.3 (The Environmental Masterplan) of the Environmental Statement (TR010064/APP/6.2) will be implemented.	To be sensitive to landscape character and visual amenity To improve habitat links and strengthen the local landscape pattern and character.	Contractual responsibilities between the Applicant and Principal Contractor Draft DCO (TR010064/APP/3.1) Requirement 5 (Landscaping)	Figure 2.3: (Environmental Masterplan) of the Environmental Statement Figures (TR010064/APP/6.2) Chapter 7: Landscape and visual of the Environmental Statement (TR010064/APP/6.1)	Principal Contractor	Scheme constructed in accordance with approved landscaping scheme.	Pre-construction and construction	Ongoing review
LV8	Aquatic and marginal planting will be delivered at the ponds and swales.	The environmental design presented in Figure 2.3 (The Environmental Masterplan) of the Environmental Statement (TR010064/APP/6.2) will be implemented.	To be sensitive to landscape character and visual amenity To improve landscape integration and biodiversity.	Contractual responsibilities between the Applicant and Principal Contractor Draft DCO (TR010064/APP/3.1) Requirement 5 (Landscaping)	Figure 2.3: (Environmental Masterplan) of the Environmental Statement Figures (TR010064/APP/6.2) Chapter 7: Landscape and visual of the Environmental Statement (TR010064/APP/6.1)	Principal Contractor	Scheme constructed in accordance with approved landscaping scheme.	Pre-construction and construction	Ongoing review
LV9	Planting along the Pike Fold Simister Viaduct		To be sensitive to landscape	Contractual responsibilities	Figure 2.3: (Environmental	Principal Contractor	Scheme constructed in accordance with	Pre-construction and construction	Ongoing review

Ref. No	Action/Commitment (incl. Location where relevant)	Assumption(s) on which the action is based	Objective	How the action is implemented	Source reference (incl. Commitments agreed with stakeholders)	Responsible person(s)	Achievement criteria	Stage	Monitoring (if required)
	embankment west of the M66 for landscape integration, and visual screening or filtering for viewers within nearby residential areas of Whitefield.	The environmental design presented in Figure 2.3 (Environmental Masterplan) of the Environmental Statement Figures (TR010064/APP/6.2) will be implemented.	character and visual amenity	between the Applicant and Principal Contractor Draft DCO (TR010064/APP/3.1) Requirement 5 (Landscaping)	Masterplan) of the Environmental Statement Figures (TR010064/APP/6.2) Chapter 7: Landscape and Visual of the Environmental Statement (TR010064/APP/6.1)		approved landscaping scheme		
LV10	Planting on the Pike Fold Simister Bridge embankments and Northern Loop embankments and within the Northern Loop to provide landscape and visual integration; and visual screening or filtering for viewers along Pole Lane footpath.	The environmental assessment assumes that the environmental design presented in the Environmental Masterplan would be implemented.	To be sensitive to landscape character and visual amenity To break up the scale of the Scheme elements for motorway travellers.	Contractual responsibilities between the Applicant and Principal Contractor Draft DCO (TR010064/APP/3.1) Requirement 5 (Landscaping)	Figure 2.3: (Environmental Masterplan) of the Environmental Statement Figures (TR010064/APP/6.2) Chapter 7: Landscape and visual of the ES (TR010064/APP/6.1)	Principal Contractor	Scheme constructed in accordance with approved landscaping scheme	Pre-construction and construction	Ongoing review
LV11	Planting along Pole Lane to strengthen the existing hedgerow and along the nearby northbound M66 verge.	The environmental design presented in Figure 2.3 (The Environmental Masterplan) of the Environmental Statement (TR010064/APP/6.2) would be implemented.	To be sensitive to landscape character and visual amenity – To provide visual screening or filtering of traffic, Simister Pike Fold Bridge and Northern Loop from within Whitefield and from Footpath 12WHI along Pole Lane.	Contractual responsibilities between the Applicant and Principal Contractor Draft DCO (TR010064/APP/3.1) Requirement 5 (Landscaping)	Figure 2.3: (Environmental Masterplan) of the Environmental Statement Figures (TR010064/APP/6.2) Chapter 7: Landscape and visual of the Environmental Statement (TR010064/APP/6.1)	Principal Contractor	Scheme constructed in accordance with approved landscaping scheme	Pre-construction and construction	Ongoing review
LV12	New planting of linear tree belts along the M60 northbound to M60 westbound on-slip to provide landscape and visual	The environmental design presented in Figure 2.3 (The	To be sensitive to landscape character and visual amenity	Contractual responsibilities between the Applicant and Principal Contractor	Figure 2.3: (Environmental Masterplan) of the Environmental	Principal Contractor	Scheme constructed in accordance with approved landscaping scheme.	Pre-construction and construction	Ongoing Review

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	integration; and screening or filtering for viewers on Heywood Road and Simister Lane. TR010064	Environmental Masterplan) of the Environmental Statement (TR010064/APP/6.2) will be implemented.	To provide landscape and visual integration; and screening or filtering for viewers on Heywood Road and Simister Lane.	Draft DCO (TR010064/APP/3.1) Requirement 5 (Landscaping)	Statement Figures (TR010064/APP/6.2) Chapter 7: Landscape and visual of the Environmental Statement (TR010064/APP/6.1))				
LV13	Existing linear tree belts necessitating removal for carriageway widening would be reinstated with a higher percentage of feathered trees and evergreen species.	The environmental assessment assumes that the environmental design presented in Figure 2.3 (The Environmental Masterplan) of the Environmental Statement (TR010064/APP/6.2) will be implemented.	To be sensitive to landscape character and visual amenity To improve visual screening in the early years.	Contractual responsibilities between the Applicant and Principal Contractor Draft DCO (TR010064/APP/3.1) Requirement 5 (Landscaping)	Figure 2.3: (Environmental Masterplan) of the Environmental Statement Figures (TR010064/APP/6.2) Chapter 7: Landscape and visual of the Environmental Statement (TR010064/APP/6.1))	Principal Contractor	Scheme constructed in accordance with approved landscaping scheme	Pre-construction and construction	Ongoing review
LV14	Planting will be delivered along the eastbound and westbound M60 mainline verges and embankments between M60 J17 and M60 J18.	The environmental assessment assumes that the environmental design presented in the Environmental Masterplan would be implemented.	To be sensitive to landscape character and visual amenity To provide townscape and visual integration; and screening and filtering for adjacent residential areas.	Contractual responsibilities between the Applicant and Principal Contractor Draft DCO (TR010064/APP/3.1) Requirement 5 (Landscaping)	Figure 2.3: (Environmental Masterplan) of the Environmental Statement Figures (TR010064/APP/6.2) Chapter 7: Landscape and visual of the Environmental Statement (TR010064/APP/6.1))	Principal Contractor	Scheme constructed in accordance with approved landscaping scheme	Pre-construction and construction	Ongoing review
LV15	Planting of trees and shrubs, and species rich grassland creation, will be delivered within land east of the Northern Loop. TR010064	The environmental assessment assumes that the environmental design presented in the Environmental	To be sensitive to landscape character and visual amenity. to provide landscape and visual integration; and	Contractual responsibilities between the Applicant and Principal Contractor Draft DCO (TR010064/APP/3.1)	Figure 2.3: (Environmental Masterplan) of the Environmental Statement Figures (TR010064/APP/6.2) Chapter 7: Landscape and visual of the	Principal Contractor	Scheme constructed in accordance with approved landscaping scheme	Pre-construction and construction	Ongoing review

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		Masterplan would be implemented.	screen views from footpath WHI8 and WHI10.	Requirement 5 (Landscaping)	Environmental Statement (TR010064/APP/6.1)				
LV16	Planting of shrubs will be delivered along Warwick Close.	Insufficient room to provide linear tree belts.	To provide amenity value.	Contractual responsibilities between the Applicant and Principal Contractor Draft DCO (TR010064/APP/3.1) Requirement 5 (Landscaping)	Figure 2.3: (Environmental Masterplan) of the Environmental Statement Figures (TR010064/APP/6.2) Chapter 7: Landscape and visual of the Environmental Statement (TR010064/APP/6.1)	Principal Contractor	Scheme constructed in accordance with approved landscaping scheme	Pre-construction and construction	Ongoing review
LV17	Provision of temporary arboricultural mitigation and fencing during construction.	Risk of harm to retained vegetation during construction.	To protect and avoid harm to retained vegetation.	An Arboricultural Method Statement and Tree Protection Plan would be prepared in accordance with BS 5837:2012 identifying measures for the protection of retained vegetation prior to the commencement of site clearance works. These measures would be complied with during construction, and all works to trees and vegetation removal would be implemented under the supervision of the ECoW.	Appendix 7.5: (Arboricultural Method Statement) of the Environmental Statement Appendices (TR010064/APP/6.3)	Principal Contractor	Compliance with Arboricultural Method Statement and Tree Protection Plan	Pre-construction and construction	Ongoing review
Biodiversity									
B1	New road verges will support low-nutrient grassland habitats which are of high ecological value. No topsoil will be applied to these areas which will be sown with a commercial and	Topsoil is too fertile to support low-nutrient grassland habitats	To meet requirements of the National Planning Policy Framework and National	Contractual responsibilities between the Applicant and Principal Contractor	Chapter 8: Biodiversity of the Environmental Statement (TR010064/APP/6.1)	Principal Designer Principal Contractor	Establishment of target habitats	Construction	Ongoing review

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	locally native seed mix appropriate to the geology.		Networks National Policy Statement Establishment of target habitats.	Draft DCO (TR010064/APP/3.1) Requirement 5 (Landscaping)					
B2	An ECoW to be made available during site clearance to assess and advise on retention of habitats. The ECoW will provide Toolbox Talks as appropriate. The ECoW to assess each area prior to clearance commencing and advise whether full ECoW supervision is required for the work. If full ECoW supervision is not required, the ECoW would 'sign off' clearance of that area.	Risk of adverse effects on protected species during site clearance	To comply with protected species legal requirements.	Draft DCO (TR010064/APP/3.1) Requirement 4 (Environmental Management Plan)	Chapter 8: Biodiversity of the Environmental Statement (TR010064/APP/6.1) Appendix D: Outline General Ecology Management Plan in First Iteration EMP	Principal Contractor	Compliance with Appendix D: General Ecology Management Plan in the Second Iteration EMP.	Construction	ECoW audits, record of activities and photographs
B3	Works to be timed to avoid sensitive periods for protected species where reasonably practicable and appropriate. Where this cannot be achieved, this would be managed in accordance with advice and, where required, supervision from an ECoW and in accordance with any protected species licence requirements	Risk of adverse effects on protected species during construction	To comply with protected species legal requirements.	Draft DCO (TR010064/APP/3.1) Requirement 4 (Environmental Management Plan)	Chapter 8: Biodiversity of the Environmental Statement (TR010064/APP/6.1) Appendix D: Outline General Ecology Management Plan in First Iteration EMP	Principal Contractor	Works programmed to reflect this consideration	Construction	ECoW audits, record of activities and photographs
B4	A precautionary working method statement will be produced to detail the control measures and methods required in relation to the removal of vegetation with potential to support protected species. This will include pre-construction inspections and sensitive felling methods where appropriate	Risk of adverse effects on protected species during vegetation clearance	To comply with protected species legal requirements.	Draft DCO (TR010064/APP/3.1) Requirement 4 (Environmental Management Plan)	Chapter 8: Biodiversity of the Environmental Statement (TR010064/APP/6.1) Appendix D: Outline General Ecology Management Plan in First Iteration EMP	Principal contractor	Production of and compliance with precautionary working method statement.	Construction	Record of precautionary working method statement activities and photographs

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B5	Exclusion zones will be marked where appropriate around protected habitat areas such as trees, woodlands, hedgerows, and watercourses to avoid accidental damage. Marking of protected areas will be based on proximity and risk of encroachment, and based on these factors, markings may include physical barriers or signage.	Risk of damage to retained protected habitat areas during works.	To avoid damage to retained protected habitat areas.	Draft DCO (TR010064/APP/3.1) Requirement 4 (Environmental Management Plan)	Chapter 8: Biodiversity of the Environmental Statement (TR010064/APP/6.1) Appendix D: Outline General Ecology Management Plan in First Iteration EMP	Principal contractor	Compliance with Appendix D: General Ecology Management Plan in the Second Iteration EMP.	Construction	ECoW audits, record of activities and photographs
B6	Barriers will be provided around the construction compounds where appropriate.	Risk of adverse effects on protected species from activities inside construction compounds	To deter protected and notable species presence within the construction compounds.	Draft DCO (TR010064/APP/3.1) Requirement 4 (Environmental Management Plan)	Chapter 8: Biodiversity of the Environmental Statement (TR010064/APP/6.1) Appendix D: Outline General Ecology Management Plan in First Iteration EMP	Principal Contractor	Compliance with Appendix D: General Ecology Management Plan in the Second Iteration	Construction	ECoW audits, record of activities and photographs
B7	Following inspection by the ECoW, clearance of habitats within the construction area will be conducted under appropriate supervision where there is potential for impacts to protected species.	Risk of adverse effects on protected species during vegetation clearance	To comply with protected species legal requirements.	Draft DCO (TR010064/APP/3.1) Requirement 4 (Environmental Management Plan)	Chapter 8: Biodiversity of the Environmental Statement (TR010064/APP/6.1) Appendix D: Outline General Ecology Management Plan in First Iteration EMP	Principal Contractor	Compliance with Appendix D: General Ecology Management Plan in the Second Iteration	Construction	ECoW audits, record of activities and photographs
B8	Creation of features which could attract wildlife into works areas will be avoided where practicable. This may include the maintenance of habitat in an unsuitable condition for species. Where appropriate, the construction site boundary will be designed to discourage wildlife entering the site.	Risk of adverse effects on protected species during construction works	To deter protected and notable species presence within the works areas.	Draft DCO (TR010064/APP/3.1) Requirement 4 (Environmental Management Plan)	Chapter 8: Biodiversity of the Environmental Statement (TR010064/APP/6.1) Appendix D: Outline General Ecology Management Plan in First Iteration EMP	Principal Contractor	Compliance with Appendix D: General Ecology Management Plan in the Second Iteration	Construction	ECoW audits, record of activities and photographs

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B9	Important commuting features such as mammal pathways and river channels will be left clear of obstruction. Where an ECoW deems it beneficial to local wildlife, temporary fencing will be raised slightly off the ground (150mm) where reasonably practicable; if not, gaps will be provided at regular intervals (as assessed on site). Where wildlife travelling freely through fencing is considered likely to increase the risk of mortality (e.g. fencing between habitat and the existing M60), then fencing will be installed to reduce likelihood of wildlife moving freely through it where practicable, i.e. not leaving a gap beneath fencing or at regular intervals.	Risk of interference with animal commuting routes during construction	To allow wildlife to move freely throughout their normal territories where appropriate.	Draft DCO (TR010064/APP/3.1) Requirement 4 (Environmental Management Plan)	Chapter 8: Biodiversity of the Environmental Statement (TR010064/APP/6.1) Appendix D: Outline General Ecology Management Plan in First Iteration EMP	Principal Contractor	Compliance with Appendix D: General Ecology Management Plan in the Second Iteration	Construction	ECoW audits, record of activities and photographs
B10	Bat boxes will be installed in the locations shown on Figure 2.3 Environmental Masterplan of the Environmental Statement Figures (TR010064/APP/6.2). Boxes will be provided at a ratio of 2:1 for every tree with high or moderate suitability for bats, lost and boxes will comprise a range of types to account for variance in bat roosting preferences.	Risk of loss of bat roosts during through vegetation clearance	To mitigate for the loss of potential roost features with suitability to support roosting bats in the future.	Draft DCO (TR010064/APP/3.1) Requirement 4 (Environmental Management Plan)	Chapter 8: Biodiversity of the Environmental Statement (TR010064/APP/6.1) Appendix D: Outline General Ecology Management Plan in First Iteration EMP Environmental Masterplan of the Environmental Statement Figures (TR010064/APP/6.2).	Principal Contractor	Compliance with Appendix D: General Ecology Management Plan in the Second Iteration	Pre-construction and construction	ECoW audits, record of activities and photographs
B11	Pre-construction surveys for bats will be undertaken for all trees to be felled to	Risk of adverse effects on bats through	To comply with protected	Draft DCO (TR010064/APP/3.1)	Chapter 8: Biodiversity of the	Principal Contractor	Securing licences where required	Pre-construction and construction	Ongoing review

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	enable construction of the Scheme, and all trees within a radius of potential disturbance affects. Should surveys confirm the presence of roosting bats, a licence will be sought from Natural England (to ensure legal compliance) and felling operations / construction will be conducted in accordance with a method statement which will require exclusion of roosting features, soft felling, and timing of works to avoid sensitive seasons for bats as appropriate	vegetation clearance and during construction works	species legal requirements.	Requirement 4 (Environmental Management Plan) Draft DCO (TR010064/APP/3.1) Requirement 7 (Protected Species)	Environmental Statement (TR010064/APP/6.1) Appendix D: Outline General Ecology Management Plan in First Iteration EMP				
B12	Pre-construction surveys using current best practice guidance will be undertaken for bats, badger, barn owls and reptiles to update baseline surveys prior to construction.	Risk of adverse effects on protected species during construction works	To comply with protected species legal requirements.	Draft DCO (TR010064/APP/3.1) Requirement 4 (Environmental Management Plan)	Chapter 8: Biodiversity of the Environmental Statement (TR010064/APP/6.1) Appendix D: Outline General Ecology Management Plan in First Iteration EMP	Principal Contractor	Reporting of pre-construction surveys Compliance with Appendix D: General Ecology Management Plan in Second Iteration EMP	Pre-construction	No
B13	Implementation of invasive species control measures.	Risk of invasive species on site which could be spread through construction activities.	To comply with invasive species legal requirements.	Draft DCO (TR010064/APP/3.1) Requirement 4 (Environmental Management Plan)	Chapter 8: Biodiversity of the Environmental Statement (TR010064/APP/6.1) Appendix E: Outline Invasive Species Management Plan included in the First Iteration EMP	Principal Contractor	Compliance with Appendix E: Invasive Species Management Plan included in the Second Iteration EMP	Construction	ECoW audits, record of activities and photographs
B14	Temporary and permanent lighting will be designed to avoid light spill on light-sensitive ecological features and habitats such as watercourses, woodland and	Risk of adverse effects on protected species from construction lighting	To protect light-sensitive ecological features and habitats from	Draft DCO (TR010064/APP/3.1) Requirement 4 (Environmental Management Plan)	Chapter 8: Biodiversity of the Environmental Statement (TR010064/APP/6.1)	Principal Contractor	Compliance with Appendix D: General Ecology Management Plan in Second Iteration EMP	Construction	ECoW audits, record of activities and photographs

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	hedgerow and important bat habitats.		adverse impacts of lighting		Appendix D: Outline General Ecology Management Plan in First Iteration EMP				
B15	Exclusion zones around sensitive features such as confirmed bat roosts, badger setts, birds' nests and watercourses will be implemented as directed by the ECoW.	Risk of adverse effects on protected species during construction works	To protect ecological features and aquatic species from destruction and disturbance.	Draft DCO (TR010064/APP/3.1) Requirement 4 (Environmental Management Plan)	Chapter 8: Biodiversity of the Environmental Statement (TR010064/APP/6.1) Appendix D: Outline General Ecology Management Plan in First Iteration EMP	Principal Contractor	Compliance with Appendix D: General Ecology Management Plan in Second Iteration EMP	Construction	ECoW audits, record of activities and photographs
B16	Where practicable, any trenches, trial pits and excavations will be covered overnight or fenced off to prevent animals falling in and becoming trapped within excavations. Where excavations are not able to be fenced, closed, or filled on a nightly basis, a means of escape will be provided.	Risk of adverse effects on protected species during construction works	To prevent animals falling in and becoming trapped within excavations.	Draft DCO (TR010064/APP/3.1) Requirement 4 (Environmental Management Plan)	Chapter 8: Biodiversity of the Environmental Statement (TR010064/APP/6.1) Appendix D: Outline General Ecology Management Plan in First Iteration EMP	Principal Contractor	Compliance with Appendix D: General Ecology Management Plan in Second Iteration EMP	Construction	ECoW audits, record of activities and photographs
B17	Planting of a new hedgerow within the vicinity of badger setts 2 and 4 will be undertaken by hand.	Risk of adverse effects on badgers during construction works	To prevent disturbance of badger setts.	Draft DCO (TR010064/APP/3.1) Requirement 4 (Environmental Management Plan)	Chapter 8: Biodiversity of the Environmental Statement (TR010064/APP/6.1) Appendix 8.14 Draft Badger Licence Application of the Environmental Statement Appendices (TR010064/APP/6.3)	Principal Contractor	Compliance with Appendix 8.14 Draft Badger Licence Application of the Environmental Statement (TR010064/APP/6.3)	Construction	No
B18	The trench for the communication duct in the vicinity of badger Setts 4, 5 and 7 will be to maximise the distance between the setts and the trench, and no	Risk of adverse effects on badgers during construction works	To prevent disturbance of badger setts.	Draft DCO (TR010064/APP/3.1) Requirement 4 (Environmental Management Plan)	Chapter 8: Biodiversity of the Environmental Statement (TR010064/APP/6.1)	Principal Contractor	Compliance with Appendix 8.14 Draft Badger Licence Application of the Environmental	Construction	No

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	works will take place within 20m of Sett 4 between 1 December and 30 June.				Appendix 8.14 Draft Badger Licence Application of the Environmental Statement (TR010064/APP/6.3)		Statement (TR010064/APP/6.3)		
B19	Badger sett 8 will be closed under a licence from Natural England in accordance with the methodology agreed within the licence.	Risk of adverse effects on badgers during construction works	To prevent mortality or injury of badgers	Draft DCO (TR010064/APP/3.1) Requirement 4 (Environmental Management Plan)	Chapter 8: Biodiversity of the Environmental Statement (TR010064/APP/6.1) Appendix 8.14 Draft Badger Licence Application of the Environmental Statement (TR010064/APP/6.3)	Principal Contractor	Compliance with Appendix 8.14 Draft Badger Licence Application of the Environmental Statement (TR010064/APP/6.3)	Construction	No
B20	Should preconstruction surveys identify any new barn owl roosting or nest sites which will be lost as part of the Scheme, barn owl boxes at a ratio of 2:1 for each nest site lost will be installed at least 1.5km from the Order Limits to increase nesting opportunities and avoid increased barn owl road casualties. Barn owl boxes will be made from hard wearing materials such as exterior grade plywood or recycled plastic and locations of boxes will be identified through consultation with stakeholders.	Risk of adverse effects on barn owls during construction and operation	To prevent loss of roosting or nesting sites	Draft DCO (TR010064/APP/3.1) Requirement 4 (Environmental Management Plan)	Chapter 8: Biodiversity of the Environmental Statement (TR010064/APP/6.1)	Principal Contractor	Compliance with Appendix D: General Ecology Management Plan in Second Iteration EMP	Pre-construction	No
B21	Bird nesting boxes will be installed in retained vegetation within the Order Limits during the pre-construction phase on new or existing structures, or on free-standing posts as appropriate (see Figure 2.3: Environmental Masterplan of	Risk of adverse effects on breeding birds during construction and operation	To prevent loss of nesting habitat	Draft DCO (TR010064/APP/3.1) Requirement 4 (Environmental Management Plan)	Chapter 8: Biodiversity of the Environmental Statement (TR010064/APP/6.1)	Principal Contractor	Compliance with Appendix D: General Ecology Management Plan in Second Iteration EMP	Pre-construction	No

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	the Environmental Statement Figures (TR010064/APP/6.2)). Boxes will be suitable for a variety of species, including cavity-nesting species with entrance holes of different sizes, open-fronted boxes, and larger boxes to accommodate birds of prey. The boxes will be constructed of hardwearing materials such as exterior grade plywood, recycled plastic or woodcrete.								
B22	<p>A reptile mitigation strategy will be prepared, including as appropriate:</p> <ul style="list-style-type: none"> Habitat manipulation under the supervision of an ECoW to displace reptiles from localised areas of construction work where there is suitable reptile habitat in adjacent areas. Trapping and translocation of reptiles from areas of habitat with a larger footprint where displacement would be ineffective due to a lack of connecting habitats. Animals would be moved to retained habitats within the Order Limits. 	Risk of adverse effects on reptiles during construction works	To prevent mortality or injury of reptiles	Draft DCO (TR010064/APP/3.1) Requirement 4 (Environmental Management Plan)	Chapter 8: Biodiversity of the Environmental Statement (TR010064/APP/6.1)	Principal Contractor	Preparation and implementation of Reptile Mitigation Strategy	Pre-construction and construction	ECoW audits, record of activities and photographs

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	<ul style="list-style-type: none"> Destructive searches of habitats under supervision of an ECoW. Animals would be moved to retained habitats within the Order Limits. 								
B23	Hibernacula and log piles will be provided within newly created habitats to provide sources of invertebrate prey and places of shelter for reptiles.	Risk of adverse effects on reptiles during construction and operation	To prevent a reduction in the quality of reptile habitat	Draft DCO (TR010064/APP/3.1) Requirement 4 (Environmental Management Plan)	Chapter 8: Biodiversity of the Environmental Statement (TR010064/APP/6.1)	Principal Contractor	Compliance with Appendix D: General Ecology Management Plan in Second Iteration EMP	Construction	No
B24	Felled vegetation and dead timber will be retained and made into habitat piles within retained vegetation and Scheme landscaping and mitigation areas under direction of a suitably experienced ecologist.	Risk of adverse effects on terrestrial invertebrates during construction and operation	To prevent a reduction in the quality of terrestrial invertebrate habitat	Draft DCO (TR010064/APP/3.1) Requirement 4 (Environmental Management Plan)	Chapter 8: Biodiversity of the Environmental Statement (TR010064/APP/6.1)	Principal Contractor	Compliance with Appendix D: General Ecology Management Plan in Second Iteration EMP	Construction	No
B25	Environmental mitigation areas, as well as broader landscaping, will be designed with benefits to invertebrates in mind. Designs may include the creation of new wildflower and grassland areas seeded from a species-rich seed mix, new ponds and ditches, trees and woodland, species-rich hedgerows and scrub comprising native tree, shrub and herbaceous species of local provenance.	Risk of adverse effects on terrestrial invertebrates during construction and operation	To prevent a reduction in the quality of terrestrial invertebrate habitat	Draft DCO (TR010064/APP/3.1) Requirement 3 (Detailed Design)	Chapter 8: Biodiversity of the Environmental Statement (TR010064/APP/6.1)	Principal Designer	Compliance with Appendix D: General Ecology Management Plan in Second Iteration EMP	Detailed Design	No

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B26	Where works will impact habitats around ponds and watercourses where water shrew may be present, a suitably qualified ecologist would oversee the works and would carry a search of the bank prior to works commencing to identify any potential water shrew burrows. If any potential burrows are located, the burrow will be hand excavated and any water shrew encountered encouraged to move to an area of safety outside of the footprint of works.	Risk of adverse effects on water shrew during construction works	To prevent mortality or injury of water shrew	Draft DCO (TR010064/APP/3.1) Requirement 4 (Environmental Management Plan)	Chapter 8: Biodiversity of the Environmental Statement (TR010064/APP/6.1)	Principal Contractor	Compliance with Appendix D: General Ecology Management Plan in Second Iteration EMP	Construction	ECoW audits, record of activities and photographs
B27	Pre-works checks for brown hare will be carried out ahead of site clearance to flush any brown hares that may be present away from the works into areas of safety.	Risk of adverse effects on brown hare during construction works	To prevent mortality or injury of brown hare	Draft DCO (TR010064/APP/3.1) Requirement 4 (Environmental Management Plan)	Chapter 8: Biodiversity of the Environmental Statement (TR010064/APP/6.1)	Principal Contractor	Compliance with Appendix D: General Ecology Management Plan in Second Iteration EMP	Construction	ECoW audits, record of activities and photographs
B28	Pre-works checks for hedgehog will be carried out ahead of site clearance to find and move any hedgehogs that may be present away from the works into areas of safety.	Risk of adverse effects on hedgehogs during construction works	To prevent mortality or injury of hedgehogs	Draft DCO (TR010064/APP/3.1) Requirement 4 (Environmental Management Plan)	Chapter 8: Biodiversity of the Environmental Statement (TR010064/APP/6.1)	Principal Contractor	Compliance with Appendix D: General Ecology Management Plan in Second Iteration EMP	Construction	ECoW audits, record of activities and photographs
B29	Should common toads be discovered during vegetation clearance, they will be removed to suitable terrestrial habitat outside of the working area by a suitably experienced ecologist.	Risk of adverse effects on common toads during construction works	To prevent mortality or injury of common toads	Draft DCO (TR010064/APP/3.1) Requirement 4 (Environmental Management Plan)	Chapter 8: Biodiversity of the Environmental Statement (TR010064/APP/6.1)	Principal Contractor	Compliance with Appendix D: General Ecology Management Plan in Second Iteration EMP	Construction	ECoW audits, record of activities and photographs

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B30	<p>The detailed design of the golf ball netting at Pike Fold Golf Course will include consideration of measures to reduce the potential for effects on species of fauna. The following measures will be considered and where practicable applied to the design:</p> <ul style="list-style-type: none"> - Increasing the gauge of the twine to make it more detectable by echolocating bats and more visible to birds. - Decreasing the size of the mesh to make it more detectable by echolocating bats and more visible to birds, or else, subject to consideration of the effect of wind, adding a fine mesh layer to the net. - Provision of visual deterrents for birds such as flags along the top, and/or reflective strips across the mesh (but these would not be as effective in foggy conditions etc). - Provision of a gap under the net to enable mammals (including larger species such as badger, foxes, deer) to pass underneath it without becoming trapped, or the net being a barrier to movement. - If feasible, designing the net to be taut so bats and birds would be more likely to 'bounce off' of the net as opposed to becoming trapped in it. 	Risk of adverse effects for species of fauna	To prevent erection of ball stop netting from creating a barrier to movement or leading to mortality or injury to species of fauna	Draft DCO (TR010064/APP/3.1) Requirement 3 (Detailed Design)	Chapter 8: Biodiversity of the Environmental Statement (TR010064/APP/6.1)	Principal Designer	Golf ball netting is designed to mitigate the impacts on fauna species	Detailed Design	No
Geology and Soils									

Ref. No	Action/Commitment (incl. Location where relevant)	Assumption(s) on which the action is based	Objective	How the action is implemented	Source reference (incl. Commitments agreed with stakeholders)	Responsible person(s)	Achievement criteria	Stage	Monitoring (if required)
GS1	A Detailed Quantitative Risk Assessment (DQRA) for groundwater will be completed and where unacceptable risks are identified, a remediation strategy will be developed.	Evidence of Environmental Quality Standards (EQS) exceedance identified within groundwater.	Completion of a DQRA to establish limiting values for the protection of controlled waters, plus preparation of a Remediation Strategy, if deemed necessary by the DQRA.	Draft DCO (TR010064/APP/3.1) Requirement 4 (Environmental Management Plan)	Chapter 9: Geology and Soils, of the Environmental Statement (TR010064/APP/6.1).	Principal Designer	Preparation of DQRA (and Remediation strategy if deemed necessary)	Pre-construction	Ongoing review and as defined in any remediation strategy
GS2	If significant unforeseen / unrecorded land contamination including groundwater is encountered during detailed design or construction a Detailed Quantitative Risk Assessment (DQRA) will be completed and a remediation strategy will be developed if unacceptable risks are identified by the DQRA.	Unforeseen contamination could be encountered during detailed design or construction.	To identify contaminated land and groundwater and where appropriate secure remediation.	Draft DCO (TR010064/APP/3.1) Requirement 6 (Contaminated land and groundwater)	Chapter 9: Geology and Soils, of the Environmental Statement (TR010064/APP/6.1).	Principal Designer / Principal Contractor	Preparation of DQRA (and Remediation strategy if deemed necessary)	Pre-Construction and construction	Ongoing review and as defined in any remediation strategy
GS3	Implementation of remedial treatment (in-situ and/or ex-situ) of targeted areas, where unacceptable risks are still present after DQRA.	Unacceptable risks are identified by DQRA.	Remediate target areas	Preparation of Remediation Strategy. Draft DCO (TR010064/APP/3.1) Requirement 6 (Contaminated land and groundwater)	Chapter 9: Geology and Soils, of the Environmental Statement (TR010064/APP/6.1).	Principal Contractor	Completion of remedial works in accordance with the Remediation Strategy, if applicable.	Pre-Construction and Construction	As required by the Remediation Strategy
GS4	Compliance as appropriate with Construction (Design and Management) regulations 2015 (CDM) which govern the management of risks to construction and maintenance workers.	CDM regulations apply to the works	To mitigate potential risks to construction and maintenance workers.	Contractual responsibilities between the Applicant and Principal Contractor.	Chapter 9: Geology and Soils, of the Environmental Statement (TR010064/APP/6.1).	Principal Designer and Principal Contractor	Implementation of mitigation measures	Pre-Construction and Construction	Ongoing review
GS5	To implement construction techniques to mitigate potential land contamination	Specific techniques required for safe	Mitigation of potential land contamination	Draft DCO (TR010064/APP/3.1) Requirement 4	Chapter 9: Geology and Soils, of the Environmental	Principal Contractor	Appendix J: Contaminated Land Management Plan of	Pre-Construction and Construction	Ongoing review

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	risks to construction workers, adjacent land users/residents and controlled waters prior to the start of construction works.	implementation of the Scheme	risks to construction workers, adjacent land users/residents and controlled waters.	(Environmental Management Plan)	Statement (TR010064/APP/6.1).		the Second Iteration EMP.		
GS6	Excavate and reuse materials appropriately and sustainably following the principals of the CL:AIRE Definition of Waste: Development Industry Code of Practice (DoW:CoP) guidance.	Materials are suitable for reuse without being classified as waste.	To outline the procedures and measures that will be adopted and implemented by the Principal Contractor to classify, track, store, reuse and dispose of the excavated materials that will be encountered during the construction of the Scheme and facilitate sustainable reuse of site-won soils/materials wherever possible.	Draft DCO (TR010064/APP/3.1) Requirement 4 (Environmental Management Plan)	Chapter 9: Geology and Soils, of the Environmental Statement (TR010064/APP/6.1).	Principal Contractor	Appendix G: Materials Management Plan of the Second Iteration EMP.	Pre-Construction and construction	Ongoing review
GS7	Development and implementation of a Soil Resource Plan prior to construction start of works, informed by the results of the ALC Survey (Environmental Statement Appendix 9.2: ALC survey report (TR010064/APP/6.3)) and consistent with Construction Code of Practice for the Sustainable Use of Soils on Construction Sites (Defra, 2009).	Construction of the scheme could have an adverse impact on soils	Detail the principles of soil management that will be implemented by the Principal Contractor (PC) to protect soils and maintain their quality for future use before being returned to their original location where practicable or reused	Draft DCO (TR010064/APP/3.1) Requirement 4 (Environmental Management Plan)	Chapter 9: Geology and Soils, of the Environmental Statement (TR010064/APP/6.1) Appendix F: Outline Soil Management Plan of this First Iteration EMP (TR010064/APP/6.5).	Principal Contractor	Preparation and compliance with Soil Resource Plan	Pre-Construction and construction	Ongoing review

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			elsewhere on the Scheme.						
GS8	Adopt good practice measures in advance of soil stripping to identify and manage biosecurity risks, including to reduce the potential for soil-borne disease and pathogen transfer between different areas of agricultural land.	Construction of the Scheme could create biosecurity risks	Reduce the instances of biosecurity risks.	Draft DCO (TR010064/APP/3.1) Requirement 4 (Environmental Management Plan)	Chapter 9: Geology and Soils, of the Environmental Statement (TR010064/APP/6.1).	Principal Contractor	Appendix F: Soil Management Plan of the Second Iteration EMP.	Pre-Construction and construction	Ongoing review
GS9	Topsoil stripped and sustainably reused wherever practicable from the footprints of all permanent development (hardstanding and materials placement).	Permanent development interacts with existing topsoil	Protect soils and maintain quality for future use	Draft DCO (TR010064/APP/3.1) Requirement 4 (Environmental Management Plan)	Chapter 9: Geology and Soils, of the Environmental Statement (TR010064/APP/6.1).	Principal Contractor	Appendix F: Soil Management Plan of the Second Iteration EMP	Construction	Ongoing review
GS10	Working methods and risk assessments to be incorporated into construction and maintenance works to manage risks associated with ground gas build-up in excavations and confined spaces.	Ground gas has been identified as being present, as detailed in the Appendix 9.3: Ground Investigation Report of the Environmental Statement (TR010064/APP/6.3).	Mitigation of ground gas exposure in excavations and confined spaces during construction and maintenance works.	Preparation of method statements, risk assessments, and health and safety protocols with respect to ground gas exposure in excavations/confined spaces.	Chapter 9: Geology and Soils, of the Environmental Statement (TR010064/APP/6.1).	Principal Contractor	Implementation of ground gas mitigation measures in excavations and confined spaces during construction and maintenance works.	Construction	Ongoing review
GS11	The waste hierarchy principle will be used at every stage of the Scheme, as appropriate and proportionate, to identify enhancement opportunities with respect to the reuse of excavated soils and materials on the scheme development.	The Scheme will produce waste	Sustainable reuse of site-won soils/materials wherever possible, and the waste hierarchy to be followed where reuse is not possible.	Preparation of Materials Management Plan (MMP) in accordance with CL:AIRE Definition of Waste: DoWCoP, and Site Waste Management Plan (SWMP).	Chapter 9: Geology and Soils, of the Environmental Statement (TR010064/APP/6.1).	Principal Contractor	Implementation of the Materials Management Plan (MMP) and Site Waste Management Plan (SWMP).	Construction	Ongoing review and monitoring as defined in the MMP and SWMP.
GS12	Risks associated with asbestos to be mitigated through the development of working methods and risk assessments in accordance with the Control of Asbestos	Based on the findings of the human health risk assessment, as detailed in the Ground	Mitigation of asbestos exposure during construction and maintenance works.	Preparation of method statements and risk assessments in accordance with	Chapter 9: Geology and Soils, of the Environmental Statement (TR010064/APP/6.1).	Principal Contractor	Implementation of method statements and risk assessments in accordance with CAR 2012 and CAR-SOIL.	Construction	Ongoing review and monitoring as defined in the asbestos method statements and risk assessments.

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	Regulations (CAR) 2012 and CAR-SOIL industry guidance.	Investigation Report of the Environmental Statement Appendices (TR010064/APP/6.3).		CAR 2012 and CAR-SOIL.					
Material Assets and Waste									
M1	<p>Implementing Design for Resource Efficient (DfRE) Construction principles in a systematic manner to suit the scale of the Scheme, to identify, prioritise and select appropriate opportunities to improve Scheme resource efficiency and design out waste:</p> <ul style="list-style-type: none"> • Design for reuse and recovery: identifying, securing and using materials that already exist on site, or can be sourced from other schemes. • Design for resource optimisation: simplifying layout and form to reduce material use, using standard design parameters, balancing cut and fill, maximising the use of renewable materials and materials with recycled content. • Design for off-site construction: maximising the use of prefabricated structures and components, encouraging a process of assembly rather than construction. • Design for resource-land efficient procurement: identifying and specifying 	The Scheme will be required to use resources.	To increase resource efficiency during the construction of the Scheme.	Draft DCO (TR010064/APP/3.1) Requirement 4 (Environmental Management Plan)	Chapter 10: Material Assets and Waste, of the Environmental Statement (TR010064/APP/6.1).	Principal Contractor	Opportunities recorded in the SPP and SWMP included within the Second Iteration EMP.	Pre-construction and construction	As per the general requirements defined in Chapter 10: Material Assets and Waste of the Environmental Statement (TR010064/APP/6.1)

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	<p>materials that can be acquired responsibly, in accordance with a recognised industry standard.</p> <ul style="list-style-type: none"> • Design for the future: identify how materials can be designed to be more easily adapted over an asset lifetime and how de-constructability and de-mountability of elements can be increased at end of first life. <p>Evidence of material resource efficiencies and waste reductions will be demonstrated in a number of ways, for example through the use of the Sustainable Procurement Plan (SPP) and Site Waste Management Plan (SWMP).</p>								
M2	<p>Developing and implementing a SPP that sets out a clear framework to increase the procurement and use of sustainably and responsibly sourced construction materials and products with proven sustainability credentials that reduce adverse impacts on people and the environment during the construction of the Scheme. The plan will specify the:</p> <ul style="list-style-type: none"> • Use of key material elements (asphalt, concrete, aggregate, steel, aluminium, and plastics) responsibly sourced from suppliers with industry recognised 	Products and materials would be required for construction	To increase the procurement and use of sustainably and responsibly sourced materials and minimise adverse impacts on people and the environment during construction of the Scheme.	Draft DCO (TR010064/APP/3.1) Requirement 4 (Environmental Management Plan)	Chapter 10: Material Assets and Waste, of the Environmental Statement (TR010064/APP/6.1).	Principal Contractor	SPP included within the Second Iteration EMP.	Pre-construction and construction	As per the general requirements defined in Chapter 10: Material Assets and Waste of the Environmental Statement (TR010064/APP/6.1)

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	<p>responsible sourcing certification for that material (e.g. Building Research Establishment (2014) BES 6001, or membership of a sector specific scheme that complies to British Standards Institution BS 8902:2009).</p> <ul style="list-style-type: none"> • Use of timber and wood-derived products that are sustainably sourced from independently verifiable legal and sustainable sources that are compliant with UK guidance for businesses trading in timber and timber-related products (Office for Product Safety and Standards and Defra, 2022). • Use of locally sourced and alternatives to primary materials, where available and permitted by the Specification for Highway Works, and where practicable and cost-effective to do so. This could include materials that already exist on site, can be recovered from demolition activities, or can be sourced from other schemes and suppliers. • Use of imported aggregates that comprise re-used, secondary or recycled content at levels at least in line with the Ministry of Housing, Communities & Local Government (2009) 'North-west regional guideline for aggregates provision 2005-2020' target 								

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	<p>of 30% where available for those applications and where it is technically and economically feasible to substitute these alternatives to primary aggregates. Where primary aggregate materials are mandated within the Specification for Highways Works, they are excluded from the target.</p> <ul style="list-style-type: none"> • Use of minimal quantities of hazardous materials that have the potential to harm human health or the environment; and that might cause problems for future reuse, recycling and recovery at end of first life. <p>The SPP will also set out the policies that would be employed by the Principal Contractor and its subcontractors to evaluate and specify the responsible sourcing of construction materials and products, and the procedures that are to be put in place to check and verify that the SPP is being implemented and adhered to during construction. This would include setting out any measurement criteria, methodology and performance indicators to assess progress and demonstrate success; and how the chain of custody of materials would be audited and evidenced during procurement.</p>								

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M3	Reusing any sand and gravel arisings (a safeguarded mineral resource), that are incidentally extracted during the site preparation and construction of the Scheme, in permanent works where practicable. Alternatively, any incidentally extracted safeguarded mineral resources should be exported to nearby minerals operators for processing to supply aggregates to other development schemes.	Sand and gravel excavated during construction.	To safeguard any mineral resources on the site as far as practicable.	Draft DCO (TR010064/APP/3.1) Requirement 4 (Environmental Management Plan)	Chapter 10: Material Assets and Waste, of the Environmental Statement (TR010064/APP/6.1).	Principal Contractor	Considered in the SPP and MMP included within the Second Iteration EMP. Extracted sand and gravel reused on the Scheme or in other schemes where practicable.	Construction	As per the general requirements defined in Chapter 10: Material Assets and Waste of the Environmental Statement (TR010064/APP/6.1)
M4	Undertaking a pre-demolition assessment of all existing highway structures and assets to be removed or demolished as part of the Scheme.	Existing highway structures and assets to be removed or demolished during construction. To manage waste arising from construction of the Scheme.	To determine the quantities of demolition assets, elements, components, products, and materials. To make recommendations for their re-use.	Draft DCO (TR010064/APP/3.1) Requirement 4 (Environmental Management Plan)	Chapter 10: Material Assets and Waste, of the Environmental Statement (TR010064/APP/6.1).	Principal Contractor	Pre-demolition assessments undertaken, and findings captured in the SPP and SWMP included within the Second Iteration EMP.	Pre-construction	As per the general requirements defined in Chapter 10: Material Assets and Waste of the Environmental Statement (TR010064/APP/6.1)
M5	Implementing a SWMP, in a manner to suit the requirements of the Scheme, to plan, implement, monitor and review waste minimisation and management throughout the construction phase of the Scheme. The SWMP is a live document, updated on a regular basis during the design and construction phase. It will be used to forecast waste arisings and enable practical decisions to be taken at the detailed design and construction stage regarding waste	The Scheme will produce waste	To manage waste arising from construction of the Scheme, monitor its performance against key performance indicators for waste recovery, and achieve compliance with relevant permits and consents.	Draft DCO (TR010064/APP/3.1) Requirement 4 (Environmental Management Plan)	Chapter 10: Material Assets and Waste, of the Environmental Statement (TR010064/APP/6.1).	Principal Contractor	Development of the Outline SWMP in the First Iteration EMP to a SWMP to be included within the Second Iteration EMP. Achievement of key performance indicators for waste recovery as specified in the SWMP included in the Second Iteration EMP.	Pre-construction and construction	As per the general requirements defined in Chapter 10: Material Assets and Waste of the Environmental Statement (TR010064/APP/6.1)

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	<p>prevention and the segregation of materials on-site for reuse, recycling, recovery, or disposal, as well as for the layout of site waste management storage and treatment facilities. The SWMP will:</p> <ul style="list-style-type: none"> • Be prepared using either the good practice resources developed by WRAP or the Principal Contractor's own SWMP tools and resources. • Include targets or key performance indicators for waste recovery in line with prevailing Government and the Applicant targets. • Document the methods to be used to measure and record the quantity of waste generated during construction. • Be accompanied by appropriate communication between the Applicant, Designer and Principal Contractor as well as subcontractors and other members of the supply chain. 								
M6	<p>Complying with waste 'Duty of Care' requirements and taking all reasonable steps to ensure that waste is managed safely without endangering human health or harming the environment. This includes:</p> <ul style="list-style-type: none"> • Managing all waste in accordance with the waste hierarchy, as a priority order, to achieve the best overall environmental outcome 	The scheme produces waste	To protect and limit the impacts of waste management on people and the environment.	Draft DCO (TR010064/APP/3.1) Requirement 4 (Environmental Management Plan)	Chapter 10: Material Assets and Waste, of the Environmental Statement (TR010064/APP/6.1).	Principal Contractor	<p>Duty of care evidenced in the SWMP included within the Second Iteration EMP.</p> <p>Development of the Outline MMP in the First Iteration EMP to a MMP to be included within the Second Iteration EMP.</p>	Construction	As per the general requirements defined in Chapter 10: Material Assets and Waste of the Environmental Statement (TR010064/APP/6.1)

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	<p>where practicable.</p> <ul style="list-style-type: none"> • Engaging early with sub-contractors during design to identify possible mitigation and enhancement measures, and to identify opportunities to reduce waste. • Correctly assessing and describing all waste before sending it for recovery or disposal; and carrying out a basic characterisation (level 1 waste assessment) for any waste destined for landfill. The basic characterisation determines which class of landfill site the waste must be sent to. The waste must meet the waste acceptance criteria (WAC) and waste acceptance procedures for that class. • Obtaining all necessary waste carrier registrations; environmental permits, mobile plant deployments and/or waste exemptions in relation to the storage, sorting, treatment, use, disposal, transportation of waste. • Preparing any documentation required of statutory and industry regulated codes of practice or end of waste quality protocols (e.g. CL:AIRE Code of Practice and Environment Agency Quality Protocol for the Production of Aggregates from Inert Waste). • Handling, storing, managing, re-using, recycling, recovering and disposing of waste arisings as close as practicable to the point of origin, with 						<p>Obtaining any relevant consents identified in Appendix A of the Consents and Agreements Position Statement (TR010064/APP/3.3).</p>		

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	consideration of the proximity principle and value for money principle. • Ensuring that all waste is: transported by registered waste carriers; is accompanied by waste transfer notes or consignment notes; and is taken to licensed, permitted or exempt facilities which are authorised to accept that waste.								
M7	To reduce any attendant effects from storing and processing material assets and waste, ensuring that construction site compounds and on-site material storage, stockpiling and processing areas are designed to reduce degradation, damage, and loss; and reduce impacts to those designated environmental sites and sensitive environmental receptors identified in other aspect chapters of the Environmental Statement (TR010064/APP/6.1).	The Scheme will store and process material assets and/or waste.	To store and process material appropriately to minimise waste and to reduce the impact from storage on environmental receptors.	Draft DCO (TR010064/APP/3.1) Requirement 4 (Environmental Management Plan)	Chapter 10: Material Assets and Waste, of the Environmental Statement (TR010064/APP/6.1).	Principal Contractor	Development of the Outline Construction Compound Management Plane (OCCMP) in the First Iteration EMP to a Construction Compound Management Plan (CCMP) included within the Second Iteration EMP.	Pre-construction and construction	Ongoing review
Noise and Vibration									
NV1	A Noise and Vibration Management Plan (NVMP) will be developed and implemented based on the Outline NVMP in Appendix B of the First Iteration EMP. This will detail the management and monitoring processes to be introduced across all construction sites and compounds. The NVMP will adopt a range of industry standard good practice construction	Assumes good practice mitigation and monitoring measures would be followed during the construction phase.	To ensure that the effects of noise and vibration are controlled, and that the measures for controlling noise and vibration are implemented accordingly.	Draft DCO (TR010064/APP/3.1) Requirement 4 (Environmental Management Plan)	Chapter 11: Noise and vibration, of the Environmental Statement (TR010064/APP/6.1).	Principal Contractor	Implementation of the NVMP from the Second Iteration EMP.	Pre-construction and construction	As per the NVMP in the Second Iteration EMP.

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	<p>phase noise mitigation and monitoring measures and general control measures, including but not limited to, the following:</p> <ul style="list-style-type: none"> - Where practicable, the use of best practicable means (BPM) and examine measures to minimise noise and vibration during construction. - Examine measures to minimise vibration during piling of the retaining walls. <ul style="list-style-type: none"> - Where appropriate, integration of noise and vibration control measures into the preparation of method statements for the works. - Procedures to determine if any dwellings require the installation of noise insulation or provision of temporary rehousing during the construction phase. - Procedures for the installation of noise insulation (if required) or provision of temporary rehousing (if required) and to ensure such measures are in place as early as reasonably practicable. - Approach to noise and vibration monitoring. - Processes to ensure ongoing compliance with all controls and, where required, consent for the works. - Process for implementing corrective actions that may be required to avoid or address a potential non-compliance. - Framework to 								

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	determine eligibility for noise insulation and temporary rehousing.								
NV2	Working hours as stated in G4 above. During the noisiest phases of night-time works the Principal Contractor will review the temporal scope and aim to reduce adverse impacts to be below 10 or more nights in any consecutive 15 nights, or below a total of more than 40 nights in any consecutive six-month period for noise levels above Significant Observed Adverse Effect Level (SOAEL) at receptors, where practicable	Likely noise effects on the local community during construction.	To limit noise impacts of preconstruction and construction works to the local community.	Draft DCO (TR010064/APP/3.1) Requirement 4 (Environmental Management Plan)	Chapter 11: Noise and vibration, of the Environmental Statement (TR010064/APP/6.1).	Principal Contractor	Adherence to the specified working hours throughout the preconstruction and construction phase.	Pre-construction and construction.	Ongoing review
NV3	A surface with a road surface influence (RSI) of - 3.5dB(A) or better will be laid on all sections of carriageway within the pavement works for the Scheme excluding J18 roundabout and sections mentioned in NV4.	Likely noise effects on the local community after construction.	To reduce impact from noise.	Draft DCO (TR010064/APP/3.1) Requirement 3 (Detailed design)	Chapter 11: Noise and vibration, of the Environmental Statement (TR010064/APP/6.1)	Principal Contractor	The surface used meets the required RSI and laid as described in Chapter 11: Noise and vibration, of the Environmental Statement (TR010064/APP/6.1). A National Highways Product Approval Scheme (HAPAS) certificate would be required from the supplier to demonstrate that the performance of the low noise surfacing meets the design specification. The Principal Contractor would make sure that the specifications for noise mitigation measures are checked before installation. This would involve checking that the manufacturers' published specification	Construction	No

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							meets what is required to deliver the mitigation.		
NV4	A surface with an RSI of -6.0 dB(A) or better would be laid at the following locations: - Westbound (WB) carriageway on all lanes between M60 J17 to J18 - Eastbound (EB)carriageway on all lanes between M60 J18 to J17 - Free-flow link from M60 EB to M66 Northbound (NB)	Likely noise effects on the local community after construction.	To reduce impact from noise.	Draft DCO (TR010064/APP/3.1) Requirement 3 (Detailed design)	Chapter 11: Noise and vibration, of the Environmental Statement (TR010064/APP/6.1).	Principal Contractor	The surface used meets the required RSI and laid in accordance with Figure 2.3: Environmental Masterplan of the Environmental Statement Figures (TR010064/APP/6.2). A National Highways Product Approval Scheme (HAPAS) certificate would be required from the supplier to demonstrate that the performance of the low noise surfacing meets the design specification. The Principal Contractor would make sure that the specifications for noise mitigation measures are checked before installation. This would involve checking that the manufacturers' published specification meets what is required to deliver the mitigation.	Construction	No
NV5	The like-for-like replacement of the existing noise barrier EB07, alongside the M60 J18 Clockwise (CW) off-slip road which will be removed to allow for the construction of the new M60 J18 CW free-flow link to the M66.	Assumes that the barrier will be replaced.	To replace removed mitigation.	Draft DCO (TR010064/APP/3.1) Requirement 4 (Environmental Management Plan)	Chapter 11: Noise and vibration, of the Environmental Statement (TR010064/APP/6.1).	Principal Contractor	Like-for-like replacement of existing noise mitigation.	Construction	No
NV6	Prior to commencement of works a full assessment of likely eligibility of residential dwellings for sound insulation measures in	Construction activities will have an impact on local residents	To comply with the Noise Insulation Regulations.	Draft DCO (TR010064/APP/3.1) Requirement 4 (Environmental Management Plan)	Chapter 11: Noise and vibration, of the Environmental Statement	Principal Contractor	Noise Insulation Regulations assessment.	Pre-construction and construction	Ongoing review

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	accordance with the Noise Insulation Regulations 1975 (as amended 1988) will be undertaken for the Scheme.				(TR010064/APP/6.1).				
NV7	<p>Works will be planned to minimise the overall number of full carriageway closures required (whilst ensuring a safe working environment for road workers) by aiming to carry out multiple works within planned carriageway closures.</p> <p>When planning and implementing carriageway closures needing the use of the strategic diversion route, consideration will be given to both the impacts for communities alongside the diversion route as well as aiming to avoid strategic traffic diverting through communities alongside the M60 between Junctions 17, 18 and 19 and M66 Junction 3 to achieve an appropriate balance.</p> <p>Where full carriageway closures are required (utilising local road network diversion routes), the Principal Contractor will keep the timetable under review and aim to keep the number of nights that these would be implemented to below the following timescales:</p> <ul style="list-style-type: none"> • 10 or more days in any 15 consecutive nights, or • a total number of nights exceeding 40 in any consecutive six months. 	Full carriageway closures would be required and assume the diversion routes as stated within Chapter 11 Noise and Vibration of the Environmental Statement (TR010064/APP/6.1).	To reduce the impact from noise and remove the likely significant effects.	Draft DCO (TR010064/APP/3.1) Requirement 4 (Environmental Management Plan)	Chapter 11: Noise and vibration, of the Environmental Statement (TR010064/APP/6.1).	Principal Contractor	Minimisation of the number of carriageway closures.	Construction	Ongoing review
NV8	During preparation of areas for compounds and ponds there is often a layer of topsoil that needs to be	Assumes good practice mitigation	To reduce noise impacts during construction.	Draft DCO (TR010064/APP/3.1) Requirement 4	Chapter 11: Noise and vibration, of the Environmental Statement	Principal Contractor	Use of material where appropriate.	Construction	No

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	stripped off before the location can be used. Where practicable, this material will be stockpiled in appropriate locations so it can act as noise screening for nearby receptors.	measures would be followed during the construction phase.		(Environmental Management Plan)	(TR010064/APP/6.1).				
NV9	Temporary noise screening will be provided at the edge of working areas where an existing road traffic noise barrier needs to be temporarily removed to allow access to construction plant to working areas.	Assumes existing noise barriers are required to be removed during construction.	To reduce noise impacts during construction.	Draft DCO (TR010064/APP/3.1) Requirement 4 (Environmental Management Plan)	Chapter 11: Noise and Vibration, of the Environmental Statement (TR010064/APP/6.1).	Principal Contractor	Provision of temporary noise screening where noise barriers have been temporarily removed.	Construction	Ongoing review
Population and Human Health									
PHH1	Type and quality of new or reprovisioned surfacing, crossing and access points for PRow and other routes used by walkers, cyclists and/or horse riders (WCH) will be suitable for the intended use and context (e.g. rural or urban), and in accordance with relevant design and accessibility guidance. Key design considerations will include DMRB GG 142 Walking, Cycling and Horse-Riding Assessment and Review (WCHAR) standard, the Equality Act 2010.	The type and quality of new surfacing, crossing and access points for PRow and other routes used by WCH would be suitable for the intended use and context	To mitigate impacts on accessibility for WCH users.	Draft DCO (TR010064/APP/3.1) Requirement 3 (Detailed design)	Chapter 12: Population and Human Health, of the Environmental Statement (TR010064/APP/6.1).	Principal Designer	All PRow and routes for WCH users affected by footprint of Scheme are designed in accordance with all relevant standards.	Pre-construction	No
PHH2	Where practicable, construction activities will be planned and managed to avoid conflict with access and use of Prestwich Heys Football Club, for example during football match fixtures, as informed through liaison with Prestwich Heys Football Club and Bury Metropolitan Borough Council.	Impact on access to Prestwich Heys Football Club during construction	To limit disruption to football club.	Draft DCO (TR010064/APP/3.1) Requirement 10 (Traffic Management Plan)	Chapter 12: Population and Human Health, of the Environmental Statement (TR010064/APP/6.1).	Principal Contractor	Adherence to the Traffic Management Plan (TMP) which will be developed from the Outline TMP (TR010064/APP/7.5).	Construction	Ongoing review

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PHH3	Works at Unsworth Academy school playing fields will be undertaken outside of school hours and times of sports use wherever practicable, as informed through liaison with Unsworth Academy. Areas of works will be fenced off.	Disruption and safety risk to Unsworth Academy schoolchildren and sports use	To ensure safety of, and limit disruption to, schoolchildren and sports use	Draft DCO (TR010064/APP/3.1) Requirement 4 (Environmental Management Plan)	Chapter 12: Population and Human Health, of the Environmental Statement (TR010064/APP/6.1).	Principal Contractor	Development of the First Iteration EMP to the Second Iteration EMP and implementation of the Second Iteration EMP.	Construction	Ongoing review
PHH4	Works near PRow will be fenced off to ensure safety.	Safety risk to WCH users as works will be completed near to PRow.	To ensure safety of WCH during construction.	Draft DCO (TR010064/APP/3.1) Requirement 4 (Environmental Management Plan)	Chapter 12: Population and Human Health, of the Environmental Statement (TR010064/APP/6.1).	Principal Contractor	Development of the First Iteration EMP to the Second Iteration EMP and implementation of the Second Iteration EMP.	Construction	Ongoing review
PHH5	Access to private properties, businesses, community assets and agricultural land will be maintained throughout construction where practicable. For residential properties, businesses, development land, community assets and agricultural landholdings where access will be directly affected during construction, an appropriate alternative temporary or permanent access will be provided where practicable.	Impact on access to local residential properties, businesses, community assets and agricultural land.	To reduce impacts on local residential properties, businesses, community assets and agricultural land.	Draft DCO (TR010064/APP/3.1) Requirement 4 (Environmental Management Plan)	Chapter 12: Population and Human Health, of the Environmental Statement (TR010064/APP/6.1).	Principal Contractor	Access arrangements for affected local residential properties, businesses, community assets and agricultural land in place.	Construction	Ongoing review
PHH6	The Principal Contractor will prepare method statements for i) biosecurity (if required), ii) protection of agricultural land, and iii) soil management, prior to construction. The method statements will make reference to the controls set out in the First Iteration EMP and any subsequent detail set out in the Second Iteration EMP. The Principal Contractor will follow the	Agricultural land will be impacted.	To protect agricultural land.	Draft DCO (TR010064/APP/3.1) Requirement 4 (Environmental Management Plan)	Chapter 12: Population and Human Health, of the Environmental Statement (TR010064/APP/6.1).	Principal Contractor	Development of the First Iteration EMP to the Second Iteration EMP and implementation of the Second Iteration EMP	Pre-construction and construction	No

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	agreed method statements during construction.								
PHH7	So far as practicable works will be planned to avoid temporary closure of the permissive path connecting Derwent Avenue to Parrenthorn Road via Haweswater Aqueduct underpass during school term times, and consideration will be given to busy periods around school opening and closing times.	Assumes there will be temporary closures of the permissive path connecting Derwent Avenue to Parrenthorn Road via Haweswater Aqueduct underpass.	To reduce disruption to school commuters.	Draft DCO (TR010064/APP/3.1) Requirement 4 (Environmental Management Plan)	Chapter 12: Population and Human Health, of the Environmental Statement (TR010064/APP/6.1).	Principal Contractor	Access arrangements for permissive path included in Traffic Management Plan developed from the Outline Traffic Management Plan (TR010064/APP/7.7)	Construction	No
PHH8	Access and egress for construction plant and vehicles onto/off Sandgate Road will be managed.	Construction plant will need to access work areas via Sandgate Road	To minimise collision risks with other users of Sandgate Road.	Draft DCO (TR010064/APP/3.1) Requirement 10 (Traffic Management Plan)	Chapter 12: Population and Human Health, of the Environmental Statement (TR010064/APP/6.1).	Principal Contractor	Adherence to the TMP which will be developed from the Outline TMP (TR010064/APP/7.5).	Construction	Ongoing review
PHH9	Access along public footpath 7WHI will be maintained at all times for access to Unsworth Academy playing fields and for users of the public footpath. Use of controlled temporary crossing will be used to facilitate safe access for schoolchildren, staff and members of the public using the route.	Construction work area and traffic will interact with the footpath.	To reduce impacts on school and public access.	Draft DCO (TR010064/APP/3.1) Requirement 4 (Environmental Management Plan)	Chapter 12: Population and Human Health and Chapter 2: The Scheme, of the Environmental Statement (TR010064/APP/6.1).	Principal Contractor	Access along the public rights of way maintained	Construction	Ongoing review
PHH10	Access along public footpaths 46WHI and 50PRE will be maintained for public use throughout construction as far as safe and practicable.	Construction work could impact access along 46WHI and 50PRE.	To reduce impacts on public access.	Draft DCO (TR010064/APP/3.1) Requirement 4 (Environmental Management Plan)	Chapter 12: Population and Human Health and Chapter 2: The Scheme, of the Environmental Statement (TR010064/APP/6.1).	Principal Contractor	Access along the public rights of way maintained	Construction	Ongoing review
PHH11	Access along public footpaths 12WHI, 85BUR, 84BUR and 89BUR will be maintained for public use so far as possible throughout construction. Where this is	Construction work area and traffic will interact with the footpath.	To reduce impacts on public access.	Draft DCO (TR010064/APP/3.1) Requirement 4 (Environmental Management Plan)	Chapter 12: Population and Human Health and Chapter 2: The Scheme, of the Environmental	Principal Contractor	Access along the public rights of way maintained	Construction	Ongoing review

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	not safe and practicable a diversion route will be provided.				Statement (TR010064/APP/6.1).				
PHH12	All temporary diversions of public rights of way and other routes used by WCH will be clearly signed and suitable for all potential users of the existing provision (for example, where closure of a bridleway is required, the diversion route provided will be suitable for walkers, cyclists, and horse riders).	Temporary diversion routes are required for affected public rights of way	To reduce impacts on public access.	Draft DCO (TR010064/APP/3.1) Requirement 4 (Environmental Management Plan)	Chapter 12: Population and Human Health, of the Environmental Statement (TR010064/APP/6.1).	Principal Contractor	Diversion routes, if necessary, and signage provided.	Construction	Ongoing review
PHH13	All land subject to temporary possession will be restored to the original surveyed condition at the time of entry (unless otherwise agreed with the landowner) in accordance with the provisions of Article 30 of the draft DCO (TR010064/APP/3.1) (subject to the exceptions in that Article).	Temporarily possessed land is used during construction	To maintain function of land use assets.	Article 30 of the draft DCO (TR010064/APP/3.1)	Chapter 12: Population and Human Health, of the Environmental Statement (TR010064/APP/6.1).	Principal Contractor	Land returned to required/agreed standard	Construction	No
PHH14	A record of condition of land to be temporarily used for the Scheme will be undertaken pre-construction.	Temporarily possessed land is used during construction	To provide baseline conditions, against which appropriate reinstatement would be measured. To maintain function of land.	Article 30 of the draft DCO (TR010064/APP/3.1)	Chapter 12: Population and Human Health, of the Environmental Statement (TR010064/APP/6.1).	Principal Contractor	Assessment completed	Pre-construction	No
PHH15	Traffic management measures as documented in the Outline TMP(TR010064/APP/7.5), will be developed into a Traffic Management Plan. The TMP will be implemented to ensure safe access along roads within	Traffic Management is required for construction	To reduce impacts on road users and the local community	Draft DCO (TR010064/APP/3.1) Requirement 10 (Traffic Management Plan)	Chapter 12: Population and Human Health, of the Environmental Statement (TR010064/APP/6.1).	Principal Contractor	Implementation of TMP.	Construction	Ongoing review

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	the site where necessary. The construction works will be phased such that disruption to access is reduced, with full road closures restricted to nights and weekends wherever practicable and feasible.								
PHH16	Liaison with Pike Fold Golf Club will be undertaken during detailed design and pre-construction stages.	Construction will impact the amenity of Pike Fold Golf Course.	To limit impacts on the amenity of the golf course during construction as far as practicable.	Draft DCO (TR010064/APP/3.1) Requirement 4 (Environmental Management Plan)	Chapter 12: Population and Human Health, of the Environmental Statement (TR010064/APP/6.1).	Principal Contractor	Development of this First Iteration EMP to the Second Iteration EMP and the implementation of the Second Iteration EMP.	Pre-construction and construction	No
PHH17	A Community Liaison Manager will be appointed in the pre-construction phase to oversee communication with residents, schools, landowners and other interested parties regarding construction activities, programme, and alterations to access routes and to respond to concerns and queries which may arise.	Scheme impacts the local community	To help with protective factors for mental health such as giving communities enhanced control and facilitating participation. To allow individuals to make necessary plans and better cope with any potential disruption and create opportunities for individual residents, landowners and for other sensitive receptors such as schools to discuss their specific needs	Draft DCO (TR010064/APP/3.1) Requirement 4 (Environmental Management Plan)	Chapter 12: Population and Human Health, of the Environmental Statement (TR010064/APP/6.1).	Principal Contractor	Appointment of Community Liaison Manager.	Pre-construction and construction	Ongoing review
PHH18	A community feedback monitoring strategy will be developed at pre-construction stage to inform	Scheme impacts the local community	To enable a record of community concern and feedback as an	Draft DCO (TR010064/APP/3.1) Requirement 4 (Environmental Management Plan)	Chapter 12: Population and Human Health, of the Environmental Statement	Principal Contractor	Preparation and implementation of community monitoring strategy	Pre-construction and construction	Ongoing review

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	the monitoring approach through construction.		indicator of impacts on health and wellbeing.		(TR010064/APP/6.1). Recommendation in UKHSA's feedback to statutory consultation (see Annex Q of the Consultation Report Annexes (TR010064/APP/5.2).				
PHH19	A Scheme feedback tool will be implemented.	Scheme impacts the local community	To provide a means for the general public to provide feedback during construction.	Draft DCO (TR010064/APP/3.1) Requirement 4 (Environmental Management Plan)	Chapter 12: Population and Human Health, of the Environmental Statement (TR010064/APP/6.1).	National Highways	Public feedback tool set up prior to construction	Construction	Yes – in accordance with community feedback monitoring strategy developed under PHH19
PHH20	Monitoring of public feedback and concerns will be undertaken throughout the construction period and measures will be taken to address concerns.	Assumes PHH20 is delivered.	To enable a record of community concern and feedback as an indicator of impacts on health and wellbeing to be provided and for issues to then be addressed. To facilitate lessons to be learned for implementation on future schemes.	Draft DCO (TR010064/APP/3.1) Requirement 4 (Environmental Management Plan)	Chapter 12: Population and Human Health, of the Environmental Statement (TR010064/APP/6.1).	National Highways	Ongoing improvement of responses to community feedback and concerns	Construction	Ongoing review
PHH21	During detailed design the Principal Designer will contact the local Director of Public Health and police and seek feedback to inform the new structures design to mitigate the risk of suicide.	Risk of suicide from new structures	To assess the new structures to reduce the risk of suicide	Draft DCO (TR010064/APP/3.1) Requirement 3 (Detailed Design)	Chapter 12: Population and Human Health, of the Environmental Statement (TR010064/APP/6.1).	Principal Designer	Suicide Prevention Strategy informs detailed design of structures	Detailed Design	No
PHH22	The Principal Contractor will set targets for its Employment and Skills Strategy ahead of the construction phase. Stakeholders such as Bury Metropolitan Borough Council will be engaged to	Assumes the Principal Contractor will develop an Employment and Skills Strategy	To deliver employment opportunities, skills, and training.	Draft DCO (TR010064/APP/3.1) Requirement 4 (Environmental Management Plan)	Chapter 12: Population and Human Health, of the Environmental Statement (TR010064/APP/6.1).	Principal Contractor	Targets set out in Employment and Skills Strategy	Pre-construction and construction	Monitoring in accordance with PHH23

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	support the target-setting process. Targets will be set against the monitoring criteria set out in Table 12.39 of Environmental Statement Chapter 12: Population and Human Health (TR010064/APP/6.1) as well as any further targets agreed as part of the target setting process, for example the number of new starts employed from the local (Bury) area.								
PHH23	The performance of the Principal Contractor's Employment and Skills Strategy will be monitored through the quantification of the monitoring criteria set in the Employment and Skills Strategy.	Assumes the Principal Contractor will develop an Employment and Skills Strategy	To monitor the performance in terms of employment opportunities, skills and training against the targets that have been set in the Employment and Skills Strategy.	Draft DCO (TR010064/APP/3.1) Requirement 4 (Environmental Management Plan)	Chapter 12: Population and Human Health of the Environmental Statement (TR010064/APP/6.1).	Principal Contractor	Targets set out in Employment and Skills Strategy	Construction	Ongoing review

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PHH24	Any temporary and/or permanent job openings identified by the Principal Contractor working on the construction of the Scheme will be advertised in local job centres in Bury and Manchester.	Assumes job opportunities shall arise.	To enable local communities, opportunity to benefit from jobs arising from the Scheme.	Draft DCO (TR010064/APP/3.1) Requirement 4 (Environmental Management Plan)	Chapter 12: Population and Human Health, of the Environmental Statement (TR010064/APP/6.1).	Principal Contractor	Advertisements included in local Job Centres (e.g. Bury Job Centre Plus)	Pre-construction and construction	Ongoing review
PHH25	The Applicant and Principal Contractor will aim to work with national and local organisations/partnerships and will set targets ahead of the construction phase for spend through local small and medium-sized enterprises.	Assumes there are national and local organisations / partnerships and enterprises that can benefit the Scheme.	To enable local businesses and the supply chain to benefit in the local area.	Draft DCO (TR010064/APP/3.1) Requirement 4 (Environmental Management Plan)	Chapter 12: Population and Human Health, of the Environmental Statement (TR010064/APP/6.1).	Principal Contractor	Included in Procurement Strategy	Pre-construction and construction	Monitoring in accordance with PHH23
PHH26	The Principal Contractor will offer apprenticeships and work placements and Science, Technology, Engineering and Maths (STEM) ambassadors to work with local schools and colleges. The Principal Contractor will also work with organisations to support access into construction for diverse groups.	Assumes opportunities shall arise to work with apprenticeships, schools, and colleges.	To give local communities opportunity to benefit from training and apprenticeships.	Draft DCO (TR010064/APP/3.1) Requirement 4 (Environmental Management Plan)	Chapter 12: Population and Human Health, of the Environmental Statement (TR010064/APP/6.1).	Principal Contractor	Included in Employment and Skills Strategy	Construction	Monitoring in accordance with PHH23
Road Drainage and the Water Environment									

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W1	Temporary construction drainage will be used to ensure the collection of rainfall run-off from construction areas, compounds and haul roads. Measures will be implemented in accordance with the Surface and Ground Water Management Plan (S&GWMP), developed from the Outline S&GWMP within the First Iteration EMP, to prevent pollution from haul roads and site compounds located near watercourses.	Temporary construction drainage will be required, and water pollution impacts may arise.	To manage construction drainage and prevent pollution incidents to surface waters	Draft DCO (TR010064/APP/3.1) Requirement 4 (Environmental Management Plan)	Chapter 13: Road Drainage and the Water Environment, of the Environmental Statement (TR010064/APP/6.1).	Principal Contractor	Implementation of S&GWMP within Second Iteration EMP	Construction	As defined in the S&GWMP
W2	Obtain permits for controlled discharges to surface waters during construction (such as those from dewatering activities) from either the Environment Agency (environmental permit) or LLFA (watercourse consent).	Controlled discharges to surface waters are required	To prevent pollution from controlled discharges	Draft DCO (TR010064/APP/3.1) Requirement 4 (Environmental Management Plan)	Chapter 13: Road Drainage and the Water Environment, of the Environmental Statement (TR010064/APP/6.1).	Principal Contractor	Relevant permits in-place	Preconstruction and construction	Ongoing review
W3	If required obtain an abstraction licence from the Environment Agency for any surface water abstractions during construction. .	Assumes surface water abstractions may be necessary during construction.	To ensure surface water abstraction does not have an unacceptable impact on surface water resources.	Draft DCO (TR010064/APP/3.1) Requirement 4 (Environmental Management Plan)	Chapter 13: Road Drainage and the Water Environment, of the Environmental Statement (TR010064/APP/6.1).	Principal Contractor	Relevant licences in-place	Preconstruction and construction	Ongoing review
W4	Where required, discharge rates for the permanent drainage design will be restricted to achieve the allowable discharge rates and ensure no increase in flood risk. The associated attenuation storage will be sized for the 1% (1 in 100) Annual Exceedance Probability (AEP) storm event including an allowance for climate change as	The Scheme requires discharge of water from drainage and/or attenuation	To ensure no increase in flood risk arising from the permanent drainage design	Draft DCO (TR010064/APP/3.1) Requirement 3 (Detailed design)	Chapter 13: Road Drainage and the Water Environment, of the Environmental Statement (TR010064/APP/6.1).	Principal Designer	Restricted discharge rates within allowable criteria	Detailed Design	No

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	described in the Drainage Strategy Report (Appendix 13.7 of the Environmental Statement Appendices (TR010064/APP/6.1)).								
W5	The design will provide water quality treatment and biodiversity benefits for each of the drainage networks identified as part of the drainage strategy. Features that will assist with water quality treatment include sediment forebays, vegetation in swales and attenuation ponds, filter drains, silt traps and penstock valves. Where practicable, permanently wet ponds are the preferred method of attenuation storage.	Attenuation is required	To ensure sufficient treatment for surface water runoff	Draft DCO (TR010064/APP/3.1) Requirement 3 (Detailed design)	Chapter 13: Road Drainage and the Water Environment, of the Environmental Statement (TR010064/APP/6.1).	Principal Designer	Surface water runoff within acceptable specified limits using Highways England Water Risk Assessment Tool (HEWRAT).	Detailed Design	No
W6	The Scheme's road drainage system will be designed to collect any groundwater seepings that may occur within the widenings and cuttings. Long-term drainage of cuttings is required to protect flood sensitive receptors (including the new road) from groundwater flooding during the operational phase. All ponds will be lined and there will be no discharges to ground. Furthermore, the drainage development during the detailed design phase will continue to be aligned with the Environment Agency's (2018) Protect groundwater and prevent groundwater	The Scheme will produce groundwater seepings.	To ensure no increase in flood risk from groundwater	Draft DCO (TR010064/APP/3.1) Requirement 3 (Detailed design)	Chapter 13: Road Drainage and the Water Environment, of the Environmental Statement (TR010064/APP/6.1).	Principal Designer	Groundwater seepings considered within drainage design	Detailed Design	No

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	pollution guidance to protect groundwater.								
W7	Storage and attenuation of additional runoff within the drainage network will be provided to ensure there will be no increased risk of flooding, designed to the 1 in 100 year exceedance event plus climate change allowance (30%). No out of manhole flooding from the highway drainage system during the 1 in 5 year return period rainfall event. Maintaining of existing discharge rates from existing outfalls. Limiting of discharges from new outfalls to the greenfield runoff rate or 2l/s/ha, whichever is higher. Provision of a maintenance regime for all drainage assets. Long-term drainage of embankments and sheet piles to prevent flooding at the surface. Where pre-existing groundwater conditions are known to be shallow, drainage systems will be installed to limit the build-up of water. Long-term drainage of cuttings. Groundwater seepages will be collected by the road drainage system. This is to protect flood sensitive receptors (including the new road) from groundwater flooding during the operational phase.	There will be additional run-off in the drainage network.	To ensure no increase in flood risk arising from the permanent drainage design.	Draft DCO (TR010064/APP/3.1) Requirement 3 (Detailed design)	Chapter 13: Road Drainage and the Water Environment, of the Environmental Statement (TR010064/APP/6.1).	Principal Designer	Restricted discharge rates within allowable criteria	Detailed Design	No
W8	The S&GWMP will be developed from the Outline S&GWMP (Appendix H of the First Iteration EMP) to	Potential for water pollution impacts arising	To prevent pollution incidents to surface waters	Draft DCO (TR010064/APP/3.1) Requirement 4	Chapter 13: Road Drainage and the Water Environment,	Principal Contractor	Preparation and implementation of G&SWMP	Pre-construction and construction	As required by the S&GWMP

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	detail measures that will be implemented to control the storage, handling, spillages and disposal of potentially polluting substances during construction (in line with legislation and best practice).	from construction works.		(Environmental Management Plan)	of the Environmental Statement (TR010064/APP/6.1).				
W9	Where practicable, construction site layout will ensure material stockpiles and storage areas are not located within 10m from adjacent watercourses, ponds, boreholes and site drainage. Where this cannot be achieved, stockpiles will be limited such that they can be moved upon receipt of any flood warning/adverse weather conditions, or on-site additional mitigation measures (such as bunds) will be implemented to provide an adequate barrier between the potential source of contaminated runoff and receptors.	Potential for water pollution impacts arising from construction works.	To prevent pollution incidents to surface waters	Draft DCO (TR010064/APP/3.1) Requirement 4 (Environmental Management Plan)	Chapter 13: Road Drainage and the Water Environment, of the Environmental Statement (TR010064/APP/6.1).	Principal Contractor	Implementation of the S&GWMP in the Second Iteration EMP developed from the Outline S&GWMP in the First Iteration EMP.	Construction	Ongoing review
W10	Storage of excavated soils and made ground will be managed in such a way that soil storage periods are minimised in duration and all storage areas will be managed in accordance with SMP (to be developed from the Outline SMP (Appendix F of the First Iteration EMP)), to ensure that no polluted water percolates into the ground and no contaminated runoff is generated.	Potential for water pollution impacts arising from construction works.	To prevent pollution incidents to ground and/or surface waters	Draft DCO (TR010064/APP/3.1) Requirement 4 (Environmental Management Plan)	Chapter 13: Road Drainage and the Water Environment, of the Environmental Statement (TR010064/APP/6.1).	Principal Contractor	Implementation of SMP	Construction	Ongoing review
W11	Fuel, oil and chemicals that have the potential to cause significant damage to the environment will be stored in	Fuels, oils and chemicals will be used during the	To prevent pollution incidents from	Draft DCO (TR010064/APP/3.1) Requirement 4	Chapter 13: Road Drainage and the Water Environment,	Principal Contractor	Bunded area or container implemented and maintained for the	Construction	Ongoing review

Ref. No	Action/Commitment (incl. Location where relevant)	Assumption(s) on which the action is based	Objective	How the action is implemented	Source reference (incl. Commitments agreed with stakeholders)	Responsible person(s)	Achievement criteria	Stage	Monitoring (if required)
	a safe and secure bunded area or container from which they cannot leak, spill or be open to vandalism.	construction of the Scheme.	fuels, oils and chemicals	(Environmental Management Plan)	of the Environmental Statement (TR010064/APP/6.1).		storage of fuel, oil and chemicals		
W12	Where practicable, permanent attenuation ponds will be constructed early in the programme. Permanent attenuation ponds will be used for settlement of construction discharge water; however, some additional temporary attenuation ponds may be required in certain areas. The management and use of the ponds will be in accordance with the S&GWMP (to be developed from the Outline S&GWMP (Appendix H of the First Iteration EMP)). Where the permanent attenuation ponds are used during construction for drainage and treatment, any sediment accumulated will be removed prior to the end of the construction period so as to maintain the capacity of the ponds for attenuation and water quality treatment purposes during operation.	Attenuation of discharged water during the construction phase can be achieved in the permanent attenuation ponds	To prevent pollution incidents to surface waters during construction	Draft DCO (TR010064/APP/3.1) Requirement 4 (Environmental Management Plan)	Chapter 13: Road Drainage and the Water Environment, of the Environmental Statement (TR010064/APP/6.1).	Principal Contractor	Implementation of Second Iteration EMP (S&GWMP)	Construction	Ongoing review
W13	Water will be pumped into attenuation ponds when required and water bowsers will use them as a water source when dust suppression is required.	Water from the attenuation ponds will be available to be used for dust suppression	To use available water to suppress dust	Draft DCO (TR010064/APP/3.1) Requirement 4 (Environmental Management Plan)	Chapter 13: Road Drainage and the Water Environment, of the Environmental Statement (TR010064/APP/6.1).	Principal Contractor	Implementation of the S&GWMP in the Second Iteration EMP developed from the Outline S&GWMP in the First Iteration EMP.	Construction	Ongoing review
W14	Vegetation clearance will be limited along riparian corridors and floodplains.	Vegetation clearance will be required along riparian corridors and floodplains	To prevent sediment disturbance in surface waters	Draft DCO (TR010064/APP/3.1) Requirement 4 (Environmental Management Plan)	Chapter 13: Road Drainage and the Water Environment, of the Environmental Statement (TR010064/APP/6.1).	Principal Contractor	Limited vegetation clearance	Construction	Ongoing review

Ref. No	Action/Commitment (incl. Location where relevant)	Assumption(s) on which the action is based	Objective	How the action is implemented	Source reference (incl. Commitments agreed with stakeholders)	Responsible person(s)	Achievement criteria	Stage	Monitoring (if required)
W15	Construction outfalls, where and when required, will incorporate good practice, as per Construction Industry Research and Information Association (CIRIA) guidance.	Construction outfalls are required as part of the Scheme	To provide construction outfalls in accordance with good practice	Draft DCO (TR010064/APP/3.1) Requirement 4 (Environmental Management Plan)	Chapter 13: Road Drainage and the Water Environment, of the Environmental Statement (TR010064/APP/6.1).	Principal Contractor	Construction outfalls will incorporate good practice	Construction	Ongoing review
W16	New outfalls will be installed to reduce impacts on the bed and banks. Best practice guidance will be followed as set out in DMRB CD 529 (National Highways, 2021) and CIRIA (CIRIA, 2019) in relation to design and positioning of outfalls to reduce scour to the bed and banks.	Outfalls are required as part of the Scheme	To provide outfalls in accordance with best practice	Draft DCO (TR010064/APP/3.1) Requirement 4 (Environmental Management Plan)	Chapter 13: Road Drainage and the Water Environment, of the Environmental Statement (TR010064/APP/6.1).	Principal Contractor	New outfalls will incorporate best practice guidance	Construction	Ongoing review
W17	Risk from groundwater flooding (during excavation) will be managed through appropriate working practices and with adequate processes and equipment in place for dewatering to ensure safe and dry working environments.	Groundwater flooding may occur during construction	To ensure safe and dry working environments	Draft DCO (TR010064/APP/3.1) Requirement 4 (Environmental Management Plan)	Chapter 13: Road Drainage and the Water Environment, of the Environmental Statement (TR010064/APP/6.1).	Principal Contractor	Implementation of Outline S&GWMP in this First Iteration EMP	Construction	Ongoing review
W18	Where there will be discharge from dewatering operations to surface water, discharge rates will be carefully controlled to achieve no environmentally significant change to flood risk associated with the receiving watercourses. If required, dewatering discharge will be temporarily paused during flood events to prevent any increased flood risk during the flood event.	Dewatering operations will be required	To prevent flooding from dewatering operations	Draft DCO (TR010064/APP/3.1) Requirement 4 (Environmental Management Plan)	Chapter 13: Road Drainage and the Water Environment, of the Environmental Statement (TR010064/APP/6.1).	Principal Contractor	No flooding occurs due to the discharge of surface water from dewatering operations	Construction	Ongoing review
W19	Discharge of water from dewatering may require an Environmental Permit or discharge licence, which will be subject to conditions including specific water	Discharge of water will require a permit or a licence	To comply with environmental permits and licencing requirements for	Draft DCO (TR010064/APP/3.1) Requirement 4 (Environmental Management Plan)	Chapter 13: Road Drainage and the Water Environment, of the Environmental Statement (TR010064/APP/6.1).	Principal Contractor	Implementation of Outline S&GWMP in this First Iteration EMP and compliance with appropriate permits and licences	Construction	Ongoing review

Ref. No	Action/Commitment (incl. Location where relevant)	Assumption(s) on which the action is based	Objective	How the action is implemented	Source reference (incl. Commitments agreed with stakeholders)	Responsible person(s)	Achievement criteria	Stage	Monitoring (if required)
	quality requirements. Typically, any dewatering over 20m ³ /day will also be subject to an abstraction licence.		discharge of water						
W20	Any groundwater of poor quality intercepted during construction, and which cannot be treated adequately to appropriate quality standards, will be tanked, and disposed of off-site at an appropriate licenced location.	Poor quality groundwater will be encountered	To prevent pollution from poor quality groundwater	Draft DCO (TR010064/APP/3.1) Requirement 4 (Environmental Management Plan)	Chapter 13: Road Drainage and the Water Environment, of the Environmental Statement (TR010064/APP/6.1).	Principal Contractor	Implementation of Outline S&GWMP in this First Iteration EMP	Construction	Ongoing review
W21	Temporary site drainage (incorporating Sustainable Urban Drainage Systems (SuDS) measures) will be planned to manage the risks associated with heavy rainfall or flood events appropriate to the risk during construction such as the topography, catchment size and duration of the works. Where temporary drainage is required, it will be sized to provide an appropriate standard of flood protection, with a 10% (1 in 10) AEP event standard. This will be identified within the S&GWMP (to be developed from the Outline S&GWMP (Appendix H of the First Iteration EMP)) prior to commencement of applicable works in that catchment, for example earthworks.	Assumes that temporary site drainage will be required	To prevent flooding incidents during construction	Draft DCO (TR010064/APP/3.1) Requirement 4 (Environmental Management Plan)	Chapter 13: Road Drainage and the Water Environment, of the Environmental Statement (TR010064/APP/6.1).	Principal Contractor	Implementation of Outline S&GWMP in this First Iteration EMP	Construction	Ongoing review
W22	Construction of haul roads will be designed to reduce risk of erosion. Where this is not practicable, bed and bank reinforcement will be placed along areas that are at risk of or have evidence of erosion during the	Erosion will occur during the construction and use of haul roads	To reduce the likelihood of increased bed and bank erosion from the haul roads	Draft DCO (TR010064/APP/3.1) Requirement 4 (Environmental Management Plan)	Chapter 13: Road Drainage and the Water Environment, of the Environmental Statement (TR010064/APP/6.1).	Principal Contractor	Minimal bed and bank erosion during construction and use of haul roads	Construction	Ongoing review

Ref. No	Action/Commitment (incl. Location where relevant)	Assumption(s) on which the action is based	Objective	How the action is implemented	Source reference (incl. Commitments agreed with stakeholders)	Responsible person(s)	Achievement criteria	Stage	Monitoring (if required)
	construction of haul roads. The type of bed and bank protection will be determined during the detailed design stage.								
W23	CIRIA guidance will be adopted as standard mitigation as appropriate.	Potential for water pollution and flooding impacts arising from construction works.	To adopt best practice guidance.	Draft DCO (TR010064/APP/3.1) Requirement 4 (Environmental Management Plan)	Chapter 13: Road Drainage and the Water Environment, of the Environmental Statement (TR010064/APP/6.1).	Principal Contractor	Adoption of best practice guidance	Construction	Ongoing review
W24	A Piling Risk Assessment will be undertaken to ensure that no preferential flow paths will be created during piling works.	Pile works will be required	To prevent pollutants and sediments entering surface waters	Draft DCO (TR010064/APP/3.1) Requirement 4 (Environmental Management Plan)	Chapter 13: Road Drainage and the Water Environment, of the Environmental Statement (TR010064/APP/6.1).	Principal Contractor	Implementation of the Outline S&GWMP in this First Iteration EMP	Construction	Ongoing review
W25	A compensation strategy will be developed for Castle Brook Tributary to help prevent the drying up of this feature in the event it is impacted during construction.	Potential for Castle Brook to be impacted during construction	To prevent Castle Brook drying up	Draft DCO (TR010064/APP/3.1) Requirement 4 (Environmental Management Plan)	Chapter 13: Road Drainage and the Water Environment, of the Environmental Statement (TR010064/APP/6.1).	Principal Contractor	Development of compensation strategy	Construction	No
W26	Due to being unable to identify the exact location of Castle Road Private Water Supply (PWS) or its use, further survey works in advance of construction will be undertaken at Castle Road PWS to ensure that it is not impacted by the Scheme. This will include further discussions with the landowner and mapping of the supply infrastructure to determine its location and use. An assessment will then be undertaken to ensure it is not impacted by the Scheme or identify mitigation if it is impacted.	Potential for Castle Road PWS to be impacted during construction	To mitigate any potential impact to Castle Road PWS.	Draft DCO (TR010064/APP/3.1) Requirement 4 (Environmental Management Plan)	Chapter 13: Road Drainage and the Water Environment, of the Environmental Statement (TR010064/APP/6.1).	Principal Contractor	Surveys and assessment completed	Pre-Construction	No

Ref. No	Action/Commitment (incl. Location where relevant)	Assumption(s) on which the action is based	Objective	How the action is implemented	Source reference (incl. Commitments agreed with stakeholders)	Responsible person(s)	Achievement criteria	Stage	Monitoring (if required)
W27	<p>Bored piles associated with the Simister Pike Fold Viaduct will be designed to ensure that there is no permanent residual pathway for potential groundwater contamination at Cowl Gate Farm groundwater terrestrial ecosystem (GWDTE) site.</p> <p>Clay bunds will be used to prevent backfilled open-cut trenches from acting as a groundwater drain within the Order Limits. This will mitigate against long term potential impacts to Cowl Gate Farm, Castle Brook South, and Egypt Lane South GWDTE sites.</p>	Potential for Ground Water Dependent Terrestrial Ecosystems (GWDTE) to be impacted due to changes in groundwater flow and/or quality	Ensure impacts to GWDTE are minimised	Draft DCO (TR010064/APP/3.1) Requirement 4 (Environmental Management Plan) Draft DCO (TR010064/APP/3.1) Requirement 3 (Detailed Design)	Chapter 13: Road Drainage and the Water Environment, of the Environmental Statement (TR010064/APP/6.1).	Principal Contractor	No permanent residual pathways are created	Pre-construction Construction	Ongoing review
W28	Maintenance and management of the drainage network and assets will be undertaken as part of the operation of the Scheme as per standard National Highways guidance and practice as outlined in the SuDS Manual (CIRIA, 2015).	Drainage network upgraded as part of the Scheme	Ensure drainage network and assets are properly maintained	Draft DCO (TR010064/APP/3.1) Requirement 4 (Environmental Management Plan)	Chapter 13: Road Drainage and the Water Environment, of the Environmental Statement (TR010064/APP/6.1).	National Highways	Appropriate maintenance plan included within the Third Iteration EMP	Operation	No
W29	Sediment and pollution management measures will be implemented in accordance with the S&GWMP (to be developed from the Outline S&GWMP (Appendix H of the First Iteration EMP)).	Construction activities have the potential to impact surface and groundwater	Implementation of the sediment and pollution management plans	Draft DCO (TR010064/APP/3.1) Requirement 4 (Environmental Management Plan)	Chapter 13: Road Drainage and the Water Environment, of the Environmental Statement (TR010064/APP/6.1).	Principal Contractor	Development and implementation of S&GWMP during construction	Construction	Ongoing review
W30	As best practice, surface water quality will be monitored throughout the construction phase of the Scheme. Monitoring will be designed to demonstrate compliance with any environmental permits	Construction impacts surface water quality	To monitor surface water quality in accordance with the Water Quality Management Plan	Draft DCO (TR010064/APP/3.1) Requirement 4 (Environmental Management Plan)	Chapter 13: Road Drainage and the Water Environment, of the Environmental Statement (TR010064/APP/6.1).	Principal Contractor	Development and implementation of Water Quality Management Plan	Pre-construction and construction	Ongoing review

Ref. No	Action/Commitment (incl. Location where relevant)	Assumption(s) on which the action is based	Objective	How the action is implemented	Source reference (incl. Commitments agreed with stakeholders)	Responsible person(s)	Achievement criteria	Stage	Monitoring (if required)
	and/or abstraction licences in place. It will also contribute to identifying any detrimental effects on the water environment and to allow any pollution incidents to be identified and remedied. This will also build data on the effectiveness of design and mitigation measures within the drainage strategy to drive improvement in environmental performance for future schemes. A Water Quality Monitoring Plan will be prepared prior to construction by the Principal Contractor covering the pre-construction phase, during construction and potentially post-construction where considered appropriate.								
W31	Data on ambient background copper concentrations will be obtained and applied to the detailed design screening round for HEWRAT.	Presence of ambient background copper concentrations	Establish impact of ambient background copper concentrations upon HEWRAT results	Draft DCO (TR010064/APP/3.1) Requirement 4 (Environmental Management Plan)	Chapter 13: Road Drainage and the Water Environment, of the Environmental Statement (TR010064/APP/6.1).	Principal Designer	Reassessment of HEWRAT to include ambient background copper concentrations	Pre-construction	Ongoing review
W32	Flow rates will be attenuated from new and existing outfalls affected by the Scheme following the upgrade of the highways drainage network, to reduce the impacts on receptors. Attenuation will also act as sediment management to reduce the quantity of fine sediment entering receptors via the drainage network.	Discharges impact the hydro morphology of the watercourses	Mitigate Scheme impacts on hydro morphology of watercourses	Draft DCO (TR010064/APP/3.1) Requirement 4 (Environmental Management Plan)	Chapter 13: Road Drainage and the Water Environment, of the Environmental Statement (TR010064/APP/6.1).	Principal Designer	Development and implementation of S&GWMP in the Second Iteration EMP	Pre-construction, construction, operation	Ongoing review
Climate									
C1	A Logistics Management Plan (or similar) will be	Transport of materials and	To reduce GHG emissions	Draft DCO (TR010064/APP/3.1)	Chapter 14: Climate, of the Environmental	Principal Contractor	Preparation and implementation of a	Pre-construction and construction	Ongoing review

Ref. No	Action/Commitment (incl. Location where relevant)	Assumption(s) on which the action is based	Objective	How the action is implemented	Source reference (incl. Commitments agreed with stakeholders)	Responsible person(s)	Achievement criteria	Stage	Monitoring (if required)
	prepared and implemented to manage the transport to/from and on site of employees and materials required for the construction of the Scheme. The Logistics Management Plan (or similar) will set out measures, where practicable, to reduce distances travelled, optimise journeys and use low emission modes of transport (such as public transport) or vehicles (e.g. electric vehicles) to reduce greenhouse gas (GHG) emissions associated with transport.	employees are required to the Scheme for construction	associated with the transport of construction site employees and raw materials	Requirement 4 (Environmental Management Plan)	Statement (TR010064/APP/6.1).		Logistics Management Plan (or similar).		
C2	Materials will be sourced from local suppliers, where practical and cost-effective to do so, to reduce the travel distance of materials and associated GHG emissions.	Availability of required materials from local suppliers for construction	To reduce GHG emissions associated with the transport of raw materials	Draft DCO (TR010064/APP/3.1) Requirement 4 (Environmental Management Plan)	Chapter 14: Climate, of the Environmental Statement (TR010064/APP/6.1).	Principal Contractor	Implementation of the Carbon Management Plan (CMP) developed from the Outline CMP in the First Iteration EMP.	Pre-construction and construction	Ongoing review
C3	Good construction practice (e.g. in accordance with relevant guidance such as the CIRIA Environmental Good Practice on Site Guide (CIRIA, 2015) and other relevant guidance), including determining appropriate locations for site offices and facilities and storage areas for materials, will be implemented.	Construction guidance applicable to construction methods, compounds and storage facilities	To reduce impact of extreme weather events on construction activities, plant and equipment and/or personnel	Draft DCO (TR010064/APP/3.1) Requirement 4 (Environmental Management Plan)	Chapter 14: Climate, of the Environmental Statement (TR010064/APP/6.1).	Principal Contractor	Adoption of best of best practice guidance	Construction	Ongoing review
C4	Suitable management of site drainage, as will be specified within the S&GWMP in the Second Iteration EMP	Drainage is required during construction of the Scheme	To reduce impact of extreme weather events on construction activities, plant and equipment and/or personnel	Draft DCO (TR010064/APP/3.1) Requirement 4 (Environmental Management Plan)	Chapter 14: Climate, of the Environmental Statement (TR010064/APP/6.1).	Principal Contractor	Implementation of the S&GWMP in the Second Iteration EMP.	Pre-construction and construction	Ongoing review

Ref. No	Action/Commitment (incl. Location where relevant)	Assumption(s) on which the action is based	Objective	How the action is implemented	Source reference (incl. Commitments agreed with stakeholders)	Responsible person(s)	Achievement criteria	Stage	Monitoring (if required)
C5	The Second Iteration EMP will incorporate the use of weather forecasting and plans for extreme weather events (e.g. very high intensity rainfall events or heat waves)	Weather has the potential to impact construction activities	To reduce impact of extreme weather events on construction activities, plant and equipment and/or personnel	Draft DCO (TR010064/APP/3.1) Requirement 4 (Environmental Management Plan)	Chapter 14: Climate, of the Environmental Statement (TR010064/APP/6.1).	Principal Contractor	Incorporation in the Second Iteration EMP.	Pre-construction	Ongoing review
C6	When choosing permitted materials for sub-bases and bases at the detailed design stage, and in accordance with DMRB CD 226, the Principal Contractor will have regard to the nature of those materials and of the subgrade or any capping and the need to protect them from deterioration due to the ingress of water, the adverse effects of weather and the use of construction plant.	The assessment assumes that materials would be selected with regards to impacts to/from climate change.	To reduce vulnerability of the Scheme to climate change.	Draft DCO (TR010064/APP/3.1) Requirement 3 (Detailed design)	Chapter 14: Climate, of the Environmental Statement (TR010064/APP/6.1).	Principal Contractor	Inclusion within detailed design and procurement.	Detailed Design and pre-construction	No
C7	Laying and compaction of the sub-base and the subsequent pavement courses will be programmed, where practicable, and other steps considered, if necessary, to afford protection to the base, sub-base and subgrade to changes in climatic conditions, such as increases in heavy rainfall periods.	Appropriate programming could be used to protect the base, subbase and subgrade.	To reduce vulnerability of the Scheme to climate change.	Draft DCO (TR010064/APP/3.1) Requirement 4 (Environmental Management Plan)	Chapter 14: Climate, of the Environmental Statement (TR010064/APP/6.1).	Principal Contractor	Damage to base, subbase and subgrade is minimised from changes in climatic conditions	Construction	No
C8	An appropriate asset management strategy will be implemented to proactively identify and, where necessary, rectify potential climate related impacts (e.g. additional visual inspections of the Scheme's assets after extreme weather events).	Climate related impacts on the Scheme can be mitigated by appropriate asset management.	To reduce vulnerability of the Scheme to climate change.	Draft DCO (TR010064/APP/3.1) Requirement 4 (Environmental Management Plan)	Chapter 14: Climate, of the Environmental Statement (TR010064/APP/6.1).	The Applicant	Implementation of the Third Iteration EMP.	Operation	As defined in the asset management strategy
C9	Quarterly GHG emissions reporting will be undertaken, using the National Highways	GHG emissions are required to be reported during	To measure construction related carbon	Draft DCO (TR010064/APP/3.1) Requirement 4	Chapter 14: Climate, of the Environmental	Principal Contractor	Implementation of the CMP that will be developed from the	Construction	Ongoing review

Ref. No	Action/Commitment (incl. Location where relevant)	Assumption(s) on which the action is based	Objective	How the action is implemented	Source reference (incl. Commitments agreed with stakeholders)	Responsible person(s)	Achievement criteria	Stage	Monitoring (if required)
	Carbon Tool, during the construction phase.	the Scheme construction	emissions associated with the Scheme	(Environmental Management Plan)	Statement (TR010064/APP/6.1).		Outline CMP in the First Iteration EMP.		
C10	Quarterly GHG emissions reporting of operational maintenance related GHG emissions will be undertaken, using the National Highways Carbon Tool, during the operational phase.	GHG emissions are required to be reported during the Scheme operation	To measure operational maintenance related carbon emissions associated with the Scheme	Draft DCO (TR010064/APP/3.1) Requirement 4 (Environmental Management Plan)	Chapter 14: Climate, of the Environmental Statement (TR010064/APP/6.1).	Maintenance Contractor	Implementation of the Third Iteration EMP.	Operation	As required by the Third Iteration EMP

4 Consents and permissions

4.1 Consents and Agreements Position Statement

4.1.1 As part of the application a Consents and Agreement Position Statement (TR010064/APP/3.3) has been submitted which sets out the Applicant's intended strategy for obtaining the consents and associated agreements needed to implement the Scheme. It identifies at a high level what consents are expected to be needed for the Scheme, and how those consents will be obtained.

4.1.2 This Chapter outlines the consents, permissions and agreements (outside of the draft DCO (TR010064/APP/3.1)) that would be, or are likely to be, sought by either the Applicant or the PC in relation to the environmental aspects of the Scheme.

Draft DCO Powers and Consents

4.1.3 The principal consent for the Scheme would be the draft DCO (TR010064/APP/3.1).

4.1.4 The draft DCO (TR010064/APP/3.1) provides development consent for the works and enables land acquisition and temporary possession, along with many consents and powers to be dealt with at the same time. Those consents in relation to environmental aspects are:

- Authorisation of all permanent and temporary works (equivalent of planning permission) (assuming that some of the works relate to environmental aspects of the Scheme).
- Compulsory acquisition of land and the temporary possession of land.
- Consent to stop up and divert public and private rights of way.
- Consent to remove hedgerows (including any 'important hedgerows').
- Works to highways and traffic regulations
- Survey powers

4.1.5 A number of the consents included in the draft DCO (TR010064/APP/3.1) are prescribed in The Infrastructure Planning (Interested Parties and Miscellaneous Provisions) Regulations 2015. As a result, under Section 150 of the Planning Act 2008, the relevant consenting body must agree to the inclusion (i.e. disapplication) of these consents within the draft DCO (TR010064/APP/3.1). Discussions between the Applicant and the consenting bodies are ongoing. The aim is that agreement for inclusion of disapplication will be provided during the examination of the DCO (TR010064/APP/3.1) application and also be set out within the relevant Statement of Common Ground.

Other Environmental Consents to be Obtained

4.1.6 There is a need to supplement the draft DCO (TR010064/APP/3.1) with additional consent applications. Additional consents and permissions that relate

directly to the measures within this First Iteration EMP will need to be sought separately from the draft DCO (TR010064/APP/3.1). These are outlined in the Consents, Licences and Agreements Position Statement (TR010064/APP/3.3).

- 4.1.7 Additional consents to be obtained are dependent on finalisation of the detailed design, the detailed construction site set up and methodologies, and discussions with stakeholders, for example the Environment Agency (EA) and Relevant planning authority. These are not sufficiently developed at this stage to confirm the requirements and therefore it is not practicable to include them within the draft DCO (TR010064/APP/3.1).
- 4.1.8 The Consents and Agreements Position Statement (TR010064/APP/3.3) will be updated to include environmental consents, licences and agreements within the Second Iteration EMP to cover developments through the Scheme detailed design phase and throughout the construction phase, to ensure all relevant consents and permissions are captured.

Agreements

- 4.1.9 Agreements with third parties may be required in parallel to the draft DCO (TR010064/APP/3.1) and may take a variety of forms. Some of these may be related to environmental aspects and will therefore be recorded in this chapter of the Second Iteration EMP.
- 4.1.10 The Statement of Commonality for Statements of Common Ground (TR010064/APP/7.6) provides a record, for the Examining Authority (ExA), of discussions up to the submission date and the current positions on Statements of Common Ground (SoCG) between the Applicant and prescribed consultees, statutory undertakers and interested parties (other parties) in relation to the Scheme. SoCG are being developed and will be agreed with:
- Bury Metropolitan Borough Council
 - Natural England
 - Environment Agency
 - Historic England
- 4.1.11 The content of some SoCG may become the basis of legal agreements, formal undertakings or memoranda of understanding regulating land and works powers. These would be progressed by the Applicant where appropriate.

Recording

- 4.1.12 A register of environmental permits, consents, licences and agreements relating to construction activities will be maintained by the PC.
- 4.1.13 Any conditions related to each consent, permission or agreement will be added to the REAC, specific environmental management plans, and environmental method statements where appropriate and included within the Second Iteration EMP.

5 Environmental asset data and as built drawings

5.1 National Highways Environmental Information System

- 5.1.1 The National Highways Environmental Information System (EnvIS) is a system for defining and categorising the man-made or natural assets within and surrounding the SRN.
- 5.1.2 The data within EnvIS identifies the asset, location, condition and broad management requirements. This data is used to assist in managing the environment, within and surrounding the strategic road network, and in the review and reporting of the environmental performance of both service providers and National Highways.
- 5.1.3 The aim of EnvIS is to assist National Highways and service providers, in designing and managing the SRN in an accurate, consistent and environmentally sound manner. Specifically, it aims to achieve the following key strategic and operational objectives:
- Enable consistent and accurate recording and retrieving of specific environmental data about the strategic road network.
 - Assist in the review and reporting of environmental performance of both National Highways and service providers.
 - Improve understanding of the environmental issues and opportunities that must be considered at different stages of trunk road and motorway management.
 - In line with ensuring a value for money approach, assist in the prioritisation of environmental management actions based on an understanding of the condition of the Element and environmental objectives.
 - Assist in the handover of environmental data from designers to network management agents (and vice versa) and the transfer of environmental data from an outgoing network management agent to its successor.
 - Assist designers and network management agents in the collection of environmental data and use this information to develop specific environmental management programmes and strategies, including EMPs.

5.2 Collection and submission of EnvIS data

- 5.2.1 National Highway's Asset Data Management Manual Part 2 – Requirements and Additional Information (Standards for Highways, 2020) states that “environmental data will be collected and amended over time in a cycle of continual improvement” and “achieving this continual improvement requires adherence to regular and specific data submission milestones”. In the context of

major projects, these milestones are identified as the first Iteration EMP stage and Third Iteration EMP stage.

- 5.2.2 At First Iteration EMP, species data and cultural heritage data is only required to be uploaded to EnvIS if survey work has identified previously unknown assets. EnvIS data will be added at the end of the design stage to ensure it is retained for the benefit of the business instead of being lost in the handover from design to construction.
- 5.2.3 This section should be updated by the PC in advance of the Third Iteration EMP, which will not be signed off by Nations Highways without confirmation that environmental data has been submitted and fully validated.
- 5.2.4 Extensive surveys have been undertaken to inform the aspect-specific environmental assessments within the Environmental Statement (TR010064/APP/6.1) including:
- Ecology surveys
 - Arboricultural surveys
 - Ground investigations, including soil and groundwater contamination testing, and groundwater and ground gas monitoring
 - Agricultural Land Classification soil surveys
 - Noise monitoring surveys

5.3 Additional surveys

- 5.3.1 Additional surveys are planned to be undertaken to inform the detailed design of the Scheme and licence applications. The expected required surveys are listed below, but are not limited to:
- Surface water monitoring
 - Groundwater monitoring
 - Soil resource surveys
 - Ecology surveys (ie badge and invasive species)
 - Archaeological trial trenching

5.4 Record of condition Collection and submission of EnvIS data

- 5.4.1 A record of condition or precondition survey will be undertaken prior to taking possession of temporary land from landowners and occupiers (if applicable) and would include the following where applicable:
- Existing crop regimes and the condition of crops (if at a stage this can be assessed).
 - The position and condition of existing boundaries.
 - The condition of existing access arrangements.

- The location and type of existing utility assets (e.g. private water supplies).
- The type of land use taking place.
- The quality of grazing land.
- The existing weed burden.
- Soil resource survey report.
- The condition of structures and/or buildings.
- Weather conditions.
- Date of survey.
- Grid reference.
- Any other relevant details.

5.4.2 Where practicable, photographs, drone and/or video footage including where applicable section drawings/plans should be included in the record of condition, alongside the soil resource survey report and should be provided to the landowner and occupier, for agreement, prior to taking possession of temporary land.

6 Details of maintenance and EMP monitoring activities

- 6.1.1 The Environmental Statement (TR010064/APP/6.1) and REAC (Section 3.1) identifies environmental monitoring during construction to ensure the mitigation measures and actions can be tracked and closed out when completed. Some of these are specific, for example, water quality monitoring, others are more general, for example, covered by regular environmental inspections or confirmation by the PC that an element of the Scheme design has been completed. Monitoring requirements would continue to be refined during detailed design, some in consultation with third party stakeholders. Confirmed arrangements for monitoring and, where relevant, maintenance activities would be included in the Second Iteration EMP.
- 6.1.2 The PC will ensure there is a central filing system in place for any checklists, reports and monitoring consistent with the Scheme Quality Management System (QMS) and the Environmental Management System (EMS) of the PC, meeting the ISO14001:2015 standards (ISO, 2015).
- 6.1.3 The system will include methods for monitoring, recording and implementing environmental management on site, and for responding to any noted areas of non-compliance. This will ensure that a high standard of environmental control is maintained through the construction programme of the Scheme.
- 6.1.4 Records of compliance with the requirements of the Second Iteration EMP, derived from audits and other inspections, will be held within the PC's central filing system. These records would be available for inspection by representatives of any internal or external audit team for matters related to its function.
- 6.1.5 This chapter would be updated in the Second Iteration EMP by the PC to include:
- Procedures for monitoring and reviewing compliance including inspection/audit frequency and reporting.
 - Assessment criteria to identify success.
- Procedures for rectification of breaching or failings of the Second Iteration EMP measures

7 Induction, training, and briefing procedures for staff

7.1 Environmental training

- 7.1.1 The PC will be responsible for inductions and training of all personnel on the site, whether visitors, full time staff or subcontractors. The PC must ensure all personnel are suitably trained for their roles, including their environmental responsibilities to meet the environmental commitments set out in the EMP.
- 7.1.2 All individuals working on or visiting the site will be required to attend an induction appropriate to their role. Additionally, specific training needs will be identified and provided for all personnel participating in or near to specific activities that could result in an adverse impact on the environment. For example, additional training or toolbox talks, led by the PC or specialists, on ecology, pollution control, waste management and emergency procedures.
- 7.1.3 A record of training will be maintained by the PC for example, records of toolbox talks carried out and who attended them. As a minimum all site personnel will be given a site induction, regular environmental toolbox talks and RAMS briefings which will cover environmental issues related to the works or working area.
- 7.1.4 The PC or their Environmental Manager must highlight requirements for additional training, as the project progresses, to improve and add value to the overall site environmental awareness and compliance. Additional training requirements would be identified through site environmental inspections, or feedback on any noted non-compliance. It is a requirement for the site to maintain the standard of environmental management required by the EMS and minimise risks that could negatively impact on the environment.
- 7.1.5 Table 7.1 identifies an indicative programme of training on environmental issues relevant to the Scheme that have been identified for.

Table 7.1 Indicative list of environmental induction, training, and competencies

Environmental training requirement	Frequency	Attendees
Site Induction (which will include environmental aspects).	On first visit to site	All persons attending site (site personnel, subcontractors, Applicant, visitors).
Job specific training e.g. Institution of Occupational Safety and Health (IOSH) working with Environmental Responsibilities and Site Waste Management. Supply of specific certificates and/or training confirmation required.	As required	As identified for personnel with environmental responsibilities.
RAMS briefings.	As required for every task	All persons involved in task.

Environmental training requirement	Frequency	Attendees
Environmental toolbox talks will be carried out appropriate to the construction works being carried out on site at that time.	Target minimum of one per month	All persons carrying out work on site (site personnel, subcontractors).
Environmental briefings, for example Environmental Bulletins / Alerts, Lessons Learnt, Results of Inspections / Audits.	As required	All persons carrying out work on site (site personnel, subcontractors).

7.2 Site Induction

7.2.1 Prior to commencing work on site, all personnel are to receive a Site Induction which will communicate environmental objectives, requirements and responsibilities before commencing activities on site. During the site induction the PC will communicate the site personnel's obligations while on site. This will introduce accountability for personnel working on the Scheme.

7.2.2 The site induction shall cover relevant parts of the following areas to a level of sufficient detail for the workforce. The items relating to environmental matters which are likely to be covered during site induction may include, but are not limited to the following:

- Site environment and risks.
- Prevention and control of pollution (eg fuel containment; spill kits).
- Risks of exposure to contamination associated with earthworks and excavations.
- Materials storage (defined for excavated and imported materials).
- Waste management and storage (defined for domestic waste and construction waste).
- Wheel washing and road sweeping.
- Nuisance minimisation (e.g. noise, dust, vibration and odour).
- Agreed traffic management measures (e.g. haulage routes, carriageway restrictions, carriageway closures and diversions).
- Communication with the public.
- Reporting procedure of environmental hazards and incidents.
- Emergency Response Plans.

7.3 Environmental competencies

7.3.1 The PC shall ensure all personnel conducting environmental tasks are suitably qualified or experienced for the roles and responsibilities that they are employed to undertake. The PC will prepare and deliver a programme of training relevant to environmental management. This may include more detailed training in the topics listed in the site induction and those relevant to the site specific hazards. Any personnel carrying out activities with a potential for specific environmental

impacts (e.g. refuelling of plant) will be provided with specific training to that task.

7.3.2 The PC will monitor and record that all staff have attended the Site Induction prior to undertaking any activities on site, in addition to relevant training and toolbox talks (including updated or new training) during the delivery of the Scheme.

7.3.3 The PC will monitor the success of environmental training through audits, site environmental inspection, or site feedback on any noted non-compliance to ensure effectiveness of environmental training.

7.4 Toolbox talks

7.4.1 A 'toolbox talk' is a short presentation to the workforce on a single aspect for example, noise management. Toolbox talks are generally conducted at the start of a work shift or commencement of a new activity and cover environmental issues related to the works or working area.

7.4.2 In addition to short presentations, where appropriate Toolbox talks will be posted within common use areas such as welfare units and office reception areas. Key environmental issues linked to the programme will be targeted on the notice board as an aide memoir to all staff on site for example seasonal environmental constraints such as bird nesting seasons.

7.4.3 The PC and each of its sub-contractors will establish a regime of toolbox talks relevant to the site-specific hazards or task. For sub-contractors', their supervisors are responsible for conducting these briefings and their implementation will be monitored by the PC.

7.4.4 An indicative list of appropriate toolbox talks is provided below. Additional toolbox talks may be added to this list as the project progresses.

- Dust management and air quality control.
- Location and protection of sensitive environmental sites and features (including buffer zones where appropriate).
- Noise management.
- Water receptors present on site and working in or near watercourses.
- Surface water pollution and control for example silt management.
- Identification of contaminated land.
- Use of spill kits and emergency response procedures.
- Segregation and storage of waste.
- Non-native invasive species.
- Nesting birds.
- Protected species.

Acronyms

Abbreviation	Term
ACoW	Archaeological Clerk of Works
AEP	Annual Exceedance Probability
AMS	Archaeological Management Strategy
AQMP	Air Quality Management Plan
BMP	Biodiversity Management Plan
BOD	Biochemical Oxygen Demand
BPM	Best Practice Means
BS	British Standard
CCTV	Closed Circuit Television
CEMP	Construction Environmental Management Plan
CIRIA	Construction Industry Research and Information Association
CL:AiRE	Contaminated Land: Applications in Real Environments
COD	Chemical Oxygen Demand
COSHH	Control of Substances Hazardous to Health
DCO	Development Consent Order
DEFRA	Department for Environmental, Farming & Rural Affairs
DMRB	Design Manual for Roads and Bridges
EA	Environment Agency
ECoW	Ecological Clerk of Works
ECP	Environmental Incident Control Plan
EHO	Environmental Health Officer
EIA	Environmental Impact Assessment
EM	Environmental Manager
EMP	Environmental Management Plan
EMS	Environmental Management System
EnvIS	Environmental Information System
ES	Environmental Statement
FRA	Flood Risk Assessment

Abbreviation	Term
HAGIS	Highways Agency Geographic Information System
HSEQ	Health, Safety, Environment and Quality
HVO	Hydrotreated Vegetable Oil
HWCN	Hazardous Waste Consignment Note
INNS	Invasive Non-Native Species
ISMP	Invasive Species Management Plan
LEMP	Landscape and Ecology Mitigation Plan
LoD	Limits of Deviation
LoW	List of Waste
MMP	Material Management Plan
NVMP	Noise & Vibration Management Plan
PC	Principal Contractor
PCF	Project Control Framework
PEAR	Post Excavation Assessment Report
PM	Project Manager
PPE	Personal Protective Equipment
PPP	Pollution Prevention Plan
PWS	Private Water Supplies
QMS	Quality Management System
RAMS	Risk Assessments and Method Statements
REAC	Register of Environmental Actions and Commitments
REGO	Renewable Energy Guarantee of Origin
RPA	Root Protection Order
SMP	Soil Management Plan
SoCG	Statements of Common Ground
SRN	Strategic Road Network
SSWSIs	Site Specific Written Schemes of Investigation
SuDS	Sustainable Drainage Systems
SWMP	Site Waste Management Plan

Abbreviation	Term
S&GWMP	Surface and Ground Water Management Plan
TSS	Total Suspended Solids
WAC	Waste Acceptance Criteria
WCH	Walkers, Cyclists and Horse-Riders
WMP	Water Management Plan
WSI	Written Scheme of Investigation

Glossary

Term	Definition
Affected property	The lengths of all-purpose trunk road and/or motorway (including carriageways, hard shoulders, slip roads, roundabouts and access roads) and the associated premises, infrastructure and other amenities to be maintained and operated.
Aggregates	Minerals which are used primarily to support the construction industry including soft sand, sand and gravel, and crushed rock.
Agricultural Land Classification (ALC)	ALC is graded from 1 to 5. Best and Most Versatile (BMV) agricultural land is graded 1 to 3a.
Annual Exceedance Probability (AEP)	Annual Exceedance Probability e.g. 1% AEP is equivalent to 1% (1 in 100) probability of flooding occurring in any one year (or, on average, once in every 100 years).
Application Document	A document submitted to the Planning Inspectorate as part of the application for development consent..
Arboriculturist	Person who has, through relevant education, training and experience, gained expertise in the field of trees in relation to construction (BS 5837:2012 Trees in relation to design, demolition and construction – Recommendations).
Arboricultural impact assessment	An assessment of the effect of the Scheme on existing trees.
Asbestos-Containing Material	Material that contains asbestos fibres.
Aspect	This refers to an environmental topic (e.g. air quality, biodiversity, noise etc.).
Asset delivery	Asset delivery is where National Highways is directly responsible for managing all aspects of the operation of the network. This includes determining and managing what routine maintenance activities are undertaken and capital renewal and improvement schemes
Attenuation pond	Part of a drainage system that is used for temporarily storing and attenuating surface water
Backfilling	Backfilling means a recovery operation where waste is used in excavated areas for the purpose of slope reclamation or safety or for engineering purposes in landscaping and where the waste is substituting other non-waste materials which would have had to be used for the purpose.

Term	Definition
Baseline	In EIA, 'baseline conditions' are the environmental conditions in existence before the occurrence of an impact from a development i.e. they are the existing conditions that would be affected.
Baseline (in context of landscape and visual)	Work to provide an outline, understanding of landscape and visual conditions before or without implementation of the project requiring a mix of desk study consultation and field work. DMRB LA 107.
Bed substrate	The material that rests at the bottom of a stream and along the channel margins.
Best overall environmental outcome	A departure from the waste hierarchy which delivers better overall environmental outcomes.
Best Practicable Means (BPM)	Measured to reduce noise and vibration from construction activities that are reasonable practicable having regard among other things to local conditions and circumstances, to the current state of technical knowledge and to the financial implications.
Bill of Quantities (BoQ)	A document containing details on the volumes of excavated arisings from, and materials required for, a development
Borehole	A hole bored into the ground, usually as part of investigations, typically to test the depth and quality of soil, rock and groundwater. A borehole can also be used to dewater the ground.
Borrow pit	A temporary mineral working to supply material for a specific construction project.
British Standard	British Standards are the standards produced by the British Standards Institution, which is incorporated under royal charter and formally designated as the national standards body for the UK.
British Standards Institution	The national standards body of the United Kingdom which produces technical standards for various industries.
Bund	An embankment which acts as a visual or noise screen, or acts as a barrier to control the spillage of fluids.
Carriageway	The width of a highway that can be used by motorised vehicles and nonmotorised users, formed by a number of lanes. Dual two-lane means two lanes in each direction, and dual three-lane means

Term	Definition
	three lanes in each direction (dual two-lane and three-lane carriageways have a central reserve to separate the traffic travelling in each direction).
Category A tree	Tree of high quality and value capable of making a significant contribution to the area for 40 or more years.
Category B tree	Tree of moderate quality or value capable of making a significant contribution to the area for 20 or more years.
CIRIA	Construction Industry Research and Information Association. A member-based research and information organisation dedicated to improvement in all aspects of the construction industry.
Circular Economy	A circular economy is an alternative to a traditional linear economy (of make, use, dispose) in which we keep resources in use for as long as possible; extract the maximum value from resources while in use; recover and regenerate products and materials at the end of life; and keep products, components and materials at their highest utility and value at all times.
Climate change	Long-term variations in global temperature and weather patterns caused by natural and human actions.
Closed-circuit television	CCTV cameras are used to monitor traffic flows on the English motorway and trunk road network primarily for the purposes of traffic management.
Code of Construction Practice	Contains control measures and standards to be implemented by the Scheme, including those to avoid or reduce environmental effects.
Compulsory acquisition	The compulsory acquisition of land or buildings for public interest purposes.
Consignment note	A legally required document that details the transfer of hazardous waste from one party to another. The note must be prepared before any hazardous waste is moved and is required for all movements of hazardous waste. The format of the consignment note must meet the requirements set out in Schedule 1 of The Hazardous Waste (England and Wales) (Amendment) Regulations 2016
Construction	Activity on and/or offsite required to implement the Scheme. The construction phase is considered to commence with the first activity on site (e.g.

Term	Definition
	creation of site access), and ends with demobilisation.
Construction compound	A compound used during construction for the storage of material, assembly of components or for other construction related activities.
Construction, demolition and excavation waste	Arisings and waste from the demolition of buildings and structures, site preparation and clearance, remediation, excavation and construction activities.
Construction Industry Research Information Association	A not-for-profit, independent organisation that facilitates a range of collaborative activities to help improve the construction industry.
Controlled Waste	Household, industrial and commercial waste (not agricultural waste, waste from mines or quarries and most radioactive waste).
Culvert	A tunnel (pipe or box-shaped) carrying a stream, open drain or utility equipment under a feature such as a road or railway.
Cut-fill balance	Where the amount of material obtained from earthwork cuttings broadly matches the amount of fill material required to form embankments, thereby minimising the amount of material needed to be imported into, or exported from, a construction site
Cutting	In road construction, where the route is cut into the ground such that its vertical alignment is lower than the surrounding ground level. Often used on hilly terrain and to achieve safe gradients for roads.
Development	Any proposal that results in a change to the land use, landscape and/or visual environment.
Development Consent Order	Introduced by the Planning Act in 2008, a DCO is the means of obtaining permission for developments categorised as Nationally Significant Infrastructure Projects (NSIP).
Development Consent Order application	The Scheme Application Documents, collectively known as the 'DCO application'.
De-Watering	The removal of water from solid material or soil.
Embedded Mitigation	Mitigation measures which are embedded into the project design and have been developed through an iterative design process.
Essential Mitigation	Measures required to reduce and if possible offset likely significant adverse environmental effects, in support of the reported significance of effects in the

Term	Definition
	environmental assessment. Mitigation critical for the delivery of a scheme which can be acquired through statutory powers.
Examination	Statutory process in where the Secretary of State will appoint an Inspector to carry out an independent examination
Examining Authority	The person(s) appointed by the Secretary of State (SoS) to assess the Development Consent Order application and make a recommendation to the SoS.
Groundwater	Water below ground level
Haul road/route	Temporary routes which would be used during the construction-by-construction vehicles.
Interested Party	A person or persons with an interest in land affected by the application, or who has registered a relevant representation by the deadline set by the Planning Inspectorate after the application has been accepted.
Land use	The purpose that land is used for, based on broad categories of functional land cover, such as urban and industrial use and the different types of agriculture and forestry.
Land-take	The temporary acquisition or permanent loss of land as a result of the construction and/or operation of the Scheme.
Limits of deviation	Defined in Article 6 of the draft DCO (TR010064/APP/3.1) and explained within paragraphs 5.17-5.19 of the Explanatory Memorandum (TR010064/APP/3.2)
Local planning authority	The local authority or Council that is empowered by law to exercise planning functions for a particular area.
Operation	Describes the operational phase of a completed development and is considered to commence at the end of the construction phase, after demobilisation.
Order Limits	The Order limits” means the limits of land to be acquired or used permanently or temporarily shown on the land plans and works plans within which the authorised development may be carried out
Planning Act 2008	The primary legislation that establishes the legal framework for applying for, examining and determining Development Consent Order

Term	Definition
	applications for Nationally Significant Infrastructure Proposed Schemes.
Plant	The machinery or infrastructure used to construct or support the operation of a given development or facility.
Principle Contractor	Contractor appointed to coordinate the construction phase of a project where it involves more than one contractor.
Reinstatement	The act of restoring something to a condition agreed with the relevant authorities.
Secretary of State	The Secretary of State has overall responsibility for the policies of the Department for Transport.
Severance	Severance is used to refer to a change in ease of access for walkers, cyclists and horse riders due to, for example, a change in travel distance or travel time or a change in traffic levels on a route that makes it harder for walkers, cyclists and horse riders to cross. A reference to severance does not necessarily imply a route is closed to access.
Statement of Common Ground	A Statement of Common Ground is a written statement containing factual information about the proposal which is the subject of the appeal that the appellant reasonably considers will not be disputed by the relevant planning authority.
Statutory Environmental Body (SEB)	Any principal council as defined in subsection (1) of section 270 of the Local Government Act 1982 for the area where the land is situated. Where the land is situated in England, SEBs include Natural England, Historic England, and the Environment Agency. SEBs also include any other public authority which has environmental responsibilities and which the Secretary of State considers likely to have an interest in the Scheme.
Toolbox Talks	A 'toolbox talk' is a short presentation to the workforce on a single aspect of health and safety.
Trackout	The movement of dust and dirt from a construction/ demolition site onto the public road network, where it may be deposited and then re-suspended by vehicles using the network.
Traffic management	Control of traffic by means of lane closures to include temporary signals.
Trunk road	A trunk road is a road owned and operated by the Secretary of State for Transport. Trunk roads form part of the strategic road network. Trunk roads

Term	Definition
	include all-purpose trunk roads (APTRs) and motorways.

References

The following references have been used in Chapters 1 to 7 of the First Iteration EMP .
References used in Appendices A to O of the First Iteration EMP are contained within each Appendix.

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