A46 Coventry Junctions (Walsgrave)
Scheme Number: TR010066

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

September 2025

Deadline 6

Infrastructure Planning

Planning Act 2008

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

A46 Coventry Junctions (Walsgrave) Development Consent Order 202[x]

First Iteration Environmental Management Plan

Regulation Number	Regulation 5(2)(a)
Planning Inspectorate Scheme Reference	TR010066
Application Document Reference	TR010066/APP/6.5
Author	A46 Coventry Junctions (Walsgrave) Project Team, National Highways

Version	Date	Status of Version
Rev 0	November 2024	Application Issue
Rev 1	May 2025	Deadline 1
Rev 2	June 2025	Deadline 3
Rev 3	July 2025	Deadline 4
Rev 4	September 2025	Deadline 6

Table of contents

1. Introduction and background to the Scheme

1.1.1. National Highways (the Applicant) has submitted an application under Section 37 of the Planning Act 2008 (the 2008 Act) to the Secretary of State via the Planning Inspectorate (the Inspectorate) for an order to grant development consent (DCO) for the A46 Coventry Junctions (Walsgrave) Scheme (hereafter referred to as 'the Scheme').

1.1.2. The Scheme involves improvements to the B4082 which runs eastwards from Clifford Bridge Road to the existing A46 Walsgrave Junction and the A46 which runs north-south to the east of Coventry.

1.1.3. An Environmental Impact Assessment (EIA) has been undertaken for the Scheme and is reported in the Environmental Statement (**TR010066/APP/6.1**) in accordance with the Infrastructure Planning (EIA) Regulations 2017. The Environmental Statement (**TR010066/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 Environmental Management Plan (EMP) brings together these measures and details how they will be delivered.

1.1.4. This EMP for the Scheme and has been developed in support of the DCO to construct and operate the Scheme. It is based on the preliminary design of the Scheme for which development consent is being applied. It has been prepared in accordance with the following:

- The Environmental Statement (ES) (**TR010066/APP/6.1**).
- Design Manual for Roads and Bridges (DMRB) LA 104 Environmental assessment and monitoring (DMRB LA 104)
- Design Manual for Roads and Bridges (DMRB) LA 120 Environmental management plans (DMRB LA 120)
- Asset Data Management Manual (ADMM) v11.0 Parts 2 and 3 (in particular for Environmental Information System (EnvIS) requirements).

1.1.5. For the purposes of the EMP, the following definitions apply:

- The Principal Contractor (PC) means any contractor appointed by National Highways to deliver the construction works (and shall also include any subcontractors appointed by the PC to carry out any part of the main construction works).
- The maintenance authority is a body tasked with the maintenance of the Scheme once operational. Once the Scheme is complete in its entirety, this would be National Highways, in relation to the trunked sections of the

Scheme. Prior to full completion this would be the PC. Some components of the completed Scheme will be maintained by Coventry City Council.

1.1.6. Octavius Infrastructure Limited (OIL) are the Principal Designer and Principal Contractor for the Scheme, as defined under the Construction (Design and Management) Regulations 2015. OIL will hereby be referred to as the PC throughout the First Iteration EMP.

1.2. Purpose of this EMP

1.2.1. The purpose of the First Iteration EMP is to detail how mitigation and management measures would be implemented to manage the environmental effects of the Scheme as identified within the ES (**TR010066/APP/6.1**).

1.2.2. The First Iteration EMP takes due consideration of the documents submitted to the Planning Inspectorate and assessments undertaken on behalf of National Highways, as well as the draft DCO for the Scheme itself. It identifies mitigation and environmental issues associated with the construction and operation phases of the Scheme. The First Iteration EMP sets out the control of environmental effects through all lifecycle stages from the design stage. Table 1-1 outlines the requirements as stated in DMRB LA 120 Table 2.2.

Table 1-1: Delivery schedule and update requirement of EMP

Project Stage	EMP iteration	Responsibility
Design	First Iteration EMP produced during the preliminary design stage for the Scheme.	The Applicant
Construction (refined for the consented project)	Second Iteration EMP is refined based on the First Iteration EMP during detailed design for use during construction of the consented project. During construction the Second Iteration EMP will be reviewed on a regular basis by the Ecological Clerk of Works (ECoW).	Principal Contractor
Maintenance	Third Iteration of EMP building on the construction EMP refined at the end of the construction stage to support future management and operation.	Maintenance Authority

1.2.3. The Second Iteration EMP (and any other document that forms part of it) would be a live document that would be maintained by the Principal Contractor (PC) throughout the construction phase of the scheme.

1.2.4. 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

1.2.5. On completion of construction, the PC would prepare a Third Iteration EMP for the operational and maintenance phase of the Scheme. The indicative contents of a Third Iteration EMP are set out in DMRB LA 120 Environmental Management Plans (Highways England, 2020) and would be developed from the Second Iteration EMP. The Third Iteration EMP would be implemented by the maintenance authority responsible for the maintenance of the Scheme during the operational phase.

1.2.6. The purpose of the First Iteration EMP is to:

- identify roles and responsibilities
- identify risks, their associated control measures, compliance and corrective actions
- establish procedures for communication, monitoring, audit mechanisms and reporting of control measures
- would be reviewed regularly to ensure it is achieving the environmental protection required
- provides a clear audit trail outlining the modifications from any previous iteration
- document all environmental actions and commitments that are required to manage and minimise the environmental effects of the Scheme as identified in the ES (**TR010066/APP/6.1**)
- provide the equivalent of a Code of Construction Practice (CoCP) containing the control measures and standards to be implemented by the Scheme, including those to avoid or reduce environmental effects. The CoCP is a suggested item for inclusion within the DCO application (see the Planning Inspectorate's Advice Note Six: Preparation and submission of application documents ((The Planning Inspectorate, 2021)). The scope of the First Iteration EMP is such that it includes all those measures that would be expected within a CoCP
- 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 proposed within the Scheme which are secured within the First Iteration EMP

Preparation of the EMP

1.2.7. The Second Iteration EMP will be developed ahead of construction by the PC for the construction phase of the Scheme once the detailed design and construction plans have been finalised. The Second Iteration EMP would be based on the requirements of the First Iteration EMP relevant to the construction works and the PC's contractual scope. This would include any further requirements identified during detailed design, the implementation of appropriate industry standard practices and control measures for environmental impacts arising during construction, in addition to more detailed management plans and methodologies on the design and construction of the Scheme.

1.2.8. Construction works would be undertaken with appropriate environmental controls in place, in line with the Second Iteration EMP. This First Iteration EMP outlines the 'essential mitigation' developed as part of the EIA (refer to ES Chapter 4 (Environmental Assessment Methodology) (**TR010066/APP/6.1**), for more details). Essential mitigation measures are captured within the Register of Environmental Actions and Commitments (REAC) included in Appendix A of this First Iteration EMP.

1.2.9. Environmental constraints are shown on the ES Figures (**TR010066/APP/6.2**) and are referenced throughout the First Iteration EMP. Mitigation measures included in the Scheme design are shown on the Environmental Masterplan (ES Figure 2.4 (**TR010066/APP/6.2**)).

1.2.10. Management plans are key documents which ensure that the construction related mitigation measures and actions set out in the REAC are successfully implemented onsite. The relevant management plans inform the works and the development of associated task specific Risk Assessments and Method Statements (RAMS).

1.2.11. This First Iteration EMP contains several outline management plans to be developed into full management plans, and also identifies additional plans and method statements that will need to be developed by the PC prior to construction commencing to be incorporated into the Second Iteration EMP.

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

- EMP Appendix B.1 Outline Construction Air Quality and Dust Management Plan
- EMP Appendix B.2 Outline Construction Noise and Vibration Management Plan
- EMP Appendix B.3 Outline Site Waste Management Plan
- EMP Appendix B.4 Outline Landscape and Ecology Management Plan

- EMP Appendix B.5 Outline Construction Communication Strategy
- EMP Appendix B.6 Unexpected archaeological finds protocol
- EMP Appendix B.7 Historical Building Recording Written Scheme of Investigation
- EMP Appendix B.8 Outline Carbon Management Plan

1.2.13. Following the Secretary of State's approval of the DCO for the Scheme, the First Iteration EMP will be updated, as detailed in Table 1-1, to reference specific requirements relating to the various phases of construction. The following management plans will be prepared or refined as part of the Second Iteration EMP.

- Site Waste Management Plan (SWMP)
- Materials Management Plan (MMP) (if required)
- Soil Handling Management Plan
- Construction Noise and Vibration Management Plan
- Construction Air Quality and Dust Management Plan
- Construction Communication Strategy
- Landscape and Ecology Management Plan (LEMP)
- Water Monitoring and Management Plan
- Detailed Historical Building Recording Written Scheme of Investigation
- Invasive Non-Native Species (INNS) Management Plan
- Operational UXO Emergency Response Plan (if required)
- Carbon Management Plan
- Unexpected Archaeological Finds Protocol
- Traffic Management Plan
- Scheme Asbestos Management Plan
- Pollution Incident Control Plan

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

- Environmental constraints map
- Environmental method statements – where required and where commitments have been made to produce specific method statements including:
- Arboricultural Method Statement which would be prepared during the detailed design phase, refined following final design agreement and in place prior to works affecting trees commencing

- Protected species method statements
- Ornithological noise monitoring at Coombe Pool SSSI Method StatementCopy 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

1.2.15. The First Iteration EMP will be updated by the PC once the design and construction plans have been finalised and prior to commencement of construction. This will align with the following documents and requirements:

- ES (**TR010066/APP/6.1**))
- DMRB LA 104 Environmental assessment and monitoring
- DMRB LD 117 Landscape design
- DMRB LD 118 Biodiversity design
- DMRB GG 182 Major Schemes: Enabling handover into operation and maintenance
- Asset Data Management Manual (ADMM) v13.0 Parts 2 and 3 (in particular for Environmental Information System (EnvIS) requirements)
- Manual of Contract Documents for Highways Works (MCHW)

1.2.16. Early survey works and later stage construction works will be required to comply with applicable environmental legislation together with any additional environmental controls imposed prior to or included within the DCO, and the requirements of the Second Iteration EMP.

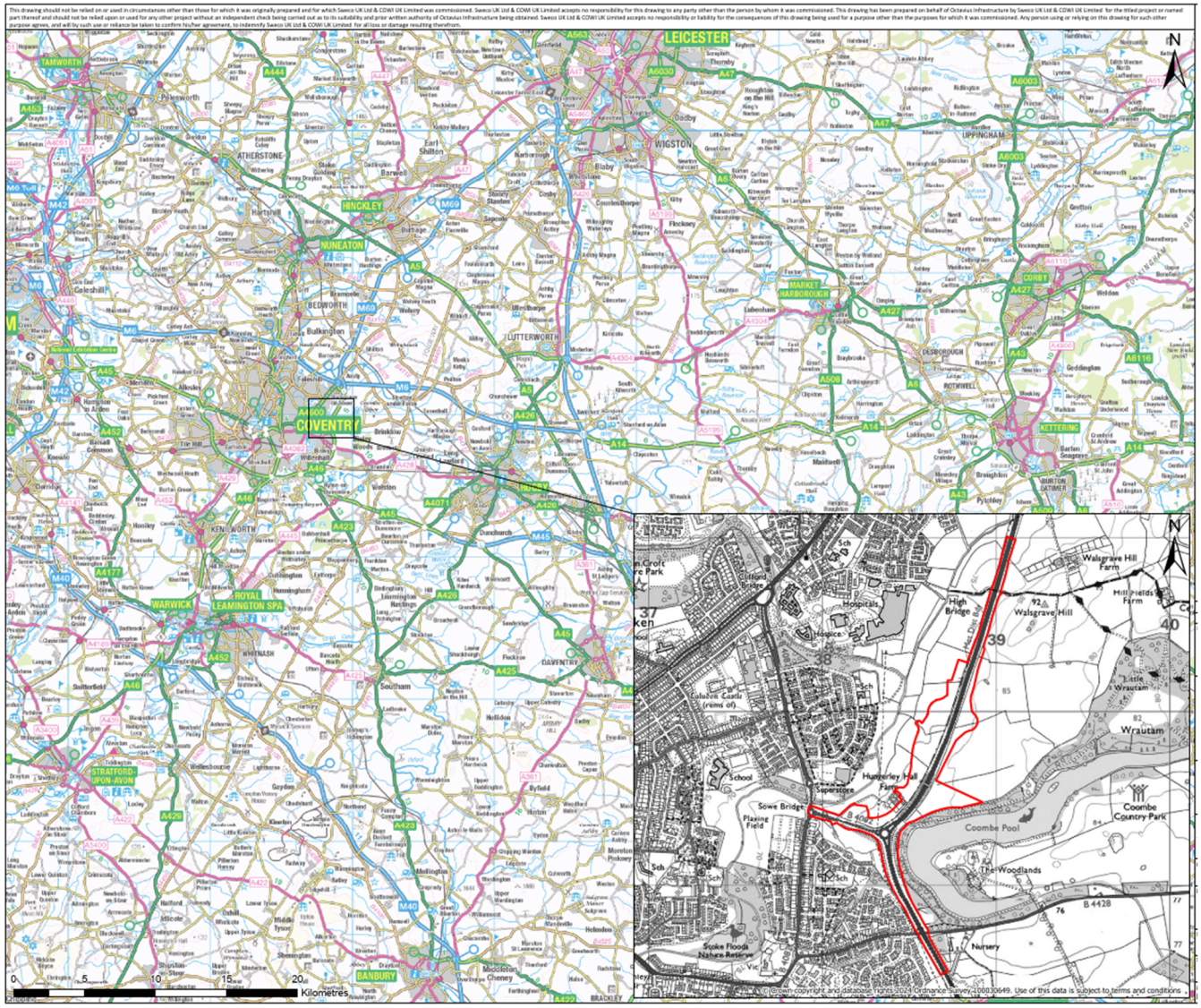
1.3. The Scheme location

1.3.1. The location of the Scheme is illustrated on ES Figure 2.1 (Location Plan) (**TR010066/APP/6.2**) and Plate 1. The Order Limits of the Scheme are illustrated on ES Figure 2.2 (Order Limits) (**TR010066/APP/6.2**).

1.3.2. The Scheme is located in the West Midlands, approximately 5km to the east of Coventry city centre. Binley Junction, located on the A46, is approximately 1.7km to the south of the existing Walsgrave Junction and the M6 and M69 junctions are approximately 2.5km to the north of the existing Walsgrave Junction.

1.3.3. The Scheme is situated within the Coventry City Council and Rugby Borough Council administrative areas. The boundary between these two administrative areas is along the western side of the A46. Rugby Borough Council's administrative area also forms part of Warwickshire County Council's administrative area, which shares the same border with Coventry City Council.

Plate 1 – Location Plan



Description of the existing A46 Walsgrave Junction

1.3.4. The A46 is currently owned, maintained and operated by National Highways. The existing B4082 from Clifford Bridge Road to the existing Walsgrave roundabout is owned by National Highways with occupier rights granted to Coventry City Council, up to the give way markings on the Walsgrave roundabout. Coventry City Council currently maintain it.

1.3.5. The existing A46 is a dual carriageway within the Scheme extents. South of the existing Walsgrave Junction the road is generally elevated, and north of the existing roundabout, it is generally in cutting. Parking laybys are located on the northbound and southbound carriageways of the A46 mainline between the existing Walsgrave Junction and the M6/M69 junction. Two gantries are present on the northbound carriageway within the Order Limits.

1.3.6. The existing junction comprises of a three arm at-grade roundabout connecting the A46 to the B4082 local network, shown on the Location Plan (ES Figure 2.1 (Location Plan) (**TR010066/APP/6.2**)).

1.3.7. The B4082 is a two-lane single carriageway road that provides a link between the A46 and Clifford Bridge Road. The B4027 Brinklow Road passes under the A46 mainline approximately 600m south of the existing Walsgrave Junction.

1.3.8. Hungerley Hall Farm accommodation overbridge, located approximately 400m north of the existing Walsgrave Junction, is owned by National Highways with access rights granted to Hungerley Hall Farm. The overbridge provides private access between Hungerley Hall Farm to the west of the A46 and the agricultural land to the east of the A46.

1.3.9. The Farber Road overbridge is located is located approximately 1.6km north of the existing Walsgrave Junction, and carries the 156/R75x/1 bridleway over the A46 and provides vehicular access to Walsgrave Hill Farm.

Scheme proposals

1.3.10. A detailed description of the Scheme is provided within ES Chapter 2 (The Scheme) (**TR010066/APP/6.1**). To summarise the Scheme consists of the following principal elements:

- Realignment of the existing A46 dual carriageway through the existing at grade roundabout (which will be removed), for approximately 880m to improve the road geometry and allow for a 50mph speed limit.
- Earthworks on the eastern side of the A46 mainline to facilitate the realignment through the existing at grade roundabout.
- A new grade separated junction over the A46 mainline, approximately 800m north of the existing Walsgrave Junction to connect the B4082 with the A46.

- A new overbridge structure across the existing A46, between the dumbbell roundabouts forming the grade separated junction.
- New merge and diverge slip roads at the grade separated junction for both northbound and southbound movements.
- Realignment of the B4082 to form a single carriageway link road, for approximately 900m, to connect the local road network to the new A46 grade separated junction with a proposed 40mph speed limit.
- Road assets and street furniture such as traffic signs and lines, relocated variable message sign (VMS), street lighting columns, vehicle restraint systems, fences, retaining walls and kerbs.
- Drainage systems including a dry detention basin and two ponds that will be designed to be permanently wet.
- Proposed new maintenance accesses to the drainage features and VMS.
- Retention of the Hungerley Hall Farm accommodation overbridge (the existing bridge that provides farm vehicle access over the A46 mainline).
- Farm access track to the north of Hungerley Hall Farm to provide gated access to the B4082 link road.
- Improvements to facilities for walkers, cyclists and horse-riders (WCH) through provision of a signalised pedestrian crossing on the B4082; and providing enabling works, including the retention of Hungerley Hall Farm accommodation overbridge, for a potential future WCH route to be provided by others.
- Replacement vegetation planting to compensate for the vegetation that needs to be removed to facilitate the Scheme.
- Replacement and installation of new highway boundary fencing.

Existing baseline

1.3.11. All of the environmental designations located within 2km of the Scheme extent are shown on the Environmental Constraints Plan in Appendix A of this First Iteration EMP. Notable statutory and non-statutory environmental designations and additional environmental constraints are as follows:

- Coombe[1] Pool Site of Special Scientific Interest (SSSI) is within the Order Limits and Herald Way Marsh SSSI (1.6km south of the existing Walsgrave Junction).
- Herald Marsh Way Local Nature Reserve (LNR) (approximately 1.45km to the south) and Stoke Floods LNR (approximately 900m south-west of the existing Walsgrave Junction).

[1] Coombe is also spelt as Combe in some databases. For consistency, hereafter the spelling of Coombe will be used.

- Seven locally designated non-statutory Local Wildlife Sites (LWS) including Gainford Rise LWS (approximately 80m south of existing Walsgrave Junction).
- The River Sowe and Withy Brook are Main Rivers. Smite Brook and Birchley Beck are Ordinary Watercourses. The River Sowe and Smite Brook are classified under the Water Framework Directive (WFD).
- Coombe Pool is classified under the Reservoirs Act 1975.
- The nearest noise important areas (NIA) in relation to road noise are over 1km from the existing Walsgrave Junction.
- Coventry City-Wide Air Quality Management Area (AQMA) is within the Order Limits.
- Agricultural land within the Order Limits is classified as a mixture of grade 2 and grade 3.
- Designated heritage assets include two scheduled monuments: Caludon Castle (approximately 880mwest of the Scheme, and a moated site 190m south of and relating to Caludon Castle.
- Coombe Abbey Registered Park and Garden/Conservation Area is within the Order Limits.
- There are numerous listed buildings within 2km including Coombe Abbey, grade II* listed building and three grade II listed buildings at Hungerley Hall Farm.
- There are no veteran or ancient trees listed within the Order Limits however, one tree was recorded of veteran condition during the tree survey due to its age, size and condition, which is adjacent to the Order Limits. Part of the woodland between the A46 and Coombe Abbey Park is protected by Rugby Borough Council's TPO No.82 (23 September 1985), and also falls within the Order Limits.
- Nearby residential communities which are sensitive to change include Walsgrave on Sowe and Binley, Isolated properties including Hungerley Hall Farm and those located off Brinklow Road to the east of the A46.

Scheme objectives

1.3.12. In order to resolve the congestion and safety issues on the A46 to the east of Coventry the following objectives have been identified for the Scheme:

- A Strategic Road Network (SRN) that supports and facilitates economic growth, supporting employment and residential development opportunities.
- An SRN that is maintained to safe and serviceable condition.
- Improve the operation and efficiency of the existing transport network, delivering capacity enhancements to the SRN.

- An SRN that minimises its negative impacts on users, local communities and the environment.
- An SRN that balances the need of individuals and businesses that use and reply upon it.
- Reducing/minimising the impact on the wider environment, whilst seeking to bring enhancement.
- Operational maintenance to be considered holistically during the design stage and at a balance of cost versus disruption.

1.3.1. Full details of the need for the Scheme are provided in the Case for the Scheme (**TR010066/APP/7.1**) and ES Chapter 2 (The Scheme) (**TR010066/APP/6.1**).

Construction programme

1.3.2. Construction is scheduled to commence in 2026. The Scheme would take approximately 23 months to construct, with an assumed opening year of 2028. Key dates are shown in Table 1-2.

1.3.3. A delivery programme has been developed for the Scheme based upon an anticipated DCO decision in May 2026 which influences the project's ability to pursue the land purchases required. The dates representing the key milestones for the Scheme are presented in Table 1-2.

Table 1-2: Key milestones and targeted dates

Milestone	Targeted start date	Targeted completion date
Anticipated DCO decision	**May 2026**	
Pre-commencement works	August 2026	October 2026
Start of main works	October 2026	June 2028
Full proposed scheme open to traffic	**May 2028**	

1.3.4. 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.

1.3.5. Pre-commencement works cover activities associated with site preparation, creation of access points, and the installation of facilities like security fencing, temporary ramps, and placing of signs as well as ecological mitigation with seasonal timing constraints. A Pre-Commencement Plan (**TR010066/APP/6.7**) has been prepared and submitted as part of this application. The Pre-commencement Plan sets out the relevant works, controls and mitigation

required for all pre-commencement works and is secured by Requirement 13 of the draft DCO (**TR010066/APP/3.1**). The pre-commencement activities have been assessed within the ES.

1.3.6. The main construction works would commence following on from the pre-commencement works.

1.3.7. Further details of the construction programme and details on pre-commencement works are provided in ES Chapter 2 (The Scheme) (**TR010066/APP/6.1**).

2. Scheme 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. Further details on competent expert statements are included in the ES chapters 5 to 15 (**TR010066/APP/6.1**).

2.2. Site roles and responsibilities

2.2.1. This section outlines the roles and responsibilities of those individuals and organisations involved with the delivery of the Second Iteration EMP, including the development of the EMP itself and implementation of it, as detailed in Table 1-1.

2.2.2. Names and contact details for each role will be provided by the PC within this section (Table 2-1) as part of the Second Iteration EMP along with relevant competent expert statements where necessary, as required by DMRB LA 120.

2.2.3. The PC is responsible for producing the Second Iteration EMP once the design and construction plans have been finalised. The PC is responsible for ensuring that all site environmental permissions are obtained, and site activities conform with the conditions defined within these permissions. The PC will identify the environmental requirements within method statements and ensure that they are produced, reviewed on time, and communicated to the necessary persons. The PC is responsible for ensuring that environmental risk assessments are effectively monitored, reviewed and communicated.

2.2.4. The Applicant and delegated consultants acting on their behalf, PC and subcontractors are all responsible for complying with the Scheme's environmental policies, relevant environmental legislation and regulations. It is a requirement that all persons on site will be made aware of their duty of care to the environment and will be provided with sufficient training, supervision or instruction through Site Inductions, toolbox talks (TBTs), watching briefs, audits and specific Method Statements as necessary.

2.2.5. Responsibilities for the site environmental management will be delegated to key personnel by the PC who will manage all reporting and monitoring of environmental mitigation during the contract period.

2.2.6. Where required, environmental specialists will be consulted to provide advice on specific issues or site activities, in consultation with the PC.

2.2.7. The key site-based roles and the organisation of responsibilities in relation to environmental management are shown in Table 2-1. 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 and will be allocated to a suitably qualified person. Key role personnel will be approved by the Applicant.

Table 2-1: Roles and responsibilities relating to the EMP

Role	Responsibilities
The Applicant Project Manager	Oversee implementation of Scheme and the individuals undertaking specific roles and duties. To ensure the final version of each EMP Iteration (First, Second and Third) are approved by the Secretary of State for Transport through the discharge of requirements process set out in the draft DCO (**TR010066/APP/3.1**) Set the framework and policy for environmental requirements and objectives for the Scheme. To monitor the PCs' performance against the contract including any environmental commitments and targets agreed for the Scheme. Primary responsibility for all matters under the draft DCO (**TR010066/APP/3.1**), its requirements and the Second Iteration EMP.
PC Project Manager	Responsible for management of all construction activities. Overall responsibility for ensuring control measures in the Second Iteration EMP are complied with, in coordination with the PC Environmental Manager. Responsible for environmental performance delivery and delivery of the contract requirements Must be aware of the environmental statutory requirements affecting site activities and seek further advice, if necessary. Ensure that all site environmental permissions are obtained, and site activities conform with the conditions defined within these permissions. Identify the environmental requirements within method statements and ensure that they are produced, reviewed on time, and communicated to the necessary persons. Ensure that environmental risk assessments are effectively monitored, reviewed and communicated. Ensure adequate supplies of environmental control equipment (for example spill response equipment) are available and are appropriately used. Ensure all new employees, contractors and visitors, including delivery drivers, are instructed on site specific environmental requirements.

Role	Responsibilities
	Ensure site specific environmental training needs are identified and training programmes are undertaken for all levels of site staff and contractors and ensure that records are maintained by the environmental manager. Report any significant environmental incidents, disciplinary action or enforcing bodies' visits to the health and safety manager and the Applicant at the earliest possible opportunity. Monitor the performance of personnel and activities under their control and ensure arrangements are in place so that all personnel can work in a manner which reduces risks to them and to the environment. Assist and support the environmental manager and statutory bodies in the investigation of any incidents. Undertake a programme of regular project environmental inspections in liaison with the environmental site representatives. Complete any corrective actions identified and provide status report to the employer's project manager. Any updates to the Second Iteration EMP whether routine or triggered by events should be approved by the PM by way of sign off.
PC Environmental Manager	Responsible for overseeing the environmental components of the Scheme including the production, development and implementation of the Second Iteration EMP. Review all Method Statements for environmental considerations. Maintain and update site specific Method Statements. Coordination of specialists and site environmental management compliance for all staff. Monitor compliance of construction activities in line with the Second Iteration EMP and the relevant environmental legislation, consents, and permissions throughout the construction period. Manage the delivery of the monitoring required under the Second Iteration EMP alongside relevant specialists, and reporting to relevant stakeholders at a frequency to be defined in the Second Iteration EMP. Provide site induction on environmental issues and prepare toolbox talks, and deal with queries and correspondence on environmental issues including liaison with relevant consultees/stakeholders. Organise specialist surveys and undertake day to day monitoring and compliance checks. Monitor control of dust, noise and vibration. Hours of working to meet accepted noise and vibration limits set in consultation with Environmental Health Officer (EHO).

Role	Responsibilities
	Develop with PC Site Health & Safety Officer an Emergency Spillage Response Plan and associated protocols for incidents. Ensure any environmental consents, licenses and agreements are obtained in advance of works. 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. Investigate environmental incidents and implement follow-up corrective actions to ensure compliance with UK regulations and legislation.
PC ECoW	Responsible for ensuring that all ecological elements of the Second Iteration EMP are complied with. Responsible for ensuring that the Scheme complies with all ecological legislation and consents, including the draft DCO (**TR010066/APP/3.1**) and those arising from the ES (**TR010066/APP/6.1**) throughout the construction phase. 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 (**TR010066/APP/3.1**). Prepare of deliver toolbox talks, where required, to inform all site personnel of the ecological constraints on site. 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.
PC Archaeological Clerk of Works	Responsible for ensuring that the Scheme complies with all archaeological and heritage legislation and consents, including the draft DCO (**TR010066/APP/3.1**) and those arising from the ES (**TR010066/APP/6.1**) throughout the relevant project phase. Liaise with and provide guidance for contractors in relation to the requirements of the Historic Building Reporting Written

Role	Responsibilities
	Schemes of Investigation (WSI) to be provided in the Second Iteration EMP. Monitoring the works and implementation of construction mitigation measures as required by the Historic Building Reporting WSI. Provide archaeological Toolbox talks to site staff as the PC Environmental Manager requires. Liaise with heritage stakeholders.
PC Environmental Specialists[2]	Such specialists could be required to input into the management plans and could relate to landscape, ecology, road drainage, geo-environmental engineers, and hydrologists. Responsible for ensuring that all relevant elements of the Second Iteration EMP are complied with. Responsible for ensuring that the Scheme complies with all relevant legislation and consents, including the draft DCO (**TR010066/APP/3.1**) and those arising from the ES (**TR010066/APP/6.1**) throughout the relevant project phase. Provide technical input as defined by the PC Environmental Manager including but not limited to contamination and remediation, ecology and landscape works.
PC Health and Safety Manager	Ensure necessary incident, processes and control measures in relation to health and safety are incorporated into the Second Iteration EMP. Ensure compliance of site work with health and safety regulations and guidelines. Ensure appropriate health and safety training given to staff before any works start and that necessary risk assessments are completed. Undertake health and safety audits and site visits to ensure compliance as necessary.
Community Liaison Manager	Maintain and develop Community Relations Strategy. Coordinate the Community Liaison team's communications with the public and interested parties, including outreach

[2] Other environmental specialists not covered by the roles above, but needed to provide the PC with necessary advice or expertise to fulfil the requirements of the First, Second or Third Iteration EMP. It will be for the PC Environmental Manager to coordinate and/or procure such inputs.

Role	Responsibilities
	activities and education, as appropriate. Ensure a project 24-hour reporting system (e.g. hotline number) is established prior to construction works commencing. Assist 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 Environmental Manager, 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 Environmental Manager informed of any environmental complaints received. Keeping the public informed of project progress and any construction activities that may cause inconvenience to local communities.
All Site Staff	Adhere to all environmental policies, requirements and procedures set out in the Second Iteration EMP and supporting management plans, with the objective of reducing impacts to the environment as far as possible Site personnel to receive briefings, inductions and toolbox talks to ensure awareness of and that correct environmental procedures are followed. In the case of an incident or if any environmental issues identified on site, implement control measures strictly in accordance with the Second Iteration EMP and immediately report to the PC Environmental Manager and/or any other personnel as required. 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. Register of environmental actions and commitments

3.1. Introduction

3.1.1. The Register of Environmental Actions and Commitments (REAC) is contained in Appendix A and identifies the environmental commitments included within the ES (**TR010066/APP/6.1**) to address the potential environmental effects of the Scheme. As part of this, specific actions and control measures which individual ES Chapters relied upon as part of their assessments have been defined and presented in the REAC. These measures must be implemented and complied with in full.

3.1.2. The measures outlined in the REAC have been determined to ensure compliance with different regulations such as the EIA Regulations, which require an ES to include '*a description of any features of the proposed development, or measures envisaged in order to avoid, prevent or reduce and, if possible, offset likely significant adverse effects on the environment*'.

3.1.3. The REAC will be updated by the PC as part of the Second Iteration EMP where required however any alterations must be in accordance with the principles and procedures defined in the draft DCO (**TR010066/APP/3.1**) and this First Iteration EMP. The REAC table will be 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.

3.1.4. The REAC table would be finalised at the end of construction, on completion of the Scheme, where it would inform the development of, and be included within the Third Iteration EMP. The Third Iteration EMP would be the mechanism for passing essential environmental information to National Highways and to the bodies responsible for the future maintenance and operation of the Scheme.

3.2. Guide to the REAC

3.2.1. Table 3-1 provides a summary of the purpose of each column within the REAC table.

Table 3-1. Guide to the REAC table

Column	Explanation
Reference	A unique reference given for each action or commitment relating to the discipline of relevance.
Source of Objective, Document reference	Documents of relevance to the action or commitment that should be referred to.

Column	Explanation
Objective	The objective of the action or commitment
Action / commitment (including specific location if applicable)	The necessary action or commitment needed to avoid or minimise environmental effects, as required by the ES. This includes specific references to locations as and where necessary. Where no location is given, the measure is normally one which is relevant across the Scheme (e.g. working hours).
Assumption (on which the action is based)	Any assumptions on which the action or commitment is based,
Achievement criteria or reporting/monitoring requirements	Relevant documents, consultation or other actions needed to ensure the commitment is carried out correctly, and in full.
How is the action to be implemented	How the relevant action will be secured including contractually and through the draft DCO (**TR010066/APP/3.1**)
Responsible person(s)	The person or body responsible for implementing the action or commitment.
When P = Pre-construction C = Construction O = Operation A = All	Expected timescale for when the relevant action or commitment will be adhered to and/or implemented either pre-construction, during construction, during operation or throughout the project.
Completion record	Column to be filled in by PC Project Manager once the action or commitment has been implemented in full.

3.2.2. Unless otherwise stated, the REAC table 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.

3.2.3. The REAC table 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.

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

3.2.5. The references to guidance documents within the REAC tables are not intended to be exhaustive and in preparing the Second Iteration EMP, the PC would 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

3.2.6. The REAC tables present the environmental actions and commitments for the Scheme (i.e., the essential mitigation measures). The PC would deliver the actions and commitments with the application of standard best practice or methods presented within this First Iteration EMP and mitigation measures included in the Scheme design as shown on the Environmental Masterplan (ES Figure 2.4 (**TR010066/APP/6.2**)).

3.2.7. In the event that the PC is able to:

- Define an alternative measure, or
- Refine measures included in the REAC, which would achieve the same environmental outcome at the relevant location

The PC would have to provide evidence to the Applicant that any use of alternative measures would not lead to any materially new or materially different environmental effects compared to those as presented in the ES (**TR010066/APP/6.1**).

4. Consents and permissions

4.1. Consents and agreements position statement

4.1.1. A Consents and Agreements Position Statement (**TR010066/APP/3.3**) for the Scheme sets out the Applicant's intended strategy for obtaining consents and agreements (including any licences, permits and other approvals) needed to implement the Scheme. It identifies at a high-level what consents and agreements are expected to be necessary for the Scheme together with how those consents will be obtained.

4.2. Consents and permissions

4.2.1. As outlined in the Consents and Agreements Position Statement (**TR010066/APP/3.3**), the principal consent for the Scheme will be the DCO. The DCO process provides development consent for the works and enable land acquisition, along with other consents and powers to be dealt with at the same time. It is likely that there will be a number of requirements in Schedule 2 of the draft DCO (**TR010066/APP/3.1**) that would need discharging in consultation with other bodies as required, and approved of by the Secretary of State for Transport in the prescribed durations outlined in the draft DCO (**TR010066/APP/3.1**).

4.2.2. A number of the consents included in the draft DCO (**TR010066/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 DCO. Discussions between the Applicant and the consenting bodies are ongoing. The aim is that agreement for inclusion of disapplication would be provided during the examination of the DCO application.

4.2.3. Several additional consents and permissions that may also need to be sought separately from the DCO are outlined in the Consents and Agreements Position Statement (**TR010066/APP/3.3**).

4.2.4. 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 and local authorities. These are not sufficiently developed at this stage to confirm the requirements and therefore it is not practicable to include them within the DCO.

4.2.5. The PC shall update the Consents and Agreements Position Statement (**TR010066/APP/3.3**) and include environmental consents 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.

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) consists of specific environmental data supplied by service providers, National Highways and other bodies which is collated and displayed in the Highways Agency Geographic Information System (HAGIS). 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.

5.1.2. The requirements for EnvIS for the Scheme are identified in the Asset Data Management Manual (ADMM) version 13 part 2 Requirements and additional information October 2021. This document specifies requirements for asset data management, detailed guidance, information and descriptions of each highway asset type including environmental assets. The data within EnvIS identifies the asset, location, condition and broad management requirements.

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. The ADMM states that environmental data will be collected and amended over time in a cycle of continual improvement. Achieving this continual improvement requires adherence to regular and specific data submission milestones. The two key milestones for delivery of environmental data are as part of the First Iteration EMP and Third Iteration EMP.

5.2.2. For the First Iteration EMP it's identified that for major projects such as this Scheme that new environmental data particularly for protected species, habitats and cultural heritage assets should be submitted through the EnVIS process, if any previously unknown assets are identified during surveys.

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 National Highways without confirmation that environmental data has been submitted and fully validated.

5.3. Environmental surveys

5.3.1. The following species surveys have been undertaken to inform the ES (**TR010066/APP/6.1**).

- Habitat and update survey (2022, 2023) – ES Appendix 8.1 (Biodiversity Net Gain Report) (**TR010066/APP/6.3**)
- Great crested newts (2022) – ES Appendix 8.9 (Update Great Crested Newt Report (following eDNA survey 2024)) (**TR010066/APP/6.3**)
- Reptiles (2022)
- Birds – breeding; migratory; and wintering (2022, 2023 – 2024) – ES Appendix 8.3 (Breeding Bird Report) and ES Appendix 8.11 (Wintering Bird Report) (**TR010066/APP/6.3**)
- Barn owl (2022, 2023) – ES Appendix 8.4 (Barn Owl Survey Report) (**TR010066/APP/6.3**)
- Bats (2022, 2023, 2024) – ES Appendix 8.5 (Bat Roost Report), ES Appendix 8.6 (Bat Activity Report), ES Appendix 8.7 (Bat Crossing Point Report) and ES Appendix 8.8 (Bat Hibernation Report) (**TR010066/APP/6.3**)
- Otter and water vole (2022, 2023) – ES Appendix 8.10 (Otter and Water Vole Report) (**TR010066/APP/6.3**)
- Badger (2022, 2023) – ES Appendix 8.2 (Badger Report) (**TR010066/APP/6.3**)

5.3.2. Other environmental surveys undertaken include:

- Agricultural Land Classification survey – ES Appendix 9.2 (Soil Resource Plan and Agricultural Land Classification) (**TR010066/APP/6.3**)

- Archaeological geophysical survey for below ground archaeology – ES Appendix 6.2 (Geophysical Survey Report) (**TR010066/APP/6.3**)
- Archaeological trial trenching for below ground archaeology – ES Appendix 6.4 (Archaeological Trial Trenching Survey Report) (**TR010066/APP/6.3**)
- Arboricultural survey – ES Appendix 7.4 (Arboricultural Impact Assessment) (**TR010066/APP/6.3**)
- Landscape photography surveys – ES Appendix 7.3 (Representative Viewpoints) (**TR010066/APP/6.3**)
- Groundwater monitoring – ES Appendix 9.3 (Ground Investigation Report) (**TR010066/APP/6.3**)
- Noise monitoring survey – ES Appendix 11.3 (Baseline Noise Survey Report) (**TR010066/APP/6.3**)

5.3.3. Additional surveys to be undertaken

- groundwater monitoring (ongoing)
- Pre-construction species surveys

5.3.4. Further additional surveys will be identified as detailed design progresses.

5.4. Record of condition

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 detail

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. Introduction

6.1.1. This section lists systems of recording and inspections that will be required so as to maintain an audit trail of the environmental obligations, detailed in Table 2-2 of this First Iteration EMP. This will be managed through the Quality and Safety Management Systems (QMS) and the Environmental Management System (EMS) of the PC, meeting the International Organisation for Standardisation (ISO) 14001 standards.

6.1.2. 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 for the Scheme through the corrective action system managed by the PC.

6.2. Environmental records inspections

6.2.1. The PC's Scheme Quality Administrator will ensure there is a central filing system in place for any checklists, reports and monitoring consistent with the Project QMS and EMS. Records of compliance with the requirements of the Second Iteration EMP, derived from audits and other inspections, will be held at the PC's site office. These will be available for inspection by representatives of any internal or external audit team and the Environment Agency in their statutory role.

6.3. Daily inspection check list

6.3.1. The PC as site owner will ensure environmental mitigation and staff responsibilities are made clear to Site Managers, sub-contracted staff and Site Supervisors. This will be managed through site inductions and specialist training as required. The PC shall make key staff aware of their responsibilities for undertaking routine checks of the site and equipment when necessary. It will be essential that the PC has processes and protocols in place for environmental aspects to be checked. The PC will insert their standard inspection forms and checklists that are associated with their internal EMS into the Second Iteration EMP Appendices for information.

6.3.2. On completion of inspection and checks these will be logged and corrective actions implemented by the delegated Site Manager in discussion with the PC. The log will be reviewed as part of the Applicant's reviewing and audit role.

6.4. Procedures to monitor compliance

6.4.1. An overall Scheme Record will be required as part of the Second Iteration EMP for formal and auditable records associated with implementation of the EMP.

Administration

6.4.2. The PC will be responsible for maintaining site based environmental records including coordination of environmental site checks/inspection records, monitoring (sampling, recording and subsequent actions), consents, permits, and waste transfer notes. The Appendices of the Second Iteration EMP will be live. The environmental records are to be scanned and filed electronically or filed in a hard copy of the live Second Iteration EMP (subject to the PC internal filing systems). In the case of overlap with Health, Safety, Environment and Quality (HSEQ) files, these will be cross referenced within the updated Second Iteration EMP back to HSEQ files held by the PC for any formal auditors to track and monitor compliance. This will be most likely in the case of handling and disposal of hazardous or contaminated waste and any chemicals and specialist materials subject to Control of Substances Hazardous to Health (COSHH) regulations.

Quality Management - Environmental Audit

6.4.3. As part of Quality, Environmental and Safety management systems it will be necessary for an audit to record environmental compliance. The Applicants' Project Manager will instigate regular audits to report on compliance with the contract specification, environmental best practice and site-specific method statements. This will include the review of the monitoring, recording and reporting procedures being maintained by the PC throughout the Scheme.

6.4.4. For completeness, an auditor can only review and take account of the environmental information available at the time of the audit. The outcome of an audit is to identify environmental progress of the Scheme and to issue a formal record in the form of an audit report. Any issues will be raised and dealt with at the time or a Corrective Action Request will be made for actions to be undertaken within a reasonable and timely manner.

Environmental Management Systems

6.4.5. EMS requirements will need to be maintained by contractors associated with the Scheme for the duration of their respective contracts. Contractors are required to be accredited or seeking to be accredited under ISO14001 as this indicates an understanding and implementation of an EMS for recording, monitoring and managing a Scheme.

6.4.6. The level of environmental management will be monitored to assess compliance with the Contract and environmental standards through inspections, and audits. Subject to the contract arrangements, the responsibility for maintaining correspondence and day to day records will rest with the individual organisations

and their internal systems. This includes original copies of correspondence and record copies of issued documentation together with records of subsequent changes. Copies are to be kept on site and circulated to appropriate personnel for action or information only.

Control Documents

6.4.7. All the PC Risk Assessments, Method Statements and COSHH forms must consider environmental impacts and sensitivities in addition to health and safety concerns.

6.4.8. This section will be updated prior to construction by the PC to additionally include:

- Full details of monitoring and reviewing compliance with the Second Iteration EMP, for example daily / weekly / monthly inspections and audit reports.
- Assessment criteria to identify success.
- Procedures for rectification of breaching or failings of the Second Iteration EMP measures

6.5. Maintenance and monitoring activities

Landscape and ecology

6.5.1. As stated in Requirement 4 in Schedule 2 of the draft DCO (**TR010066/APP/3.1**) a LEMP will be produced as part of the Second Iteration EMP which will outline management requirements for landscape and ecology aspects for the Scheme. The LEMP will also specify monitoring requirements for landscape and ecology during the aftercare period to ensure the successful establishment of essential mitigation.

7. Induction, training and briefing procedures for staff

7.1. Environmental training

7.1.1. The PC will be responsible for site inductions and training of all personnel including visitors, full time staff and supply chain providers. The PC will ensure that all personnel conducting environmental tasks are suitably qualified and experienced for the roles and responsibilities that they are employed to undertake.

7.1.2. The PC will work in accordance with their business management system to ensure compliance with the ISO 14001 requirements.

7.1.3. The PC environment policy statement will be clearly displayed, and all personnel will be made aware of it, along with the relevant environmental legislation and the contents of the REAC.

7.1.4. In accordance with DMRB LA 120 Environmental management plans, when prepared this section of the Second Iteration EMP is required to refine the following aspects of induction, training and briefing:

- A summary of the environmental aspects of the Scheme
- Awareness of Second Iteration EMP contents
- Site induction
- On-site training

7.2. Site induction

7.2.1. Prior to commencing work on site, all personnel will be required to attend a site induction where the PC will communicate the environmental objectives and requirements of the Scheme, as well as the responsibilities of the workforce.

7.2.2. The site induction will cover the topics relating to the environment to a level of sufficient detail for the workforce and appropriate to the work being undertaken. Topics would include but are not limited to:

- A summary of the environmental aspects of the Scheme
- An introduction to the Second Iteration EMP
- Environmental site rules
- Preventing nuisance (noise, dust, vibration and odours)
- Communication with road users, affected landowners and stakeholders
- Earthworks and excavations
- Site traffic protocols

- Spill kit use and locations
- Refuelling, mechanical repairs and site maintenance
- Chemical handling and storage
- Emergency spill procedures
- Tree root protection areas
- Waste and energy management
- Reporting of environmental observations and suggestions
- Biodiversity protection and enhancement
- Works in the vicinity of the watercourse
- Heritage and archaeology assets

7.3. On-site training

7.3.1. Those undertaking any activities that could result in an adverse environmental impact will receive additional training which shall be led by the Environmental Manager or EcoW. This training will include reference to the importance of adhering to the contents of the Second Iteration EMP and the potential consequences of departure from any specified method statements. The PC will establish a regime of toolbox talks in agreement with the supply chain. There will be a target of a minimum of one toolbox talk on an environmental topic per month with records of the attendance kept.

7.3.2. An indicative and not exhaustive list of appropriate toolbox talks is provided below. More topics will be added to the list as necessary as for the Second Iteration EMP.

- Archaeology
- Invasive species
- Protective species
- Nesting birds
- Spill control
- Soil planning and management
- Dust and air quality
- Vibration nuisance
- Waste management
- Water pollution

8. Acronyms and glossary

Table 8.1: Acronyms

Terms or abbreviation	Definition
ADMM	Asset Data Management Manual
CoCP	Code of Construction Practice
DCO	Development consent order
DHWSI	Detailed Heritage Written Scheme of Investigation
DMRB	Design Manual for Roads and Bridges
EcoW	Ecological clerk of works
EA	Environment Agency
EHO	Environmental health officer
EMP	Environmental management plan
EnvIS	National Highways environmental information system
ES	Environmental Statement
ISO 140001	International Organisation for Standardisation Standard for Environmental management systems
LEMP	Landscape and Ecology Management Plan
MCHW	Manual of Contract Documents for Highways Works
MMP	Materials management plan
PC	Principal Contractor
RAMS	Risk Assessments and Method Statements
REAC	Register of environmental actions and commitments
SoCG	Statement of Common Ground
SRN	Strategic road network
SSER	Site safety and environmental records
SWMP	Site waste management plan

Terms or abbreviation	Definition
TBT	Toolbox talk – A short presentation to the workforce on any aspect pf the Scheme including health, safety, wellbeing or environment.
UXO	Unexploded Ordnance
VMS	variable message sign
WCH	Walkers, cyclists and horse-riders
WSI	Written Scheme of investigation

Table 8.2. Glossary

Terms	Definition
Applicant	The organisation submitting the application for development consent to the Planning Inspectorate. In this case National Highways.
Application Document	A document submitted to the Planning Inspectorate as part of the application for development consent.
Development Consent Order (DCO)	A DCO is the means of obtaining permission for developments categorised as Nationally Significant Infrastructure Projects (NSIP). This includes energy, transport, water and waste projects.
Code of Construction Practice	Contains control measures and standards to be implemented by the Scheme, including those to avoid or reduce environmental effects.
Environment Agency	The Environment Agency is responsible for environmental protection and regulation in England and plays a central role in implementing the government's environmental strategy. The Environment Agency is the main body responsible for managing the regulation of major industry and waste, treatment of contaminated land, water quality and resources, fisheries, inland river, estuary and harbour navigations, and conservation and ecology. They are also responsible for managing the risk of flooding from main rivers, reservoirs, estuaries and the sea.
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.
Historic England	The public body that looks after England's historic environment. Championing historic places and helping people understand their value and care for them.
ISO 14001 Environmental Management Systems (EMS)	An ISO 14001 environmental management system (or commonly referred to as an EMS) is a structured system designed to help organisations manage their environmental impacts and improve environmental performance caused by their products, services and

Terms	Definition
	activities.
Materials Management Plan	The Materials Management Plan (MMP) identifies materials to be generated and clarifies how they will be reused. The Materials Management Plan must be approved by an independent Qualified Person (registered with CL:AIRE).
Mitigation	Measures intended to avoid, reduce and, where possible, remedy significant adverse environmental effects.
Natural England	Natural England are responsible for: • Helping land managers and farmers protect wildlife and landscapes. • Advising on the protection of the marine environment in inshore waters (0 to 12 nautical miles). • Improving public access to the coastline. • Managing 140 National Nature Reserves and supporting National Trails. • Providing planning advice and wildlife licences through the planning system. • Managing programmes that help restore or recreate wildlife habitats. • Conserving and enhancing the landscape. • Providing evidence to help make decisions affecting the natural environment.
Operation	The functioning of a project on completion of construction.
Order Limits	The land needed to carry out the proposed development.
Planning Inspectorate	The Planning Inspectorate deals with planning appeals, national infrastructure planning applications, examinations of local plans and other planning-related and specialist casework in England.
Principle Contractor	Contractor appointed to coordinate the construction phase of a project where it involves more than one contractor.
Principle Designer	A principal designer is a designer who is an organisation or individual (on smaller projects) appointed by the client to take control of the pre-construction phase of any project involving more than one contractor.
Second Iteration Environmental Management Plan	A Second Iteration EMP includes the specific measures that will be taken to control and manage the environmental impacts whilst the project is under construction that may otherwise occur for each of the environmental topics, such as noise, air quality, water resources and ecology. In addition, a description of the planned works and the general site arrangements should be included in the Second Iteration EMP. The Principal Contractor will be responsible for ensuring the measures specified within the Second Iteration EMP are implemented.
Site Waste Management Plan	SWMPs encourage the effective management of materials and ensure waste is considered at all stages of a project - from design through to completion. Although no longer a regulatory requirement in England, SWMPs are still considered to be good practice.

Terms	Definition
Soils Management Plan (SMP)	An SMP is an important part of ensuring soil sustainability during construction projects.
Third Iteration Environmental Management Plan	A management plan that contains essential environmental information needed by the body responsible for the future maintenance and operation of the asset.
Written Scheme of Investigation (WSI)	A WSI outlines known and potential archaeological features and deposits or built heritage elements on a site and suggests a structure for exploring them using the latest, most appropriate and cost-effective archaeological techniques.

9. References

Asset Data Management Manual (ADMM) v13.0 Parts 2 and 3 (in particular for Environmental Information System (EnvIS) requirements) [online] available at: https://nationalhighways.co.uk/media/biadxgzb/admmv13_part_1_data_principles_and_governance_final.pdf (accessed July 2024

Highways England (2020) Design Manual for Roads and Bridges LA 104 Environmental assessment and monitoring [online] available at: https://www.standardsforhighways.co.uk/search/0f6e0b6a-d08e-4673-8691-cab564d4a60a (accessed July 2024).

Highways England (2020) Design Manual for Roads and Bridges LA 120 Environmental management plans [online] available at: https://www.standardsforhighways.co.uk/dmrb/ (accessed July 2024).

Appendix A - Register of Environmental Actions and Commitments

Provided as a separate document

Appendix B - Relevant management plans

Outline management plans have been included in this First Iteration EMP in Appendices B.1 to B.5. These will be developed into full management plans as part of the Second Iteration EMP.

- Appendix B.1 Outline Construction Air Quality and Dust Management Plan
- Appendix B.2 Outline Construction Noise and Vibration Management Plan
- Appendix B.3 Outline Site Waste Management Plan
- Appendix B.4 Outline Landscape and Ecology Management Plan
- Appendix B.5 Outline Construction Communication Strategy
- Appendix B.6 Unexpected Archaeological Finds Protocol
- Appendix B.7 Historical Building recording Written Scheme of Investigation
- Appendix B.8 Outline Carbon Management Plan

9.1.1. The following management plans will be prepared or refined as part of the Second Iteration EMP.

- Site Waste Management Plan (SWMP)
- Materials Management Plan (MMP) (if required)
- Soil Handling Management Plan
- Construction Noise and Vibration Management Plan
- Construction Air Quality and Dust Management Plan
- Construction Communication Strategy
- Landscape and Ecology Management Plan (LEMP)
- Water Monitoring and Management Plan
- Detailed Heritage Written Scheme of Investigation (DHWSI) (Mitigation Strategy)
- Invasive Non-native Species (INNS) Management Plan
- Operational UXO Emergency Response Plan (if required)
- Unexpected Archaeological Finds Protocol
- Carbon Management Plan

9.1.2. The Outline Traffic Management Plan (**TR010066/APP/7.5**) is a separate document as part of the DCO submission. This will be developed as part of the Second Iteration EMP in parallel with the appendices listed above.

A46 Coventry Junctions (Walsgrave) TR010066

6.5 First Iteration Environmental Management Plan

Appendix B.1 Outline Air Quality and Dust Management Plan

APFP Regulations 5(2)(a)

Planning Act 2008

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

Volume 6

November 2024

Infrastructure Planning

Planning Act 2008

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

A46 Coventry Junctions (Walsgrave)
Development Consent Order 202[x]

FIRST ITERATION ENVIRONMENTAL MANAGEMENT PLAN
Appendix B.1 Outline Air Quality and Dust Management Plan

Regulation Number	Regulation 5(2)(a)
Planning Inspectorate Scheme Reference	TR010066
Application Document Reference	TR010066/APP/6.5
Author	A46 Coventry Junctions (Walsgrave), Project Team & National Highways

Version	Date	Status of Version
Rev 0	November 2024	Application Issue

Table of contents

Tables

Outline Air Quality and Dust Management Plan

1.1. Background to the plan

1.1.1. National Highways (the Applicant) has submitted an application under Section 37 of the Planning Act 2008 (the 2008 Act) to the Secretary of State via the Planning Inspectorate (the Inspectorate) for an order to grant development consent (DCO) for the A46 Coventry Junctions (Walsgrave) Scheme (hereafter referred to as 'the Scheme').

1.1.2. The Scheme involves improvements to the B4082 which runs eastwards from Clifford Bridge Road to the existing A46 Walsgrave Junction and the A46 which runs north-south to the east of Coventry.

1.1.3. This Outline Air Quality and Dust Management Plan (Outline AQDMP) sets out the generic and specific measures that will be used by the Principal Contractor (PC) to manage dust and emissions of pollutants to air generated by the construction of the Scheme, which can affect residential occupants, businesses and commercial facilities, users of the road and public rights of way network, users of open space, and sensitive ecological sites and habitats.

1.1.4. This Outline AQDMP is appended to the First Iteration Environmental Management Plan (EMP) (**TR010066/APP/6.5**). The Outline AQDMP will be updated by the PC and included within the Second Iteration EMP prior to commencement of works in accordance with Requirement 4 in Schedule 2 of the draft Development Consent Order (DCO) (**TR010066/APP/3.1**), the First Iteration EMP and the Register of Environmental Actions and Commitments (REAC), (which forms Appendix A of the First Iteration Environmental Management Plan (EMP) (**TR010066/APP/6.5**)).

1.2. Responsibilities and consent requirements

1.2.1. In relation to the control and management of dust and emissions to air the PC shall establish the appropriate roles and responsibilities for site staff in accordance with the roles and responsibilities set out in Table 2-1 of the First Iteration EMP (**TR010066/APP/6.5**).

1.2.2. Coventry City Council and Rugby Borough Council will be consulted by the PC to review the AQDMP prior to the completion of the Second Iteration EMP.

1.2.3. Construction of the Scheme must be undertaken such that data can be recorded, reviewed, and provided to the Environmental Health Officer (EHO), when requested.

1.3. Control measures

1.3.1. In order to minimise potential emissions of fugitive dust during construction, best practice measures shall be employed during the works to control fugitive dust (and hence avoid or reduce potential impacts) in compliance with Design Manual for Roads and Bridges (DMRB) LA 105 Air Quality.

1.3.2. The following control measures will be implemented across all construction works where practicable. These measures are based on those outlined by the Institute for Air Quality Management Publication Guidance on the assessment of dust from demolition and construction (Institute of Air Quality Management (2024)).

Monitoring

1.3.3. The PC would undertake daily onsite and offsite visual inspections, where receptors (including roads) are nearby, to monitor dust, record inspection results and make the log available to the relevant planning authority upon request.

1.3.4. The frequency of inspections would be increased by the person accountable for fugitive dust issues when activities with a high potential to produce dust are being carried out and during prolonged dry or windy conditions.

1.3.5. The construction team shall assess the weather forecast ahead of works which have potential for dust generation and would, where reasonably practical, reprogramme works to minimise any effects caused by the weather.

Preparing and maintaining the site

1.3.6. In preparing and maintaining the site, consideration shall be given to:

- Plan site layout so that machinery and dust causing activities are located away from receptors, as far as is reasonably practicable.
- Where deemed appropriate, set up of static dust suppression equipment or erect solid screen or barrier/bund around particularly dusty activities.
- Fully enclose specific operations where there is a high potential for dust production and the site is active for an extensive period.
- Avoid site runoff of water or mud.
- Keep site fencing, barriers, traffic management and scaffolding clean using wet methods where there is the risk of dust accumulation.
- Remove materials that have the potential to produce dust from site as soon as reasonably practical, unless being reused onsite. If they are being reused onsite, cover as appropriate.
- Cover, seed, or fence stockpiles to prevent wind whipping.

Construction activities

1.3.7. Construction activities would include the following measures to limit dust emissions, as appropriate:

- Ensure an adequate water supply on the site for effective dust/particulate matter suppression/mitigation, using non-potable water where possible and appropriate.
- Use enclosed chutes and covered skips.
- Minimise drop heights from loading shovels, hoppers and other loading or handling equipment and use fine water sprays on such equipment wherever appropriate.

1.3.8. The AQDMP to be included within the Second Iteration EMP will include details on measures to limit dust from specific construction activities and/or locations including but not limited to excavations, earthworks, and the storage and handling of materials.

Haul roads and track out

1.3.9. Track out is the movement of dust and dirt from a construction site onto the public road network, where it may be deposited and then re-suspended by vehicles using the network.

1.3.10. Haul roads are provided onsite for use by construction vehicles to access works areas. There are currently no haul roads proposed during the construction period and therefore the following measures will be provided as required and refined further in the updated AQMDP for the Second Iteration EMP.

1.3.11. The following measures would be used to limit dust emissions from track out and haul roads, as appropriate:

- Use water-assisted dust sweeper(s) on the access and local roads, to remove, as necessary, any material tracked out of the site. This may require the sweeper being continuously in use.
- Avoid dry sweeping of large areas.
- Ensure vehicles entering and leaving sites are covered to prevent escape of materials during transport.
- Inspect haul roads for integrity and instigate any necessary repairs to the surface as soon as reasonably practicable.
- Install hard surfaced haul roads, which are regularly damped down with fixed or mobile sprinkler systems, or mobile water bowsers and regularly cleaned.
- Implement a wheel washing system with rumble grids or other suitable methods to dislodge accumulated dust and mud prior to leaving the site where reasonably practicable.

- Ensure there is an adequate area of hard surfaced road between the wheel wash facility and the site exit, wherever site size and layout permit.
- Access gates to be located at least 10m from receptors where practicable.

Plant and vehicles

1.3.12. All non-road mobile machinery (NRMM) emissions (i.e. mobile machines, transportable industrial equipment or vehicles which are fitted with an internal combustion engine and not intended for transporting goods or passengers on roads) will comply with relevant NRMM regulations (see Table 1-1 below). Measures would be implemented to limit emissions from construction plant and vehicles, including the following, as appropriate:

- Construction plant, vehicles and equipment would be operated in accordance with manufacturer's guidance and would be regularly maintained and checked.
- Engines would be switched off when not in use.
- Vehicle and construction plant exhausts should be directed away from the ground and be positioned at a height to facilitate appropriate dispersal of exhaust emissions.
- The movement of construction traffic around the site would be kept to the minimum reasonable for the effective and efficient operation of the site and construction of the Scheme.
- Where stationary generators are required, ensure these are sited as far from sensitive receptors as practicable.
- The use of diesel or petrol powered generators would be reduced by using mains electricity, hybrid generators, hydrogen generators, solar panels or battery powered equipment where reasonably practicable.

Specific Site Controls

1.3.13. ES Chapter 5 (Air Quality) (**TR010066/APP/6.1**) concludes that there will be no likely significant air quality effects associated with the Scheme, provided that appropriate best practice mitigation measures are employed.

1.3.14. Additional site-specific measures, not discussed above, are set out in Table 1-1.

Table 1-1 : Additional air quality mitigation control measures

Activity	Measure
Liaison	A draft Appendix B.5 Construction Communication Strategy of the First Iteration EMP (**TR010066/APP/6.5**) has been produced and will be developed prior to construction and included in the Second Iteration EMP. This would ensure appropriate mechanisms are in place to communicate with residents to highlight potential periods of disruption. An information webpage shall be provided and kept up to date on the National Highways website to reflect construction and community liaison

Activity	Measure
	requirements. The web-page shall provide up-to-date information on the progress of the construction works, areas affected by construction, and mitigation in place to reduce effects. The communication strategy shall minimise the likelihood of complaints. Residents shall be provided with a point of contact for any queries or complaints, which will also be displayed at site entrances where practicable. The Community Liaison Manager role is described in the First Iteration EMP (**TR010066/APP/6.5**).
	Regular liaison would be undertaken with the relevant local authorities, to include discussing any complaints that had been received.
Site management	Record all dust and air quality complaints, identify cause(s), take appropriate measures to reduce emissions in a timely manner, and record the measures taken.
	Make the complaints log available to the relevant planning authority upon request
	Record any exceptional incidents that cause dust and/or air emissions, either on-site or off-site, and the action taken to resolve the situation in the logbook.
	If applicable, hold regular liaison meetings with other high-risk construction sites within 500m of the site boundary, to ensure plans are co-ordinated and dust and particulate matter emissions are minimised. In particular, an understanding of potential interactions of the off-site transport/deliveries which might be using the same strategic road network routes will be established.
Monitoring	The PC would be legally obligated to consider dust suppression measures in line with the dust risk potential of the Scheme. The need for dust monitoring will be discussed by the PC with Coventry City Council and Rugby Borough Council. Site Supervisors would visually monitor dust and record in site diary. Monitoring is not required for construction and operational traffic emission sources of air pollution, as this assessment has concluded there would be no significant effects. On this basis, there is no requirement for developing a forward monitoring and evaluation plan.
Preparing and maintaining the site	Plan site layout so that machinery and dust causing activities are located away from receptors, as far as is reasonably practicable. Consider best practical means for covering, seeding or fencing stockpiles.
Operating plant and equipment and Sustainable Travel	Operate stationary generators within manufacturer guidelines, under optimum load for periods of operation and regularly service equipment to maintain efficient operation.
	With reference to Rugby Borough Council's Air Quality Supplementary Planning Document (SPD) (Rugby Borough Council, 2021), NRMM of net power between 37kW and 560kW will be required to meet the engine emissions standards in EU Directive 97/68/EC and its subsequent amendments. This will apply to both variable and constant speed engines for both NO_x and PM.

Activity	Measure
	For the Scheme, this means that all NRMM will be required to meet Stage IV of the Directive as a minimum. All eligible NRMM should meet these standards unless it can be demonstrated that the machinery is not available or that a comprehensive retrofit to meet both PM and NO_x emission standards is not feasible.
	Minimising speed limits on site and haul roads.
	Where reasonably practical support and encourage sustainable travel (such as, public transport, cycling, walking, and car-sharing).
Waste management	Avoid bonfires and burning of waste materials.
Demolition	Ensure effective water suppression is used during the demolition of the wall. Handheld sprays are more effective than hoses attached to equipment as the water can be directed to where it is needed. In addition, high volume water suppression systems, manually controlled, can produce fine water droplets that effectively bring the dust particles to the ground.
	Bag and remove any biological debris or damp down such materials before demolition.
Earthworks	Re-vegetate earthworks and exposed areas/soil stockpiles to stabilise surfaces (or other suitable methods).
	Stockpiles to be sealed / graded where practicable to reduce surface area and roughness to reduce wind blown dust.
	Exposure of areas will be timed accordingly to avoid large unnecessary open areas.
Construction	Only use cutting, grinding or sawing equipment fitted or in conjunction with suitable dust suppression techniques such as water sprays or local extraction (for example, suitable local exhaust ventilation systems).
	Ensure equipment is readily available on site to clean any dry spillages and clean up spillages as soon as reasonably practicable after the event using wet cleaning methods.
	For small supplies of fine powder materials ensure bags are sealed after use and stored appropriately to prevent dust.
	Scabbling will be avoided.
Track out	Produce a log of haul routes
	In locations without hard standing, it may be necessary to clean the vehicle bodies in addition to wheels.

1.4. References

Institute of Air Quality Management (2024). Guidance on the assessment of dust from demolition and construction (Version 2.2). Accessed August 2024. https://iaqm.co.uk/wp-content/uploads/2013/02/Construction-Dust-Guidance-Jan-2024.pdf

Standards for Highways (2019). Design Manual for Roads and Bridges: LA 105 Air Quality. Accessed June 2024 https://www.standardsforhighways.co.uk/search/af7f4cda-08f7-4f16-a89f-e30da703f3f4

Rugby Borough Council. (2021). Air Quality Supplementary Planning Document 2021. Accessed March 2024. Microsoft Word - Website Air Quality SPD (rugby.gov.uk)

A46 Coventry Junctions (Walsgrave)
Scheme number: TR010066

6.5 First Iteration Environmental Management Plan
Appendix B.2 Outline Noise and Vibration Management Plan

APFP Regulations 5(2)(a)

Planning Act 2008

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

Volume 6

November 2024

Infrastructure Planning

Planning Act 2008

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

A46 Coventry Junctions (Walsgrave)
Development Consent Order 202[x]

FIRST ITERATION ENVIRONMENTAL MANAGEMENT PLAN
Appendix B.2 Outline Noise and Vibration Management Plan

Regulation Number	Regulation 5(2)(a)
Planning Inspectorate Scheme Reference	TR010066
Application Document Reference	TR010066/APP/6.5
Author	A46 Coventry junctions (Walsgrave) Project Team, National Highways

Version	Date	Status of Version
Rev 0	November 2024	Application Issue

Table of contents

Tables

1. Introduction

1.1.1. This Noise and Vibration Management Plan (NVMP) incorporates the measures and procedures for the management and monitoring of noise and vibration arising from the construction works on the A46 Coventry Junctions (Walsgrave) (hereinafter referred to as 'the Scheme'). The requirements for this NVMP are set out in Chapter 11 (Noise and Vibration), of the Environmental Statement (ES) (**TR010066/APP/6.1**). Full details of the Scheme are provided in ES Chapter 2 (The Scheme) (**TR010066/APP/6.1**).

1.1.2. This NVMP identifies the methods by which noise and vibration sensitive receptors (NVSRs), including residential properties; heritage NVSRs (listed buildings) and ecological areas will be protected during the construction of the Scheme.

1.1.3. This NVMP details the management and monitoring processes to be introduced across all works sites. Where required, this includes:

a) integration of noise control measures into the preparation of all method statements for the works;
b) screens or bunds that will provide acoustic screening during construction;
c) procedures for the installation of noise insulation or provision of temporary re-housing and to ensure such measures are in place as early as reasonably practicable;
d) noise and vibration monitoring protocols including monitoring locations, stages during construction at which monitoring will be undertaken, and methods of publishing the results:
e) details of inspection and maintenance schedules to be undertaken;
f) processes to ensure ongoing compliance with all controls and consent for the works; and
g) process for implementing corrective actions that may be required to avoid or address a potential non-compliance

1.1.4. This NVMP provides further detail on the principles for noise and vibration management as outlined in the following documents contained within the Development Consent Order (DCO) application:

a) ES Chapter 11 (Noise and Vibration) (**TR010066/APP/6.1**)
b) The First Iteration Environmental Management Plan (EMP) (**TR010066/APP/6.5**)

1.1.5. This NVMP aims to assist in complying with the following legislation through the appropriate guidance provided below:

a) Environmental Protection Act 1990 [1]
b) Control of Pollution Act (CoPA) 1974 [2]

c) British Standard (BS) 5228 – Code of Practice for noise and vibration control on construction and open sites – Parts 1 [3] and 2 [4]
d) ISO 4866 (2010) Mechanical vibration and shock. Vibration of fixed structures. Guidelines for the measurement of vibrations and evaluation of their effects on structures [5]; and
e) BS 7385 Evaluation and measurement for vibration in buildings – Part 2: Guide to damage from ground borne vibration [6].

1.1.6. Section 71, Part III of the CoPA refers to the preparation and approval of codes of practice for minimising noise which would also apply to vibration. The current, June 2014, version of BS 5228-1:2009+A1:2014 is one such code as ratified by The Secretary of State. Part 1 relates to noise; Part 2 relates to vibration.

1.2. The Scheme

1.2.1. The Scheme includes the following components:

a) ecological mitigation works
b) vegetation clearance
c) construction of highways and structures
d) statutory undertaker diversions

1.2.2. A summary of the Scheme activities is provided below. A more detailed description of the Scheme is provided in the First Iteration EMP (**TR010066/APP/6.5**), where applicable ecological mitigation will have been completed prior to the commencement of, or concurrently with, the works associated with the Scheme.

1.3. Structure of this document

The structure of this NVMP is as follows:

- Section 2: Working hours
- Section 3: Noise and vibration control measures
- Section 4: CoPA Section 61 applications
- Section 5: Noise insulation and temporary rehousing
- Section 6: Vibration criteria
- Section 7: Monitoring of noise and vibration
- Section 8: Auditing, reporting and NVMP revisions
- Section 9: Public notifications and communication

2. Working hours

2.1.1. The control of working hours is a fundamental means of controlling noise and vibration impacts on people. The working hours for the Scheme are set out in reference NV1 of the Register of Environmental Actions and Commitments (REAC) (Appendix A of the First Iteration EMP(**TR010066/APP/6.1**)).

2.2. Core working hours

2.2.1. The core working hours for the Scheme:

a) 07:00 – 19:00 Monday to Friday; and
b) 07:00 – 14:00 Saturday.

2.2.2. To maximise productivity, a period of up to one hour before and up to one hour after normal working hours may be used for start-up and close down of activities. This will include, but not be limited to, deliveries, movement to place of work, unloading, maintenance and general preparation works. These periods will not be considered an extension of core working hours.

2.3. Additional working hours

2.3.1. The principal contractor (PC) is able to undertake work within the existing highway boundaries during nighttime, 19.00-07.00, Sunday and/or bank holiday working for reasons of safety or operational necessity and this may involve consecutive nights' work over weekends and may on occasion involve longer durations. Activities outside core working hours that could give rise to disturbance will be kept to a reasonably practicable minimum.

2.3.2. Certain works will be required to be undertaken outside of the standard working hours as well as on Sundays and bank holidays with consent. Additional working hours will be required for the following example activities:

• Installation, maintenance, and removal of traffic management layouts.

• Any potential movements of large transporters to deliver bridge superstructures and gantry steel sections to their temporary and permanent locations.

• Piling works for structures and retaining walls.

• Removal, modification, and installation of new signage/technology to existing gantries and traffic signs.

• 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 on the existing carriageway.
- Online pavement construction 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.

2.3.3. Repairs or maintenance of construction equipment that is required to be carried out outside of core working hours will normally be carried out on Sundays between 09:00 and 17:00.

2.3.4. In the case of work required in response to an emergency or which if not completed would be unsafe or harmful to the works, staff, public or local environment, Rugby Borough Council and Coventry City Council will be informed as soon as reasonably practicable of the reasons for, and likely duration of, the works. This information will also be made available to the Scheme helpline and could include incidents such as where pouring concrete takes longer than planned due to equipment failure, or where unexpectedly poor ground conditions, encountered whilst excavating, require immediate stabilisation.

2.4. Variations to core or additional hours

2.4.1. Except in the case of an emergency, for any work required to be undertaken outside of core hours (not including repairs or maintenance), an application will be made to Rugby Borough Council or Coventry City Council prior to undertaking the works. This will be recorded as a documented aggreement.

2.4.2. The approach to seeking approval for any variations to core working hours will be agreed with Rugby Borough Council and Coventry City Council.

2.5. Unscheduled overruns

2.5.1. In the event that works extend beyond the core or additional hours (or those as agreed through Section 61 or documented agreement), and/or continue due to unforeseen circumstances or an emergency, that would affect safety or engineering practicability, Rugby Borough Council and Coventry City Council will be kept informed of the nature, time, location and reasons for the overrun as soon as possible, and records kept by the site management.

2.5.2. Overruns and the reasons for these will be reviewed by National Highways, the PC and Rugby Borough Council and Coventry City Council, with the aim of reducing the potential for further unplanned overruns.

2.6. Monitoring of working hours

2.6.1. The PC site manager and/or site supervisors will monitor works areas on a daily basis to ensure compliance with working hours. Start and finish times will be recorded on the Scheme daily check sheet and kept on-site for record. Should it be identified that works extend beyond the core working hours the process identified within sections 3.3 will be followed.

3. Noise and vibration control measures

3.1. General requirements

3.1.1. General noise and vibration control measures are listed in BS 5228:2009+A1:2014 which is the primary guidance for the assessment and control of noise and vibration from construction works.

3.2. Best practicable means

3.2.1. Best practicable means (BPM) is defined in section 72 of the CoPA 1972 and section 79 of the Environmental Protection Act 1990 as those measures which are:

"Reasonably practicable having regard among other things to local conditions and circumstances, to the current state of technical knowledge and to the financial implications".

3.2.2. The PC will implement mitigation in the following order:

a) BPM, as defined above, including:

i. Noise and vibration control at source; for example, the selection of quiet and low vibration equipment, review of construction methodology to consider quieter methods, location of equipment on site, control of working hours, the provision of acoustic enclosures and the use of less intrusive audible warnings such as broadband vehicle reversing alarms

a. screening: design and use of acoustic screening measures where practicable and necessary, to include site hoardings, acoustic barriers, acoustic enclosures, acoustic housing for plant and temporary stockpiles. Such measures can be particularly appropriate for stationary or near-stationary plant. Barriers will be located as close to the plant or receiver as possible

b) should the application of BPM at source or by screening not prove effective and noise exposure exceeds the relevant trigger level (as defined in BS 5228-1, Table E.2), OIL may offer:

i. noise insulation; or if that is not practical or effective
ii. temporary re-housing

3.2.3. Relevant recommendations of BS 5228-1:2009+A1:2014 and BS 5228-2:2009+A1:2014 will be implemented, together with the specific requirements of this management plan.

3.3. Noise and vibration control measures

3.3.1. General control measures would include:

- Ensure the proposed plant noise emissions are similar or below the preliminary construction plant noise levels used within this assessment; and that the plant is the quietest available for the proposed use.
- Ensure equipment is maintained, in good working order, and is used in accordance with the manufacturer's instructions.
- Use equipment that is fitted with silencers or mufflers where available.
- Manage deliveries to prevent queuing of site traffic.
- Do not leave plant running unnecessarily.
- Plant and equipment will be shut down when not in use.
- Plant with highly directional sound emissions shall be angled so that the direction of highest sound emissions does not face towards receptors where possible.
- Alternative reversing warning systems (such as white noise alarms) shall be employed.
- Materials to be lowered instead of dropped from height.
- Advise members of the construction team during toolbox talk briefings on quieter working methods.
- Any fixed plant such as generators shall be positioned at least 20m from nearest receptor and shall have temporary/mobile noise screens erected around them where possible.
- Review of construction programme and methodology to consider low noise/low vibration methods (including non-vibratory compaction plant where required).
- Optimal location of equipment on site to minimise noise disturbance.
- The provision of acoustic enclosures around static plant, where necessary.
- Use of less intrusive alarms, such as broadband vehicle reversing warnings.
- Consider setting time restrictions on certain noisy and vibratory activities such as earthworks and surfacing in sensitive areas.
- Compliance with the working hours.
- Loading/unloading activities will be located away from residential properties and shielded from those properties, where practicable, the bunding (soil stockpiles) and fencing or screening proposed at any construction compounds will be effectively maintained to help to attenuate noise.
- Plant will be started up sequentially rather than all together.
- Equipment will be well-maintained and, where possible, will be used in the mode of operation that minimises noise and/or vibration.

- All appropriate personnel will be instructed on BPM measures to reduce noise and vibration as part of their induction training, and followed up by 'tool box' talks.
- No start-up or shut down of vibratory plant e.g. rollers or compactors, within 50m of receptors.

3.3.2. The PC will provide plant and access route information including traffic management plans/arrangements and anticipated vehicle movements for all site areas as the detail develops. The PC is currently engaging with traffic management and earthwork contractors to finalise.

3.4. Specific measures

3.4.1. There are a number of locations where residential properties have been identified as experiencing moderate or major impacts without mitigation during construction. These are identified in Table 11-13 ES Chapter 11 (Noise and Vibration) (**TR010066/APP/6.1**). Mitigation in these areas will be centred around:

- Planning of appropriate plant
- Programming works
- Communicating with the affected resident
- Installation of temporary noise screens or if appropriate, the installation of acoustic screens for longer durations
- The provision of noise insulation

3.4.2. Should any additional measures be agreed between the PC and the residents of these properties, a site-specific Risk and Method Statement (RAMS) will be produced which contains references to these.

4. Section 61 Consent applications

4.1. Introduction

4.1.1. It is not considered likely that Section 61 consents will be required in relation to the Scheme; however, should the need be identified, the PC will submit applications for Section 61 consents, variations and dispensations under the Control of Pollution Act 1974 (CoPA) for all construction activities which are required to be undertaken outside of the core working hours set out in Section 2, unless otherwise agreed with Rugby Borough Council and Coventry City Council. The full Section 61 process under the CoPA is illustrated in BS 5228-1:2009+A1:2014 at Figure A.1 on page 28 of that document.

4.1.2. The PC will be required to demonstrate in the Section 61 application that BPM, as defined under Section 72 of the CoPA, are employed at all times for all activities, to minimise noise and vibration effects.

4.2. Implementation

4.2.1. Where a Section 61 consent is to be sought, before starting any construction activities, the PC will prepare and submit to Rugby Borough Council or Coventry City Council information which will include:

a) an outline of the proposed construction methods, types and numbers of plant to be used, and percentage on-time,
b) definition of the working hours required and a justification for the working hours sought,
c) a work programme which identifies the location and duration of each noise and/or vibration generating activity,
d) the sound power levels, or sound pressure level at 10 m, for each item of plant for each relevant activity,
e) appropriate (in terms of noise/vibration level, duration and working hours) justification that the method and plant proposed demonstrates that BPM has been employed to control noise and vibration impacts,
f) predicted noise and vibration levels at specified locations supported by calculations following the methodology in BS 5228-1:2009+A1:2014 for noise and BS 5228-2:2009+A1:2014 for vibration, the likely effects of these levels on affected NVSRs, and the likely durations of these effects,
g) all steps to be employed to minimise noise and vibration during the works,
h) proposals for noise and vibration monitoring including frequency, locations relative to each work site, reporting proposals etc., and
i) proposals for the notification of receptors affected by works.

4.2.2. The number, extent (geographically and in terms of construction activities) and duration of Section 61 applications will be the subject of timely consultation between the PC and Rugby Borough Council and Coventry

City Council. Draft applications will be submitted to either Rugby Borough Council or Coventry City Council for discussion and agreement well in advance of any initial works commencing. Applications will be submitted in the format as shown in Appendix C. The PC will endeavour to submit applications in as timely manner as possible, taking into consideration the dynamic nature of the works which may require an application for consent.

4.2.3. The Councils are required to inform the PC of its decision within 28 days of the final application being received. If this does not occur, then there is an appeals process.

4.2.4. Typical generic and more specific noise and vibration control measures to be employed are included in Section 3 of this NVMP and will be adopted where applicable.

4.2.5. Notification of the start of works and the provision of advanced information to local stakeholders is a key part of mitigating the effect of noise and vibration.

4.3. Dispensations/variations

4.3.1. In the event that works (for which a Section 61 consent has been applied or consented) have to be rescheduled or modified (e.g., method or working hours) for reasons not envisaged at the time of the application submission, the PC will apply for a dispensation or variation from Rugby Borough Council or Coventry City Council in advance of the start of those works. The dispensation will be sought by means of an application for a variation to the agreed matters, setting out the revised construction programme or method and the relevant noise calculations.

4.3.2. Where the rescheduling relates to work of a more urgent or critical nature (such as a key activity likely to delay another key activity or activities), the PC will apply to Rugby Borough Council or Coventry City Council using the Section 61 process. This change application will be issued up to seven days (but at least two working days) before the start of those works.

4.3.3. The PC will maintain an up to date log of all relevant agreed hours and controls on working. This will incorporate any changes to working hours or practices set out in this NVMP which have been agreed through the Section 61 process.

4.4. Unscheduled overruns

4.4.1. Refer to Section 2.5 for the unscheduled overruns procedure.

5. Noise insulation and temporary re-housing

5.1.1. It is considered likely that noise insulation and temporary re-housing will be required in relation to limited works in the vicinity of Hungerley Hall Farm. Should the need be identified, the PC will offer noise insulation or temporary re-housing to qualifying parties when:

a) noise levels are predicted or measured to exceed the relevant trigger level (as defined in BS 5228-1, Table E.2, and summarised in Table 5-1) for at least 10 days out of any period of fifteen consecutive days or alternatively 40 days in any six-month period at affected properties
b) the property is lawfully occupied as a permanent dwelling
c) with regards to offering noise insulation only, noise insulation does not already exist that is of an equivalent standard to that which would be allowed for under the Noise Insulation Regulations 1975 (as amended)

5.1.2. Noise insulation and or temporary re-housing (or the reasonable costs thereof against agreed bills) will be offered to owners, or to owners or legal occupiers where an application for noise insulation and or temporary re-housing is accepted.

5.1.3. This represents additional protection for a residential property in the event that it is not practical to mitigate construction noise on site or reduce construction noise to tolerable levels.

5.1.4. Affected parties will be notified in advance of the commencement of works which may cause the relevant trigger levels to be exceeded. The acceptance of the offer of noise insultation or temporary rehousing would be voluntary.

5.1.5. The offer of noise insultation and temporary rehousing is primarily applicable to residential buildings. However, the PC will consider all applications supported by evidence for noise insulation or temporary rehousing from occupiers who may have special circumstances. Special circumstances could include night workers, those working in home occupations, local businesses or buildings that provide community facilities requiring a particularly quiet environment and those with a medical condition which will be seriously aggravated by construction noise and provide noise insulation or temporary re-housing where it is demonstrated that this is necessary.

5.1.6. The PC will inform Rugby Borough Council and Coventry City Council and owners / occupiers should it be identified that noise insulation or temporary re-housing is required.

Table 5-1 : Noise trigger levels for noise insultation and temporary re-housing

Time	Relevant time period	Averaging time, T	Noise insulation trigger level, dB $L_{Aeq, T}$	Temporary re-housing trigger level, dB $L_{Aeq, T}$
Monday to Friday	07:00 – 08:00	1 h	70	80
	08:00 – 18:00	10 h	75	85
	18:00 – 19:00	1 h	70	80
	19:00 – 22:00	3 h	65	75
	22:00 – 07:00	1 h	55	65
Saturday	07:00 – 08:00	1 h	70	80
	08:00 – 13:00	5 h	75	85
	13:00 – 14:00	1 h	70	80
	14:00 – 22:00	3 h	65	75
	22:00 – 07:00	1 h	55	65
Sunday and Public Holidays	07:00 – 21:00	1 h	65	75
	21:00 – 07:00	1 h	55	65

Note 1) Equivalent continuous A-weighted noise level predicted or measured at a point 1 m in front of the most exposed windows or doors leading directly to a habitable room (living room or bedroom) in an eligible dwelling, due to construction noise only

Note 2) Where the current ambient noise level is greater than the noise insulation trigger level

i. the ambient noise level +5 dB shall be used as the noise insulation trigger level

ii. the ambient noise level +10 dB shall be used as the temporary rehousing trigger level

6. Vibration criteria

6.1.1. The PC will take into account the following guidance when establishing criteria, controls and working methods for vibration management:

a) BS 5228:2009-2+A1:2014 Code of practice for noise and vibration control on construction and open sites
b) ISO 4866: 2010 Mechanical vibration and shock. Vibration of fixed structures. Guidelines for the measurement of vibrations and evaluation of their effects on structures
c) BS 7385 - 2 Evaluation and measurement for vibration in buildings – Part 2: Guide to damage levels from ground borne vibration

6.2. Protection of building occupants from disturbance

6.2.1. The PC will refer to BS 5228-2 for guidance levels in terms of Peak Particle Velocity (PPV). If predicted vibration levels exceed 1 mms^{-1} component PPV at occupied residential buildings based on the prediction methodologies in BS 5228-2, Rugby Borough Council and Coventry City Council and those potentially affected will be notified as soon as practicably possible in advance of the works. The notification will describe the nature and duration of the works and any associated proposals for vibration monitoring in the event that it is required.

6.3. Protection of buildings from damage

6.3.1. The PC will use BPM to control vibration levels so that the PPV, as measured in accordance with BS 7385-2 Evaluation and measurement for vibration in buildings – Part 2: Guide to damage levels from groundborne vibration, are generally not exceeded. The PC will carry out a scoping vibration appraisal to determine whether the trigger level of 6 mms^{-1} is likely to be exceeded. Activities requiring an appraisal could include vibratory compaction, impact or vibratory piling and other driven processes.

6.3.2. The PC will notify and consult Rugby Borough Council and Coventry City Council regarding any works predicted to generate a PPV above 6 mms^{-1}. Where it is determined that there is no reasonable or practicable means to reduce predicted or measured vibration then the PC will:

a) agree and consult with Rugby Borough Council and Coventry City Council regarding monitoring for vibration and strain induced in the building during the works;
b) consult occupiers of properties about:

    i. the surveys to be carried out and any consequent actions; and
    ii. any additional reasonable and practicable mitigation to be provided for occupants; and

c) carry out a condition survey before and after the relevant work.

6.3.3. The PC will identify any buildings that may be unusually vulnerable to vibration, that are located within 50m of any activities that may give rise to significant vibration. At this stage, Hungerley Hall Farm has been identified as potentially experiencing groundborne vibration. Where such buildings are identified, the PC will assess the predicted vibration and undertake an initial structural survey of the building. Based on the survey, the level of vibration above which condition surveys and continuous vibration monitoring are required will be confirmed with the building owner and Rugby Borough Council and Coventry City Council.

6.3.4. Best Practicable means employed include:

- Checking that noise and vibration management procedures and practices are sufficient to ensure that significant adverse effects are avoided.
- Verification that specific noise and vibration mitigation measures are in place for activities where there is potential for likely significant effects to occur in their absence.
- Measurement of vibration during bulldozer, compaction, or vibratory rolling works where these occur within 50m of vibration sensitive receptors.
- Measurement of vibration during construction works which occur within 11m of Listed structures at Hungerley Hall Farm

7. Monitoring of noise and vibration

7.1. Introduction

7.1.1. In accordance with reference NV1 of the REAC (Appendix A of the First Iteration EMP (**TR010066/APP/6.1**)). OIL will undertake and report noise and vibration monitoring of works sites to ensure and demonstrate compliance with all noise and vibration commitments and the requirements of this NVMP.

7.1.2. Monitoring will include regular onsite observation monitoring and checks/audits to ensure that BPM is being employed at all times. The site reviews will be logged and any remedial actions recorded. Such checks will include:

a) compliance with hours of working;
b) presence of mitigation measures e.g. engines doors closed, airlines not leaking, and site hording in place:
c) number and type of plant;
d) compliance with agreed working methods; and
e) compliance with any specific requirements of this NVMP.

7.2. Monitoring locations and frequency

7.2.1. Daily observational monitoring of BPM will be undertaken by the Site Manager / Site Supervisors at all works locations and recorded on the proforma within Appendix B.

7.2.2. At this stage, no site-specific monitoring is proposed above the monitoring process described within this Chapter. Should the need for additional monitoring be required, OIL will consult with the affected NVSR and Rugby Borough Council and Coventry City Council to identify the appropriate location and methodology.

8. Reporting and NVMP revisions

8.1. Reporting

8.1.1. Performance in implementing this NVMP and the occurrence of incidents will be reported monthly to National Highway's project management team, together with the lessons learned for incident prevention and control.

8.2. NVMP revisions

8.2.1. Where checks, audits or other observations generate improvements to this NVMP, they shall be submitted to the PC's Environmental Manager to form an addendum. With reference to REAC item NV1, should any updates to this NVMP be deemed material, the PC will consult with Rugby Borough Council and Coventry City Council. The addendum will be subject to appropriate approval by National Highways and once approved, will be circulated to all holders of the NVMP.

8.2.2. It is not permitted that changes significantly 'downgrade' any measures identified within this document without re-consultation of stakeholders.

9. Public notifications and communications

9.1.1. National Highways provides the overall leadership for external communications and stakeholder and community engagement.

9.1.2. The PC, where required and on request, will provide information regarding the works to National Highways.

9.1.3. National Highways will coordinate the notification of parties affected by planned works and any measures to mitigate impact.

9.1.4. In the case of works required in response to an emergency, Rugby Borough Council and Coventry City Council, local residents and any other potentially affected stakeholders will be advised, within an agreed timeframe with National Highways, that emergency works are taking place.

9.1.5. The PC will provide personnel and resources needed to deliver the communications, stakeholder and community activities associated with the Scheme and will support the National Highways in delivering the Scheme communications, stakeholder and community outcomes.

Abbreviations list

BPM	Best Practicable Means
CEMP	Construction Environmental Management Plan
CoPA	Control of Pollution Act
CRM	Community Relations Manager
DB	Decibel
DCO	Development Consent Order
EM	Environmental Manager
ES	Environmental Statement
NI	Noise Insulation
NVMP	Noise and Vibration Management Plan
NVSR	Noise and Vibration Sensitive Receptor
PM	Project Manager
PPV	Peak Particle Velocity
RAMs	Risk and Method Statement
TRH	Temporary Re-housing

References

[1] The Stationary Office Limited, “Environmental Protection Act, Chapter 43, Part III,” 1990.

[2] The Stationary Office Limited, “Control of Pollution Act, Chapter 40, Part III,” 1974.

[3] Bristish Standards Institution, “BS 5228-1+A1. Code of Practice for noise and vibration on construction and open sites - Noise.,” London, 2014.

[4] British Standards Institution, “BS 5228-2+A1Code of practice for noise and vibration control on construction and open sites - Vibration,” London, 2014.

[5] International Standards Organisation, “ISO 4866:2010 Mechanical vibration and shock. Vibration of fixed structures.,” 2010.

[6] British Standards Institution, “BS 7385-2: 1993 Evaluation and measurement for vibration in buildings – Part 2: Guide to damage levels from ground borne vibration,” London, 1993.

Appendix A - Section 61 Application Template

Section 61 Consent Application

Site/Project Identification/Name

CONTROL OF POLLUTION ACT 1974

Application Form for Section 61 Consent

Submission No:	
Local Authority Reference:	

To XXX Council

I/WE HEREBY MAKE APPLICATION for prior consent under Section 61 of the Control of Pollution Act 1974 for works intended to be carried out on the site specified below.

Signed

……..

Responsible Person
Role
Company

Date: ……

Name and address of applicant:

Company
Address

Telephone No:

Section 61 Consent Application

1. Name, address and telephone number of main contractor and main site contact	*Include details of appointed person responsible for Section 61application (e.g. Environmental Manager) and contact with authority on site (e.g. Site Manager)*
2. Address or location of proposed works	*Include location on site map and nearest postcodes*
3. Site Plan	*Include location of nearest receptors (and sensitive receptors e.g. schools, hospitals, care homes, etc.)* *Liaise with LA to identify area-specific sensitive receptors.*
4. Particulars of works to be carried out	*Presentation of the works in a simple and concise way detailing the activities to be undertaken. The need for the works should be explained and justified* *Example:* *The works covered by this application comprise:* ☐ *Trial pits* ☐ *Boreholes* ☐ *Soil Nail Testing* ☐ *Tree removal / Devegetation works along the length of the works area* ☐ *Structural Investigation (Coring)*
5. Methods to be used in each stage of development	*Detail the methods of working for each activity in a simple a concise way. Method Statement to be provided on request.* *Example:* *- Trial pits* *Hand excavated trial holes to confirm rock head.* *- Boreholes* *Ground investigation boreholes varying in depth from 15 to 30m deep will be drilled using a 3 tonne, 4m tall, rotary borehole rig (with in-built diesel generator). A Recirculation pump (with in-built diesel generator) will be used. Rig delivered to working area by land rover. Window sampler using a small rig.* *- Test Soil Nails* *Installation of grout bonded steel soil nails and subsequent load testing to validate design of permanent works. Installation with a 4m drilling mast attached to a 3 tonne excavator. A Grout mixer and water bowser will be used. Equipment delivered by a low loader.* *- Structural Cores* *Small diameter concrete / masonry coring to verify thickness of abutment masonry, condition of abutment backfill and extent of bridge foundations, carried out using hand tools. Task lighting towers will be used. A small generator will*

Section 61 Consent Application

	be required. *- Vegetation clearance* *Clearance of brambles and vegetation using hand held strimmers / brushcutters. Tree felling with chainsaws and removal by a forestry forwarder. Chipping on site of small arisings and grading and sorting of timber for removal and disposal.*
6. Programme	*Level of details depending on information available at the time of application:* *<u>Example:</u>* *a. Site Establishment – 20/11/22* *b. Establish Traffic Management – 17/11/22* *c. Remove East Parapet – 29/11/22* *d. Saw cut deck and reduce levels – 10/12/22* *e. Demolish existing bridge deck – 25/12/122 (2 days)* *f. Install new bridge – Mid/Late Jan* *g. Waterproofing – Late Jan/Early Feb* *h. Surfacing works – Late Jan/Early Feb* *i. Temporary structures to be removed (Mid Feb)* *j. Demobilise – 01/04/23* *If specific dates are not available at the time of application provide estimated start date, end date and duration of each activity.*
7. Hours of Work	*State that normal working hours will be adhered to unless not practicable.* *<u>Example:</u>* *To minimise disturbance, normal daytime working hours will be adhered to. Normal working hours are:* ***Monday to Friday 07.30 – 18.00*** ***Saturday 07.30 – 13.00*** *In addition a start up period of up to one hour before normal hours and a close down period up to one hour after normal hours will be required. The start up and close down periods will be carried out as close to the start/end of normal working hours as possible.* *Clearly explain the reasons for working outside normal working hours (e.g. under possession).* *Detail the activities to be undertaken outside normal working hours and on weekends*
8. Number, type and make of equipment and machinery (including heavy vehicles) stating sound power levels	*Provide a table showing the plant and equipment to be used for each activity, the related sound power levels LwA or sound pressure level at 10 m (to be used for noise predictions) and percentage on-time*

Section 61 Consent Application

9. Predicted noise levels	*Provide detailed noise predictions at nearest receptors using appropriate calculation methodologies.* *Provide an assessment of the likely noise impact using noise thresholds defined in BS5228: Code of Practice for the Control of Noise on Construction and Open Sites (Table E.1 and E.2).* *Compare predictions with noise thresholds and provide findings of the assessment in this section.* *Provide results of monitoring (if available) to support the findings of the assessment.* *Example:* *Assessment Conclusions:* *The noise criteria that will apply to all construction works is 75 dB LAeq,10h during weekdays 0800 – 1800 hrs. The noise criteria that will apply to night time works is 55 dB LAeq,1h during 22:00 – 07:00 hrs. From the noise predictions, no single activity will exceed the criteria.*
10. Proposed steps to minimise noise and vibration	*Using the findings of the noise assessment above detail the measures identified to minimise impact using BPM (e.g. acoustic screening, change of plant/equipment, change of methodology, change or restrictions to working hours) and justify when deemed not practicable by providing rational behind the decision (e.g. based on cost, time and effort).* *These steps should follow a mitigation hierarchy e.g. Eliminate, Substitute, Isolate, Control.* *Include generic BPM to minimise noise (e.g. no shouting, switch off noisy plant and equipment when not required, etc.).* *Detail how BPM will be implemented to prevent cosmetic damage to buildings caused by vibrations.* *Demonstrate that BPM is being used in order to allow Wiltshire Council and the Applicant/ Contractor to promptly respond to complaints.*
11. Monitoring	*Specify methodology and frequency.* *Include vibration monitoring if identified as a potential risk of disturbance to occupants or damage to nearby structures.*
12. Liaison and Communication	*Detail residents notification process (i.e. letter drop), notice and notification radius (200m as*

Section 61 Consent Application

	standard but can be re-evaluated based on noise predictions to increase or reduce the area notified). When potential to impact a large area alternative communication method will be considered (e.g. drop in event, media, website). *Detail complaints management process (i.e. report via Highways England Helpline XXXXX XX XX XX, immediate action and response within 10 days).* *Include details of contact on site for use by the Local Authority only.*
13. Dispensations, Variations and Over runs	*Provide details of how the impact of noise/vibration due to unplanned or unforeseen circumstances will be managed, for example when works may need to go beyond the construction hours you have advised.*
14. List of plans and documents attached	*If necessary*

Appendix B - Monitoring Proforma

Noise and Vibration Monitoring Pro-Forma
Observational Monitoring

Name of OIL Representative
Job Title
Location
Describe work being undertaken
RAMs Reference
Time of monitoring
Weather conditions

Identify Good Practice / Improvement Opportunitites

	Yes	No	N/A	Notes	Responsibility for actions	Time frame for actions
Compliance with working hours						
BPM in place - identify						
Number and type of plant						
Compliance with RAMs						
compliance with NVMP						

Form copied to: OIL Environment Manager / Site Manager / Subcontract Representative / OIL iGO File

A46 Coventry Junctions (Walsgrave) Scheme number: TR010066

6.5 First Iteration Environmental Management Plan

Appendix B.3 Outline Site Waste Management Plan

APFP Regulations 5(2)(a)

Planning Act 2008

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

Volume 6

November 2024

Infrastructure Planning

Planning Act 2008

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

A46 Coventry Junctions (Walsgrave)
Development Consent Order 202[x]

FIRST ITERATION ENVIRONMENTAL MANAGEMENT PLAN
Appendix B.3 Site Waste Management Plan

Regulation Number	Regulation 5(2)(a)
Planning Inspectorate Scheme Reference	TR010066
Application Document Reference	TR010066/APP/6.5
Author	A46 Coventry Junctions (Walsgrave), Project Team & National Highways

Version	Date	Status of Version
Rev 0	November 2024	Application Issue

Table of contents

Tables

Figures

1. Introduction to the Outline Site Waste Management Plan

1.1. Purpose of the document

1.1.1. This Outline Site Waste Management Plan (OSWMP) has been prepared to support the Development Consent Order (DCO) application for the Scheme.

1.1.2. This OSWMP identifies the strategic approach for the management of waste generated during the construction phase of the Scheme. As set out in the draft DCO Schedule 2 Requirement 4 (**TR010066/APP/3.1**), the OSWMP will be developed into a full Site Waste Management Plan (SWMP) as part of the Second Iteration Environmental Management Plan (EMP). This OWSMP has been produced using information available at the time of writing. It will be a live document as it features aspects for the Principal Contractor (PC) of the Scheme to complete as further information is obtained, including any potential changes at detailed design. Specific details that require update and/or clarification are shown in **red and bold** (unless stated that it is to be completed by the PC).

1.1.3. This OSWMP has been developed to ensure measures will be in place to minimise the generation of waste, to maximise the use of recycled materials, and to assist with the separation, sorting, recycling and recovery of waste from the Scheme.

1.1.4. The receptors likely to be subject to impacts as a result of waste generation and management are landfills and other waste management infrastructure. The potential assessment with the generation and management of waste on these receptors include:

- Utilisation and depletion of the remaining local landfill capacity, and
- Occupation of available waste management infrastructure capacity.

1.1.5. Mitigation measures will be put in place to adequately deal with waste that may be generated during construction, including hazardous waste such as heavily contaminated soils, where applicable.

1.1.6. The OSWMP aims to ensure that construction waste is managed, stored, and disposed of in an appropriate manner by approved contractors in accordance with the waste hierarchy and all relevant legislation. English and Welsh law was updated on 1 October 2020 to include changes to the Waste Framework Directive made in 2018. This was done through the Waste (Circular Economy) (Amendment) Regulations 2020. The Waste and Environmental Permitting etc (Legislative Functions and Amendment etc) (EU Exit) Regulations 2020 were laid before Parliament on 16

December 2020, to ensure that the waste and environmental permitting regimes continue to operate effectively at the end of the transition period.

1.1.7. Best practice suggests that the OSWMP approach will be applied from the early design stages and carried forward and revised throughout the Scheme delivery process. This ensures cost savings are maximised by considering waste minimisation initiatives and identifying opportunities to reduce, reuse or recycle waste materials and improve resource efficiency during the earliest design stage.

1.2. Scheme information

1.2.1. Table 1 below outlines further information on the Scheme. The PC will update Table 1 below as part of the updates to the Second Iteration EMP prior to commencement of construction.

Table 1. Scheme Information

Client	National Highways	
Person in charge of the Scheme	**TBC**	
Author of SWMP	Design stage	C Hutson
	Construction stage	C Hutson
	Operational phase	**TBC**
Scheme title	A46 Coventry Junctions (Walsgrave)	
Scheme location	A46 Walsgrave, Coventry	
Scheme construction cost (estimated)	£70,000,000	
Start date	**TBC 2026**	
Estimated completion date	**TBC 2028**	
Description of Scheme	Scheme description is detailed in Environmental Statement (ES) Chapter 2 (The Scheme) (**TR010066/APP/6.1**).	
Person responsible for waste management	Principal Contractor (Octavius Infrastructure Ltd)	

1.3. Responsibilities

1.3.1. The OSWMP has been produced before any work in relation to enabling works, excavations, and construction for this Scheme commences. Table

2 below sets out the general roles and responsibilities in preparing and implementing the SWMP.

Table 2. Responsibilities for the preparation and implementation of the SWMP

Role	Responsibilities
National Highways Project Manager	Monitor the PC's performance against the contract including any environmental commitments and targets agreed for the Scheme.
PC Project Manager	Approval of the SWMP as part of the Second Iteration EMP. Ensuring that all employees and subcontractors implement the measures outlined in the SWMP in full.
PC Environment Manager	Oversee the management of waste for the Scheme and be responsible for managing the implementation of the SWMP and ensuring compliance with relevant resource and waste legislation. Amending the OSWMP to become a full SWMP when preparing the Second Iteration EMP. Ensuring copies of the SWMP will be made available to all relevant site staff. Any updates to the SWMP will be identified to the relevant people through toolbox talks. This process will be undertaken every time the plan is updated. Ensuring that staff and subcontractors implement the measures outlined in the SWMP in full.

1.4. Key performance indicators

1.4.1. The PC would take into account the key performance indicators specified by the Waste Framework Directive, which stipulates that 70 percent of non-hazardous construction and demolition (C&D) waste, by weight, must be reused, recovered or recycled. The PC would aim to achieve a recovery rate, by weight, of 92 percent of non-hazardous C&D waste to align with UK's estimated recovery rate. Waste arising will be reused or recovered within the Order Limits, wherever economically and technically feasible, or within the West Midlands region, where the Scheme is located.

1.4.2. The PC would aim to achieve a target of at least 25 percent of the aggregates imported to the Scheme to comprise of recycled or secondary aggregates, where economically and technically feasible. This aligns with the target indicated for aggregate provision in the Design

Manual for Roads and Bridges LA 110 for Material Assets and Waste for the West Midland region. Where primary aggregate materials are mandated within DMRB they would be excluded from the target.

2. Proposals for minimisation, reuse, and recycling of waste

2.1. General measures

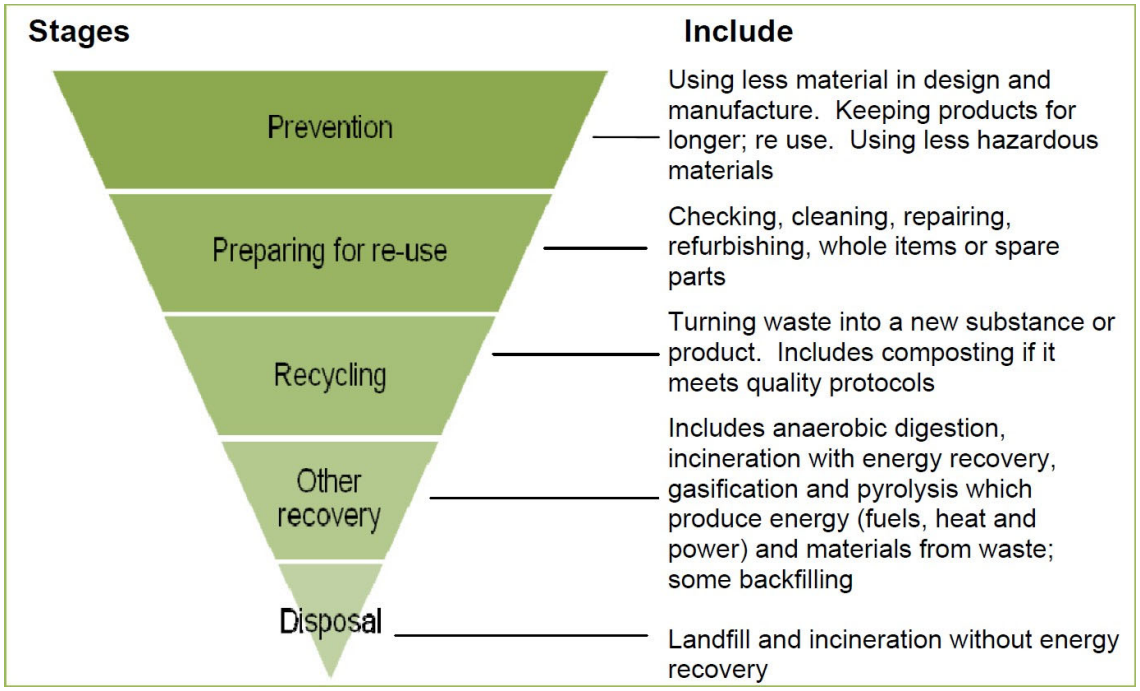
2.1.1. The OSWMP will be used to record any early decisions, design changes, construction methods or material specifications which have helped to minimise waste arisings on-site. Where applicable, the management of the use of materials and generation of waste will be in line with the key circular economy principles. While waste management should not be seen as a standalone solution to achieving the circular economy, it remains an integral part in enabling the transition to a circular economy. Circular economy is a model for the use of systems and products designed to eliminate the concept of waste, by always enabling the recovery and reuse of all materials at the highest value possible. The core principles are:

- Designing out of waste and negative externalities: Finding suitable measures to firstly avoid generating waste (prevention and minimisation), before focusing on recovering. The choice and planned use of products are considered with their end of life in mind.
- Keeping products and materials in use at the highest possible value at all times: Ensure products and materials stay within the economy without ending up in the biosphere. Strategies include renting rather than buying, repairing, remanufacturing, keeping products in use for longer by reusing, sharing, reselling, and ultimately recycling as a last alternative.
- Regenerating the natural ecosystem: Regenerate the natural ecosystems by returning valuable nutrients to the biosphere (soils, waters, and atmosphere). Biological (or organic) materials such as wood, food and water, can be incorporated into the ecosystem and re-generated through biological processes.

2.1.2. Where waste cannot be avoided the waste management hierarchy illustrates the waste management options according to what is best for the environment. It gives top priority to preventing waste in the first place. When waste is created, it gives priority to preparing it for reuse, then recycling, then recovery, and last of all disposal (for example landfill). The higher up the waste hierarchy waste is managed, the greater the cost and resource savings will be.

2.1.3. The waste hierarchy is illustrated in Figure 1.

Figure 1. The Waste Hierarchy



Source: Department for Environment, Food and Rural Affairs (Defra), 2011

2.1.4. Eliminating waste at source is the best way to make dramatic savings in waste handling and processing costs and reducing the overall impact on the environment and is one of the key principles of circular economy. This can be achieved through:

- Careful procurement of materials
- Better utilisation of materials already available on-site
- Reducing the amount of waste generated where it cannot be eliminated completely
- Reuse and then recycle as much as possible, once it is not possible to reduce the waste any further.

2.1.5. Disposal of waste to landfill or incineration (without energy recovery) will be a last resort after all the above options have been considered.

2.1.6. Waste prevention is at the top of the waste hierarchy, and this will continue to be a priority throughout the Scheme, including during construction.

2.1.7. The purpose of this OSWMP is to facilitate the implementation of circular economy and the waste hierarchy principles as set out in order of preference; the highest options will be adopted where reasonably practicable, but a combination of options will be appropriate.

2.1.8. Waste will arise mainly from the removal of vegetation, site clearance, enabling works, demolition, excavation, construction, and landscaping activities. The Scheme will require specific construction materials (such as

concrete, asphalt, geotextiles) to be imported to the site. Professional judgement, based on similar projects has been used, at a high-level, to demonstrate the potential types and quantities of waste materials produced from the Scheme. Quantities of material resources required for the Scheme, available at the time of DCO submission, have been used to identify additional potential types and quantities of waste materials.

2.1.9. The PC Environmental Manager is required to identify appropriately permitted facilities that can accept and treat the waste materials produced, in order to divert them from landfill. Actions to be taken to facilitate resource efficiency throughout the Scheme, and therefore, minimise waste produced, are detailed in the subsequent section below.

2.1.10. Potentially contaminated material will be kept separate from clean materials and sent for either recycling or recovery at appropriately permitted facilities.

2.1.11. Unsuitable waste materials will be separated, where possible, and collected in receptacles for subsequent further separation and treatment at off-site facilities.

2.1.12. In order to ensure the appropriate reuse of the materials, the earthworks will be carried out, where necessary, under a Materials Management Plan (MMP). This will be in accordance with industry adopted guidance “The Definition of Waste: development industry Code of Practice Version 2”, published by Contaminated Land Application in Real Environments (DoWCoP, CL:AIRE) in March 2011.

2.2. Construction waste

2.2.1. Common waste streams generated by construction sites and likely to be generated by these works include:

- Surplus construction materials
- Materials damaged on-site or in transit
- Hazardous materials
- Packaging materials
- Surplus demolition and excavation materials from site clearance and enabling works
- Site compound waste from canteen, accommodation and welfare areas

Demolition materials

2.2.2. There is no demolition identified within the scheme boundary.

Excavated soils

2.2.3. Any excavated materials will be carefully stored in segregated piles for subsequent reuse on the site, wherever possible. These excavated materials may be reused as deposition material for infilling, landscaping (such as creating shallow margins to enable vegetation to be established), to create flood bunds, earth bunds or backfill.

2.2.4. Any surplus materials will be removed from site for either direct beneficial use elsewhere (such as land remediation projects) or recovery at an off-site facility. Surplus excavated materials including soils, gravels, clay and man-made fill can potentially lead to significant disposal costs, if they cannot be reused on-site.

2.2.5. Excavated pavement material can be stripped, stored and later re-laid, or sent for recovery off-site.

Vegetation

2.2.6. Any vegetation removed will be chipped, where practicable, and used for landscaping or sent for composting if reuse is not possible.

Packaging

2.2.7. Any packaging waste will be source segregated for recycling or returned to suppliers, where practicable. If feasible, prefabricated material will be used and imported to site. In certain circumstances this will reduce the amount of packaging required and waste produced.

Hazardous waste

2.2.8. Hazardous wastes, including any contaminated soil arisings classed as hazardous, will be identified, kept separate from inert or non-hazardous construction waste materials, tested, and disposed of in accordance with the Hazardous Waste Regulations 2005 (as amended). Should hazardous waste and other contaminants be encountered, it will be managed and handled appropriately, kept separate and removed off-site in accordance with legislation and disposed of or treated at an appropriately permitted site by a licensed contractor in accordance with all appropriate regulation.

2.2.9. Any waste encountered arising from historical landfill operations will be segregated, tested for Waste Acceptance Criteria and disposed of to the appropriately licensed local waste facility.

Unacceptable materials

2.2.10. Other unusable construction waste materials will be collected in receptacles with mixed construction waste materials, for subsequent separation and recycling at an off-site facility.

Imported materials

2.2.11. Surplus or waste materials arise from either the materials imported to the site or those generated on-site. Imported materials are those which are brought on to the site for inclusion into the permanent works. Where possible, consideration will be made for the reuse of materials back into the Scheme, however, the Scheme will require specific materials to be imported to the site.

2.2.12. Any waste produced through the importation of materials needs to be monitored and included in the OSWMP under construction works. Where possible, the use of materials with a higher recycled content such as concrete will be utilised at the Scheme.

2.2.13. Materials will be ordered so that the timing of the delivery, the quantity delivered, and the storage is not conducive to the creation of unnecessary waste. Additional waste from imported material is likely to come from packaging materials and spillages, but these are difficult to quantify at this time.

2.3. Resource efficiency

2.3.1. Table 3 highlights some of the various resource efficiency measures that can be used to minimise waste during the site works. The table shows the responsibilities apportioned to designated personnel to ensure the measures are undertaken, where practicable. It demonstrates the decisions and actions involved in facilitating a reduction in the amount of waste and surplus materials being produced.

2.3.2. This is intended to assist in the transition from disposing waste via landfill to a cradle-to-cradle (circular economy) approach by retaining the value and use of materials and products within the economy or built environment for as long as possible sent for reuse elsewhere or alternatively for further treatment or processing at an appropriately permitted facility off-site

Table 3. Resource efficiency measures

Planning waste minimisation during construction	Waste minimisation decision taken	Resource saving	Responsibility	Date action commenced
Design	Enabling the purchase of materials in shape/dimension and form that minimises the creation of off-cuts/waste. Ensure design considerations take into account the five principles for resource efficient design and circular economy: • Design for reuse and recovery • Design for off-site construction • Design for materials optimisation • Design for resource efficient procurement • Design for deconstruction and flexibility (for the future) • Design for longevity • Consider standardisation and/or modulation • Identify potential industrial symbiosis opportunities	Minimal waste produced	PC Project Manager / PC Environmental Manager	From the design outset
Construction methods	Sequencing the works such that reuse of materials can be undertaken.	Minimal waste produced	PC Project Manager	During design and planning stages and

Planning waste minimisation during construction	Waste minimisation decision taken	Resource saving	Responsibility	Date action commenced
Materials	Assess the quantities of materials required on- site.	Prevents lost time in re-ordering of damaged equipment, reduces need for storage if over ordering occurs.	PC Project Manager/ PC Environmental Manager/Individual subcontractors	During construction planning and throughout the Scheme construction. During design and throughout the procurement/ construction stages of the Scheme.
	Use reverse logistics/take back schemes, where available.			
	Procure from suppliers with reduced and recyclable packaging			
	Use just-in-time delivery (as needed basis) to prevent over supply.			
	Provide secure storage to minimise the generation of damaged materials/theft.			
	Keep deliveries packaged until they are ready to be used.			
	Inspect deliveries on arrival.			
	Increase the use of recycled content; this could include traditional use of recovered material such as crushed concrete demolition waste and by procuring mainstream manufactured products with higher recycled content than their peers.	An increase in the demand for such products would reduce the quantity of waste going to landfill. Use of recycled material results in a reduction in demand for extraction of virgin materials and		

Planning waste minimisation during construction	Waste minimisation decision taken	Resource saving	Responsibility	Date action commenced
		subsequently the carbon and environmental footprint.		

2.3.3. The PC will endeavour to reuse or recycle materials in the Scheme where possible.

2.3.4. Actions to be taken to facilitate resource efficiency throughout the Scheme, and therefore minimise waste produced, are detailed in Table 4, which identifies recommended minimisation measures for the Scheme. The PC will be responsible for implementing these measures during construction.

Table 4. Summary of minimisation measures

Minimisation measure	Description
Use of prefabricated or pre-cast elements	Where possible, applicable elements of the design will be prefabricated off-site to minimise on-site waste arisings and associated vehicle movements. These prefabricated units will generate less on-site waste through off-cuts and storage damage. Units will be sourced from a supplier that recycles off-cuts and materials at the prefabrication site, where practicable.
Limiting surplus excavation	Reuse any excavated material on-site or on local developments. Minimise the depth of highways drainage and excavation where possible.
Limit stockpiling	Stockpiling of fill materials on-site prior to incorporation will be avoided where possible, to ensure double handling and damage is minimised and therefore waste generation is avoided.
Material reuse	**Concrete:** Concrete will be taken up and will be source segregated, for recycling either as fill/capping on-site and/or removed to an off-site facility, where practicable.
	Tarmac: Tarmac will be planed out and if possible, will be reused on-site for either tarmac hardstanding, capping or for sub-base.
	Landscaping features: If any landscaping features such as trees and shrubs are to be removed to facilitate either the demolition or construction of the works they will be chipped for reuse on-site in landscaping or removed off-site to permitted waste management facilities.
	Excavated Material: Where suitable excavated material will be re-used as earthworks fill, backfill or within landscaping features.

Minimisation measure	Description
Minimisation of contaminated land arisings	Where possible, contaminated material will be clearly identified and delineated prior to the works commencing to reduce the likelihood of non-contaminated material being excavated. Remediate and reuse on-site if practicable, or, if found to pose no risk to receptors (like groundwater and human health) would be left undisturbed.
Avoiding over purchasing and accurate delivery times	Use just-in-time delivery (as needed basis) to prevent over supply. As far as reasonably practicable, optimise the soil profile to ensure only the exact amount required is imported.
Use of take back schemes	Utilise, where practicable, take back schemes (particularly for packaging and pallets).
Monitoring and review	Waste data and the periodic review process (required as part of this OSWMP) will be used to assess whether the waste objectives are being met, and if not to review procedures to steer the Scheme towards achieving them. The PC Environmental Manager will be responsible for this monitoring.
Education and awareness	Waste minimisation will be underpinned by education and awareness throughout all levels of the Scheme team, from the design team to site contractors who handle the construction materials. Training to be via site inductions and frequent toolbox talks (included as part of Health and Safety updates, etc.) which all contractors and site workers will be required to attend.
Consideration of End-of-Life materials	Where possible, elements will be designed for repair, modular repair, recycling at the end of life or safe disposal. The use of hazardous materials during construction, in particular, will be minimised as much as possible.

2.3.5. Table 5 identifies some additional measures that will be considered and implemented, where appropriate, to ensure that the Scheme is as resource efficient and cost effective as possible. Table 5 is not an exhaustive list and does not suggest that all measures would be implemented but aims to provide a list of possible opportunities undertaken on similar projects.

Table 5: Considerations for reuse and recycling of waste materials for the Scheme

Opportunity	Description
Landscaping	Use site excavated material within landscaping design as drainage base and mound features.
	Reuse or recycle tarmac and asphalt (provided there is on-site storage) for paths, construction storage space, and hard standing for plant, etc.
	Retain topsoil, treat on-site with compost (or other remediation) and use for soft landscaping.
	Use existing soft landscape that cannot be retained (trees, shrubs) as compost, soft landscape top mulch, and large features (such as trees stumps) for benches.
Concrete	Recycle aggregates (either on-site or off-site) in concrete mix as fill etc.
Packaging	Reuse packaging by returning to supplier/manufacturer or using it for other purposes (for instance timber packaging pallets) can be chipped and used for landscaping top mulch.
Excavation	Minimise excavation and replacement by leaving the surface in place if everything is structurally sound and technically feasible.
Modular design	Design with modularisation in mind where practicable.
	Specify the use of plastic pipes rather than clay/metal pipes. In addition, specify recycled content.
Volumetric	Use pre-cast concrete or modular units where necessary to reduce waste and improve quality, including pre-cast concrete for pipes, kerbs and beams.
	Use recycled cement and other site won materials as subbase for the Scheme (where applicable).
Steel construction	Use steel frame design.
	Use prefabricated steel structures.
Services	Rigorously plan mechanical and electrical (M&E) plant and distribution routes to reduce access requirements and facilitate future maintenance.
	Rigorously plan M&E layout and distribution routes to reduce building works by consolidating risers, ducts etc.
	Enable consolidation of trades to reduce M&E penetrations in already finished surfaces.
Detail Design	Optimise layout to reduce cutting and offcuts.
	Optimise structure position and levels to minimise excavation requirements as much as possible.
Avoidance of excavation	Use 3D modelling to avoid clashes/conflicts of services/structure etc. and thus reduce construction errors and consequent rework.
Standardisation and dimensional co-ordination	Co-ordinate structure and services so that service ducts are incorporated without the need to chase out, minimising waste production. Order services based on BIM/structure model to deliver just enough cable/ducting length and minimise generation of off- cuts.
Supply chain	Employ waste broker with expert knowledge in waste minimisation.

	Discuss methods of waste minimisation with design team, potential subcontractors and suppliers at an early stage.
	Discuss options for packaging reduction with subcontractors and suppliers.
Specification	Specify responsibly sourced materials that reduce waste or materials with high recycled content whenever feasible.
	Specify adequate protection to fragile materials to minimise damage on-site.
Contract, contractor	Involve the PC from early design and decision stages to identify methods of waste minimisation in relation to procurement routes.
	Consider financial incentives and penalties to reduce waste.
	Require all tendering contractors to provide information on how they plan to reduce waste through the supply chain and site activities.
	Require just-in-time deliveries where practicable.
	Select procurement route that minimises packaging.
	Use ordering procedures that avoid waste (for instance, no over ordering, take back schemes for both material surplus and offcuts).
	Plan the work sequence to reduce on-site waste.
	Investigate the practicalities to include within the tender documents, the requirement to sign off the waste per work package – waste must not exceed a contractual agreed limit.
	Ensure appropriate waste bins are included.
	Reuse suitable excavated material within the design.
Materials	Use mechanical fixings that facilitate deconstruction.
	Avoid gluing and composite materials.
	Specify materials that can be reused rather than recycled.
	Use landscaping materials that can be easily taken up and reused.
	Use structural elements that can easily disassembled.
	Design deconstruction at an early stage.
	Consider compaction of certain wastes to reduce haulage requirements.

Note: This table can be updated with actual design considerations in terms of minimising material resources use and waste produced. Not all opportunities may be applicable or feasible for the Scheme, these are to be identified by the designers and PC.

2.4. Waste minimisation statement

2.4.1. The purpose of this OSWMP is to facilitate the implementation of the circular economy and waste hierarchy principles and to minimise the production of waste from the outset of the Scheme. Such measures are to be incorporated into the design and implemented in the construction stage of the Scheme.

2.4.2. This is in addition to ensuring correct waste disposal procedures in accordance with the Waste Duty of Care provisions as set out under section 34 of the Environmental Protection Act (1990), as amended. Where waste cannot be reused, recycled or recovered, it will be disposed of in accordance with the Landfill Directive (1999/31/EC) and Waste Acceptance Criteria procedures.

2.5. Initial review of anticipated waste arisings

2.5.1. Table 6 illustrates an initial qualitative review of the potential and expected waste arisings of the Scheme. The aim of this review is to identify the waste streams anticipated to be encountered at the Scheme and consider the possible management options of these materials (which would include identification of suitable local waste management or disposal sites that can accept the waste). This initial waste review considers the reuse and recycling potential of each waste stream anticipated and identifies some indicative benchmark recycling targets which could be used to steer the detailed SWMP as the Scheme develops.

2.5.2. The review is subjective and relies on professional judgement and experience from working on similar projects.

Table 6: Initial review of anticipated waste arisings

Activity	Anticipated waste stream	Anticipated volume	Recovery potential	Overall priority for recovery	Achievable recovery target	Management options
Site clearance	Vegetation	Medium	High	High	100%	Vegetation including trees, shrubs, and plants etc removed during site clearance works will be collected in skips or stockpiled on-site to await removal. Where possible, some vegetation will be chipped and reused back within the Scheme as landscaping. If it cannot be reused in the Scheme, it will need to be sent off site for processing. A suitable facility, in close proximity to the Scheme, will be the preferred management solution, where possible. All waste will be pre-treated before it is sent for final disposal, whether this is segregation on-site or off-site at a transfer facility.
Tie ins	Concrete, asphalt, tar products, existing, highway kerb stone	Medium	High	High	95%	Materials to be reused on-site where appropriate for the construction of the Scheme. Concrete can be readily separated and easily recycled with good quality assurance. Concrete will be segregated from other inert material and sent for screening and certification. Concrete will be segregated and sent for off-site recycling. Asphalt and tarmac will be taken up and reused on-site for either tarmac hardstanding, capping or for sub-base.
Earthworks	Topsoil	High	High	High	90-100%	Topsoil has excellent potential for reuse opportunities in landscaping around the Scheme. Topsoil waste that cannot be reused on-site will be

Activity	Anticipated waste stream	Anticipated volume	Recovery potential	Overall priority for recovery	Achievable recovery target	Management options
						removed by licensed contractors and recovered at appropriately permitted waste facilities.
	Excavated natural ground	High	High	High	100%	Opportunities for the reuse of material as infill or as a base will be explored. If the material is low grade subsoil, there is potential to reuse this as a landscaping or infill material prior to the laying of topsoil. Waste that cannot be reused on-site will be removed by licensed contractors and recovered at appropriately permitted waste facilities.
	Excavated man-made ground	Low	Medium	Medium	70%	Due to the properties of man-made fill, opportunities to reuse the material compared to uncontaminated soils or topsoil are more limited. However, reuse where possible within the Scheme, or will be sent for recycling.
	Contaminated soil	Low	Low	Low	10%	All soil extracted (whether contaminated or not) will need to be stockpiled at the site and subject to laboratory analysis prior to reuse or removal to an off-site waste facility (following European Union (EU) Waste Acceptance Criteria (WAC) testing if required) to identify whether the material can be reused as fill material or would require landfilling at an appropriately permitted site. Contaminated soils may be considered for reuse if it is in accordance with the DoWCoP CL:AIRE and a risk assessment has been undertaken to ensure there is no environmental risk if it is reused and its reuse fits with the justification in the DoWCoP CL:AIRE.

Activity	Anticipated waste stream	Anticipated volume	Recovery potential	Overall priority for recovery	Achievable recovery target	Management options
Construction	Concrete mortar	Low	High	High	100%	This could potentially create waste through spillages. Any arisings will be contained in an appropriate skip to be sent for off-site reprocessing.
	Cables	Low	Low	Medium	80%	Cables are likely to be used in the wiring of the electrical components. Off-cuts of cable will therefore be required to be disposed of. Avenues of recycling of cable are limited, even though the copper can be recovered. Any arisings will be contained in an appropriate skip to be sent for off-site reprocessing or disposal.
	Drainage pipes, kerbs	Low	High	High	100%	Small quantities may arise, although pre-casting of the components prior to arrival on the site will reduce wastage. Any arisings will be placed in the skips and sent to a local recycling facility for crushing down and subsequent reuse on other projects.
	Bitumen road surface	Low	High	High	100%	Through careful ordering of material by the PC, it is possible to minimise potential waste generated from road surfacing activities. A good waste management practice is that, if there is any technically feasible and economically viable opportunity, any road-surfacing material can be reworked into a reusable form to enable reuse back within the Scheme or on nearby schemes, if identified.

	Liquid waste	Low	Low	Low	0%	Disposal of liquids from temporary welfare facilities will be undertaken by a licensed contractor. Disposal of liquid wastes down surface water drains may cause water pollution, which if it occurs is a strict liability offence and can lead to expensive clean-up costs and enforcement action being undertaken. Only clean, uncontaminated surface water is discharged to surface water drains. Any discharges to foul sewer, if necessary, will require permission to be obtained from the relevant sewerage undertaker. All contaminated liquids will be stored in appropriately designed containers, with secondary containment systems in place and sent for disposal or treatment.
	Metals (cut- offs from steelworks, surplus materials)	Low	High	High	95%	Small quantities of waste metal may arise due to off-cuts during the construction phase. Metals can be easily segregated and sent for off-site recycling. Therefore, any arisings will be contained in an appropriate skip to be sent off-site for recycling. When recycling is not possible, arisings will be sent off-site for disposal.
	Timber and wood materials (fencing, wooden panels, posts, packaging)	Low	High	High	95%	Waste timber and other wood materials may arise as cut-offs, surplus or as packaging. Waste timber and wood materials may be suitable for reuse within the Scheme's construction, where practicable. Waste timber and wood materials will be segregated and sent for off-site recycling if not suitable for reuse on-site, or to an energy recovery facility.
	Hard plastics (uPVC)	Low	Medium	Medium	70%	Waste hard plastic, such as uPVC, may arise from the Scheme as off-cuts or surplus materials. PVC materials will be sent to off-site recycling facilities. Recycling facilities can melt small pieces of PVC into new products, or break it down into its chemical molecules, which are then reformed to make fresh PVC materials. Where possible, PVC will be segregated and sent off to recycling facilities. Disposal to landfill will be considered if no other alternative is available.

	Textiles (geomembrane)	Low	Medium	Low	50%	Recycling options for textile materials, such as geomembrane, may vary depending on its composition. Arisings of these materials from the Scheme may be due to off-cuts. Any arising will be contained in an appropriate skip to be sent for off-site recycling or disposal (as least preferred option).
	Hazardous waste (resins, oils, paints, etc.)	Low	Low	Low	50%	These waste streams will be segregated from other (non-hazardous) waste streams and stored in appropriately designed and secure bunded storage areas/cupboards for subsequent identification and removal for treatment off-site at a hazardous waste facility.
	Packaging waste (plastic, metal, cardboard)	Low	Low	Medium	50%	This waste would predominantly consist of plastic sheeting, shrink-wrap, metal strips (binding). Each waste stream will be segregated into colour-coded or appropriately designated skips and removed off-site to an appropriate waste facility for recycling, where practicable. Opportunities will be explored for supplier packaging take back schemes, where practicable.
General site waste	Welfare facilities waste (sewage sludge)	Low	Low	Low	0%	Limited options to recover waste arising from on-site welfare facilities. Sewage sludge from the toilet facilities would be pumped out and sent to an appropriately permitted treatment plant. Other wastes such as paper towels etc. would be sent to an Energy from Waste (EfW) facility or a landfill.

	Site operatives waste (paper, cardboard, plastics, non-recyclable	Low	Medium	Medium	75%	Likely to comprise paper, cardboard, metal cans, plastic bottles and some non-recyclable material such as tissues. All recyclable materials will be sent to recycling facilities; all non-recyclable materials will be sent to an EfW facility or a landfill, where practicable. Offices will be equipped with bins to segregate each waste stream for collection and future recycling off-site, if feasible.

3. Waste management

3.1. Segregation

3.1.1. A specific area will be laid out and labelled to facilitate the separation of materials for potential recycling, salvage, reuse, and return. It will be the responsibility of the PC Project Manager to ensure that recycling and waste bins are kept clean and clearly marked to avoid contamination of materials. Skips for segregation of waste currently identified are:

- Inert (such as concrete, inert plastics, rubble)
- Hazardous (such as contaminated land, residues of applicable paints)
- Mixed non-hazardous (non-biodegradable waste)
- Mixed non-hazardous (biodegradable waste)
- Metal (such as copper and iron, mixed ferrous and non-ferrous)
- Wood (including fencing, frames)
- Canteen/office/welfare waste

3.1.2. The PC will ensure compliance of the Scheme with the Waste (England and Wales) Regulations 2011 (as amended), which make the following provisions which came into force on 1 January 2015:

- Businesses to present metal, plastic, glass, paper and card for separate collection
- Waste contractors to provide collection and treatment services which deliver high quality recycling
- A ban on any metal, plastic, glass, paper, card, and food collected separately for recycling from going to incineration or landfill.

3.1.3. Excavation and construction work will be carried out closely with the waste management contractors, in order to determine the best techniques for managing waste and ensure a high level of recovery of materials for reuse or recycling.

3.1.4. Successful recycling and reuse rely upon early planning by the PC, identification of clear responsibility and provision of space within a compound for segregation and storage.

3.1.5. Discussions will be undertaken between National Highways and the PC to identify space requirements within the compounds to accommodate skips

(or other suitable containers such as wheeled containers) and storage of reusable materials, where possible.

3.1.6. Waste management options will be supported by the identification of appropriately permitted waste treatment and recycling facilities in close proximity to the Scheme. The PC Environmental Manager will ensure that a qualified person has completed assessments for all types of waste streams arising during the Scheme's works. All waste streams will be correctly classified and given a European Waste Catalogue (EWC) code and description which will be used in the Waste Transfer Note (WTN) or Hazardous Waste Consignment Note (HWCN).

3.1.7. The use of sufficiently clear labelling, to ensure that construction workers can understand where to put each type of waste, will help reduce the level of contamination in the skips. This also increases the likelihood that a load will not be rejected once the waste stream has been sent off site for reprocessing.

3.2. Reuse of construction materials

3.2.1. Excavation and site clearance activities generate a significant quantity of potential waste arisings.

3.2.2. The classification of waste material from the Scheme will be undertaken in accordance with Annex II of the EU Directive on the landfill of waste (1999/31/EC) (the Landfill Directive). Uncontaminated material, where identified, will be reused where possible within the proposed works for site levelling and fill.

3.2.3. If applicable, surplus inert excavated materials with some engineering strength (for example stone, clay, rubble, rock) could be suitable for beneficial use off site in other projects, if these were proceeding locally at the same time as the Scheme. This may require compliance with the criteria and thresholds of certain exemptions (for instance U1 or U11 may be applicable) or permits under the Environmental Permitting (England and Wales) Regulations 2016. Exemption U1 allows for the use of waste in construction under certain conditions, and when suitable, rather than virgin raw material. Exemption U11 allows the spreading of waste on non-agricultural land to replace manufactured fertilisers or virgin materials to improve or maintain the soil.

3.2.4. The DoWCoP CL:AIRE may also be applicable for the reuse of material. Any chosen option will meet current legislative requirements. For example,

the material could be reused in other developments in the surrounding area, if any were proceeding at the same time. This would help to avoid the costs and associated impacts of removing material to facilities further away.

3.3. Waste disposal characterisation

3.3.1. Under Article 4 of the Landfill Directive, waste is classified as either inert, non-hazardous, or hazardous. Hazardous waste cannot be reused on- site under an exemption and may require additional treatment prior to disposal. The exception is contaminated soil reused in accordance with an approved Materials Management Plan produced under the DoWCoP CL:AIRE.

3.3.2. Furthermore, there is a statutory requirement under Article 6 (a) of the Landfill Directive to pre-treat any waste (including hazardous waste) prior to disposal off-site. Pre-treatment may reduce the cost of disposal by rendering the waste non-hazardous. Responsibility for the basic classification of waste rests with the waste producer (the Applicant), the PC Environment Manager, the waste broker as applicable and the landfill operator.

3.4. Forecasting the planning, reduction, and reuse of waste

3.4.1. The following section details expected waste arisings from the Scheme. Table 7 details those types of waste expected to arise from pre-commencing works, demolition, and construction works and segregate the approximate amounts of waste into different waste streams. The overall aim is to prevent cross-contamination of waste types and to maximise reuse and recycling opportunities.

3.4.2. Material quantities, where provided, are intended to act as an approximate guide for efficient waste management best practice; the PC will independently verify the quantities of waste materials likely to be produced during the works. Waste quantities, where identified within this Outline SWMP, are also subject to programme and design change.

3.4.3. The information in this SWMP is based on information from the quantities of material resources available at the of DCO submission, publicly available data and professional judgement relating to predicted construction effects.

3.4.4. Table 7 also allows space for actual quantities to be inserted. The actual quantities will be inserted once known and are set out against the estimated quantities to allow for a direct comparison and to determine performance against the estimates.

Table 7. Waste arising from pre-commencement and construction works (including excavation)

Waste type	Quantity	
	m^3	Tonnes
Demolition and Scheme clearance		
Vegetation	200	100
Plastics	22	22
Asphalt	6,500	14,950
Concrete	320	768
Scheme construction-		
Concrete (in-situ and pre-cast products)	119	285
Asphalt	73	168.0
Unbound aggregates (Type 1 Sub-base)	594	1,335
Steel (re-bar and lighting columns)	7	57
Aluminium traffic sign faces	0.2	0.6
Plastics	6	6
Timber acoustic fence and posts	15	7.5
Total	**8,513**	**17,699**

Source: Quantities of material assets at the time of DCO submission.

Note: The forecast quantities maybe to subject to change. The PC will be required to confirm. Quantities related to construction works are estimated on a worst-case scenario assuming a 10% of material losses brought on-site during construction works (based on professional judgement). *Contaminated soils forecast is based on worst-case scenario for the arising of hazardous material from excavation works.

3.5. Waste treatment and disposal options

Waste treatment, recovery, or reuse

3.5.1. The appointed waste contractor will contact the relevant treatment/transfer facilities or, if needed, the Environment Agency, directly to determine the most appropriate waste management facility to handle the waste material being produced, where feasible. It is intended that the receiving facility/facilities will recover as much value as possible from the material delivered prior to organising the final disposal of any residual materials at an appropriate landfill site.

3.5.2. The Waste and Environmental Permitting etc. (Legislative Functions and Amendment etc.) (EU Exit) Regulations 2020 and the Waste (Circular Economy) (Amendment) Regulations 2020 incorporates the directives related to European Union Article 4 of Landfill Directive 1999/31/EC on the landfill of waste. Article 4 requires landfills to be classified into one of three categories dependent on the chemical composition of the material; these are hazardous, non-hazardous and inert. EU Waste Acceptance Criteria (WAC) are in place to control the nature of hazardous waste that can be sent to landfill. For hazardous wastes there are numerical limit values covering substances in granular wastes, monolithic wastes, and stable non-reactive hazardous wastes (SNRHW). The limit values are set out in Annex II of the Council Decision of 19th December 2002 establishing criteria and procedures for the acceptance of waste at landfills pursuant to Article 16 and Annex II to Directive 1999/31/EC.

3.5.3. Certain waste streams will be analysed by the PC or appointed waste contractor prior to disposal to confirm whether they are inert, hazardous or non-hazardous. Then the material may require WAC testing prior to disposal. WAC testing is only required if a waste is detained to be sent to landfill and is not required for all types of waste. An appropriately competent and qualified person will develop a testing regime, as required, prior to disposal.

3.5.4. For excavated materials that are confirmed to be suitable for reuse within the Scheme without causing harm to human health or the environment, there are a number of reuse and recycling opportunities such as infill bunding and landscaping or for construction or maintenance of roads, pavements, footings for gates, fences and poles.

3.5.5. If reuse or recycling on-site is not possible due to high levels of contamination, soil treatment facilities are available in England that could be used to treat the soil. Due to the limited volume of contamination anticipated this information has not been included in this OSWMP but is available upon request should it be necessary.

3.5.6. In addition to permitted C&D waste management sites, inert material is also managed on sites that have an Environment Agency environmental permit exemption. These exempt sites generally comprise land restoration activities, such as restoring mineral voids, engineering/landscaping proposed developments and for agricultural improvements on farmland.

3.5.7. Although small tonnages of waste from other waste streams (such as biodegradable waste) may be managed at locations with an exemption, the largest tonnage of exempt activities is likely to involve construction and demolition material.). Existing exempt sites are often short- lived and not all will be applicable to construction waste, and therefore, will be identified for their suitability when preparing the full SWMP, upon commencement of construction.

Waste disposal

3.5.8. Currently, there is no inert landfill within 10 kilometres from the Scheme with remaining capacity at the end of 2023 (latest information available). Other inert and non-hazardous landfills can be found further away outside the 10 kilometres radius with the closest being 13km there is no hazardous landfill site within 50 kilometres of the Scheme.

3.6. Waste controls and handling

Duty of care compliance

3.6.1. Section 34 of the Environmental Protection Act 1990 (as amended) lays out duties with respect to the management of waste. Waste must be managed correctly by storing it properly, only transferring it to the appropriate persons and ensuring that when it is transferred it is adequately and appropriately described to enable its safe recovery or disposal without harming the environment.

3.6.2. The Waste (England and Wales) Regulations 2011(as amended) explains the duties which apply to anyone who produces, keeps, stores, transports, treats, imports, disposes or manages controlled waste in England and Wales.

3.6.3. One purpose of the OSWMP is to incorporate an auditable system that identifies the person responsible for removing the waste from site and keeping copies of all duty of care documentation (WTN and HWCN). This would be in accordance with the relevant duty of care legislation in place and other regulatory requirements.

3.6.4. Table 9 (waste description records) and Table 10 (implementation checklist) assist with the information required to meet the duty of care requirements.

3.6.5. It will be the responsibility of the PC to ensure that any appointed waste contractors have systems in place to ensure that all the duty of care requirements are met prior to the waste being collected.

Responsibility for waste management

3.6.6. Table 8 identifies details of the primary waste streams that are expected to arise from the activities at the Scheme and whose responsibility it is to control and monitor the amounts of waste produced.

Table 8. Assigned responsibility for waste management

Site activity/Sub-contractor work package	Primary waste stream	Who is responsible
Excavation and site clearance	PC	TBC
Groundworks	PC	TBC
Foundations, piling	PC	TBC
Structure	PC	TBC
Brick & blockwork	PC	TBC
Mechanical electrical	PC	TBC
Trades (joinery etc)	PC	TBC
Removal of site offices, temporary works & final clear away	PC	TBC

3.7. Waste storage and transportation logistics

3.7.1. An area for on-site storage for excavated waste, construction materials and newly procured materials will be identified and appropriately secured. If waste is not to be kept on-site, removal may be required on a shift-by-shift basis.

3.8. Site security

3.8.1. The PC will take reasonable steps to ensure site security measures are in place during construction to prevent fly-tipping/illegal disposal of waste.

3.8.2. All waste produced by the Scheme will be collected by registered waste businesses to prevent fly-tipping of waste. A log of the waste movement will be maintained as stated in the OSWMP.

3.8.3. All fly-tipping of waste will be dealt in accordance with the guidance provided by the government.

4. Implementation of the Outline SWMP

4.1. Register of waste carrier licences and permits

4.1.1. Table 9 outlines information regarding the waste management contractors, including their environmental permit, waste carriers' licences and/or relevant exemptions that would need to be checked and verified for use on the Scheme. This table will be completed by the PC Environmental Manager once the details are available, but when preparing the full SWMP as part of the Second Iteration EMP.

4.1.2. The Waste and Environmental Permitting etc. (Legislative Functions and Amendment etc.) (EU Exit) Regulations 2020 and the Waste (Circular Economy) (Amendment) Regulations 2020 require that waste is described by EWC codes on WTN (and HWCN if waste is hazardous under the Hazardous Waste Regulations 2005, as amended) as required by the Waste Regulations 2011, as amended. The EWC categorises wastes into 20 main groups and approximately 900 codes. The EWC also identifies hazardous wastes, and these wastes are dealt with by the Hazardous Waste Regulations 2005 (as amended). These wastes will be appropriately described on HWCN.

Table 9. Waste description records

EWC waste description	EWC[17]	Origin	Waste Carrier			Permit	
			Name	Licence number	Expiry date	Name	Licence number
Concrete	17 01 01	From excavation of made ground known to be uncontaminated					
Mixtures of, or separate fractions of concrete, bricks, tiles and ceramics containing dangerous substances	17 01 06*(M)[18]	From construction of structures					
Mixtures of concrete, bricks, tiles and ceramics other than those in 17 01 06*	17 01 07	From construction of structures					
Wood	17 02 01	From construction of structures					
Glass	17 02 02	From construction of structures					
Plastic	17 02 03	From construction of structures					
Glass, plastic and wood containing or contaminated	17 02 04* (M)	From construction of structures					

EWC waste description	EWC[17]	Origin	Waste Carrier			Permit	
			Name	Licence number	Expiry date	Name	Licence number
with dangerous substances							
Bituminous mixtures containing coal tar	17 03 01* (M)	Excavation of Made Ground and potential historical contamination					
Bituminous mixtures other than those mentioned in 17 03 01*	17 03 02	From excavation of Made Ground known to be uncontaminated					
Coal tar and tar products	17 03 03*	From construction of highways					
Iron and steel	17 04 05	From construction of buildings					
Mixed metals	17 04 07	From construction of buildings					
Cables containing oil, coal tar and other dangerous substances	17 04 10* (M)	Installation of replacement cables, including off-cuts					
Cables other than those mentioned in 17 04 10	17 04 11	Installation of replacement cables, including off-cuts					
Soil and stones containing dangerous substances	17 05 03* (M)	From excavation of Made Ground known to be contaminated					

EWC waste description	EWC[17]	Origin	Waste Carrier			Permit	
			Name	Licence number	Expiry date	Name	Licence number
Soils and stones other than those mentioned in 17 05 03	17 05 04	From excavation of Made Ground known to be uncontaminated					
Other construction and demolition wastes (including mixed wastes) containing dangerous substances	17 09 03* (M)	From excavation of Made Ground known to be contaminated					
Mixed construction and demolition waste other than those mentioned in 17 09 01, 17 09 02 and 17 09 03	17 09 04	Site excavation of Made Ground known to be uncontaminated and construction waste.					
Paper and card	20 01 01	Packaging materials, site office waste					
Mixed municipal waste	20 03 01	General site waste					
Waste of liquid fuels, fuel oil and diesel	13 07 01*(A)[19]	General leaks from vehicle movements, construction equipment					

EWC waste description	EWC[17]	Origin	Waste Carrier			Permit	
			Name	Licence number	Expiry date	Name	Licence number
Petrol	13 07 02*(A)	General leaks from vehicle movements					
Other fuels including mixtures	13 07 03*(A)	General leaks from vehicle movements					
Waste paint and varnish containing organic solvents or other dangerous substances	08 01 11*(M)	Paint wastage from road marking					
Waste paint and varnish other than those mentioned in 08 01 11	08 01 12	Paint wastage from road marking					
Waste paint or varnish remover	08 01 21*(A)	Paint wastage from road marking					
Septic Tank Waste	20 03 04	Portable toilets and welfare facilities					
Bio-degradable kitchen and canteen waste	20 01 08	Mess room wastes					
Other, as applicable							

4.2. Training and communication

4.2.1. The full SWMP (as updated), as well as the procedures to be followed, will be given to all contractors and subcontractors at site induction and key measures reinforced in 'toolbox' talks. The PC Environmental Manager will be responsible for delivering this training. 'Toolbox' talks will be carried out every month on waste issues and all subcontractors will be expected to attend. Attendance will be recorded in the relevant training logs. It is hoped that these values can be transferred from this site to the next, promoting adoption of sustainable waste management practices on a wider scale.

4.3. Monitoring and waste records

4.3.1. All waste leaving the site will be recorded by the PC using SmartWaste including WTN or HWCN in the case of hazardous waste. The waste producer (National Highways) and/or PC will receive a copy of the completed WTN from the waste disposal company showing the exact amount of waste materials removed from site and confirming that the waste has been disposed of or treated. This note will also identify how much material goes to landfill and how much goes for recycling.

4.3.2. All skips will be monitored by the PC Environment Manager to ensure that cross-contamination of segregated skips does not occur. The 'toolbox' talks will focus on how the waste management system is working and identify the extra costs associated with contamination.

4.3.3. The PC Environmental Manager will continually review the type of surplus materials being produced and change the site set up to maximise on-site reuse or recycling; landfill would be the last option.

4.3.4. All records of waste movements will be recorded on BRE SmartWaste.

4.4. OSWMP implementation checklist

4.4.1. Table 10 is a checklist which will be filled out by the PC Environmental Manager to ensure the SWMP is fully implemented from the outset of the Scheme. Further actions required to accompany the checklist are identified in Table 11.

Table 10. Implementation checklist

Checks (please tick)	Yes	No
Have terms and commercial rates been agreed with the waste management contractor(s)?		
Have data reporting procedures been agreed with the waste management contractor(s)?		
For off-site waste management or disposal – Are all the waste destination details correct?		
Has a waste segregation/collection area been prepared?		
Has the waste management area been adequately sign posted?		
Has the OSWMP planning meeting been set?		
Has the waste management document control/filing system been set up?		
Have all the necessary staff and contactors read and signed the Outline SWMP?		
Have all the OSWMP training/briefing requirements for staff been met?		
Have all the OSWMP training/briefing requirements for contractor(s) been met?		
Have all the waste management targets been set?		
Has the OSWMP been approved by the Project Manager?		

Table 11. Further actions

Comments/further actions	
1. Excavated material to be tested for contamination prior to reuse and/or disposal	
2. Waste contractor to be assigned	
3. Storage areas for excavated material to be decided upon	
4. Frequency of waste removal from the site to external storage areas or WTS to be decided upon	

4.5. Updating the SWMP

4.5.1. The full SWMP will be updated as often as necessary, to record accurate information on progress and whenever changes occur on-site or relating to materials, or at least every six months if there is little change during the construction of the Scheme.

4.5.2. Updates to the SWMP will give a current picture of how work is progressing against the waste estimates contained in the original SWMP. Therefore, for waste that is reused or recycled on-site, the SWMP will be updated to describe how much of the estimated volume or tonnage has been processed. For waste that is removed from the Scheme, the SWMP will be updated to record the identity of the person removing the waste, the type (and quantity) of waste and the site to which it has been taken.

4.5.3. Revisions to the SWMP will be recorded in Table 12.

Table 12. OSWMP revision record

Nature of revision	Date of revision	Author of revision

5. Audit and review of Outline SWMP

5.1. Audit plan

5.1.1. An audit will be undertaken by the PC at regular intervals (at least every six months) to check the plan is being implemented correctly. The audit will review the records maintained under this OSWMP to record the amount, nature and composition of the waste generated on-site.

5.1.2. Furthermore, the audit will also examine the manner in which the waste is produced and will provide opportunity for a commentary to highlight how the management and practices inherently contribute to the production of construction and demolition waste. To help in this review Table 13 will be completed as part of the audit to include on-going actual quantities of waste generated. Records are to be completed on the deviations between those waste quantities forecasted, on-going actuals and waste management targets, demonstrated in Table 13.

5.1.3. A regular review of the on-site reuse/recycling, off-site recovery and off- site disposal rates will provide evidence to support potential need for further or maintained mitigation to ensure the Scheme meets it waste management targets and applies circular economy principles.

Table 13. Pre-commencement, demolition and construction works waste deviations

Type	Materials	Quantities (tonne)		On-site reuse/recycling (%)		Recovery (%)		Disposal (%)	
		Actuals	Deviation	Actuals	Deviation	Actuals	Deviation	Actuals	Deviation
Inert	Concrete								
	Aggregate based materials								
	Other (specify and add rows)								
Non-hazardous	Excavated material								
	Asphalt plannings								
	Bricks and blocks								
	Mixed waste								
	Metal								
	Timber								
	Plastic								
	Geotextile								
	Green waste (vegetation)								
	Other (specify and add rows)								

Hazardous	Contaminated excavated material – unsuitable for reuse*								
	Oils and fuels								
	Paints (container and residues)								
	Other (specify and add rows)								

5.2. Post-construction review

5.2.1. This section of the SWMP will be for the post-construction review, designed to identify that the SWMP has been monitored throughout the lifetime of the Scheme and then signed off at its closure (Table 14).

5.2.2. At the end of the Scheme, the PC will review, revise and refine the SWMP as necessary within three months of completion to ensure compliance with relevant legislation and to identify if lessons could be learned for the next time a similar Scheme is undertaken. This review will identify and may conclude the following:

- An explanation of any deviation from the original plan.
- A comparison of the estimated quantities of each waste type against the actual quantities generated.
- An action plan to address the lessons that have been learnt from the Scheme that could be implemented for the next Scheme.
- An estimation of the cost savings (if any) that have been achieved through the measures undertaken to minimise, reuse, recycle or recover waste arisings rather than just sending it to landfill.

Table 14. Post-construction confirmation

This plan has been monitored on a regular basis to ensure that work is progressing according to the plan and has been updated to record details of the actual waste management actions and waste transfers that have taken place.	
Signatures	Date
Client:	
Contractor:	

5.2.3. Table 15 records the deviation between those waste quantities estimated and actuals.

Table 15. Deviations

Issue	**Details**
[Waste forecasts – exceeded]	**TBC – reasons**
[Waste forecasts – not met]	**TBC – reasons**

5.3. Estimate of cost savings

5.3.1. To be completed at the end of the Scheme

5.4. Declaration

The PC will take all reasonable steps to ensure that:

All waste from the Scheme is dealt with in accordance with the Waste Duty of Care in Section 34 of the Environmental Protection Act 1990 and The Waste (England and Wales) Regulations 2011, as amended; and materials will be handled efficiently, and waste managed appropriately.

Contractor representative: Signatures: Date:

National Highways will take all reasonable steps to ensure that

The PC has access to the Site Waste Management Plan in advance of and during the construction phase. Internal project management team members understand the National Highways' and the PC responsibilities for all waste from the Scheme to be dealt with in accordance with the Waste Duty of Care in Section 34 of the Environmental Protection Act 1990 and The Waste (England and Wales) Regulations 2011, as amended; and materials will be handled efficiently.

Client representative: Signatures: Date:

A46 Coventry Junctions (Walsgrave) Scheme number: TR010066

6.5 First Iteration Environmental Management Plan

Appendix B.4 Outline Landscape and Ecology Management Plan

APFP Regulations 5(2)(a)

Planning Act 2008

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

Volume 6

September 2025

Deadline 6

Infrastructure Planning

Planning Act 2008

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

A46 Coventry Junctions (Walsgrave)
Development Consent Order 202[x]

FIRST ITERATION ENVIRONMENTAL MANAGEMENT PLAN
Appendix B.4 Outline Landscape and Ecology Management Plan

Regulation Number	Regulation 5(2)(a)
Planning Inspectorate Scheme Reference	TR010066
Application Document Reference	TR010066/APP/6.5
Author	A46 Coventry Junctions (Walsgrave), Project Team & National Highways

Version	Date	Status of Version
Rev 0	November 2024	Application Issue
Rev 1	July 2025	Deadline 4
Rev 2	September 2025	Deadline 6

Table of contents

Tables

1. Introduction

1.1. Purpose of this document

1.1.1. This document is the Outline Landscape and Ecology Management Plan (OLEMP) and is appended to the First Iteration Environmental Management Plan (EMP) (**TR010066/APP.6.5**).

1.1.2. This OLEMP will be updated to a Landscape and Ecology Management Plan (LEMP) by the Principal Contractor (PC) and included within the Second Iteration EMP, as appropriate and necessary, prior to commencement of works in accordance with Requirement 4 in Schedule 2 of the draft Development Consent Order (DCO) (**TR010066/APP/3.1**), the requirements of the First Iteration EMP and the Register of environmental actions and commitments (REAC).

1.2. Scope of the OLEMP and LEMP

1.2.1. An environmental impact assessment (EIA) has been carried out for the scheme and is reported in the Environmental Statement (ES) (**TR010066/APP/6.1**) submitted for the DCO. Mitigation, monitoring and compensation measures are noted in the ES as requirements to reduce and alleviate significant effects of the scheme including creation of new habitats and natural features.

1.2.2. The REAC, within the First Iteration EMP (**TR010066/APP/6.5**), summarises the mitigation, monitoring and compensation requirements noted in the ES. The REAC will be developed and updated during detailed design to form part of the Second Iteration EMP.

1.2.3. The OLEMP provides the PC and relevant stakeholders with key information relating to the scheme requirements for the management of the landscape and ecological elements during the project lifecycle.

1.2.4. All contractors will be required to comply with the requirements of the Second Iteration EMP and LEMP, which would be further developed and updated along with the REAC during detailed design, and applicable environmental legislation. The LEMP will be managed alongside the PC's business management system to ensure compliance with the International Organisation for Standardisation (ISO) 14001 requirements.

1.2.5. In summary the OLEMP and LEMP will:

- identify the landscape and ecological mitigation and compensation requirements in accordance with the DCO.

- identify the requirements regarding the delivery of the mitigation, monitoring and maintenance of the landscape and ecological elements of the scheme in accordance with scheme objectives, including before start of works, during construction and for the five-year maintenance period.
- identify the management requirements to achieve a total time period of 30 years to ensure the target condition is achieved. A 30-year period has been considered appropriate as a minimum post-development management period as this is the longest time to target condition (as in-built into the latest version of Defra's Statutory Biodiversity Metric (hereafter the 'Metric')) for any of the created habitats.
- provide clear and succinct information to all parties that is also suitable to inform the future management of the site by others.

1.2.6. The LEMP will be a 'live' document which will be developed and maintained by the PC throughout the lifecycle of the scheme. Towards the end of the construction phase, the PC will revise the LEMP into a final version for the landscape and ecology requirements during the operational and maintenance phase of the scheme. This will be incorporated into the Third Iteration EMP which will be implemented by the maintenance authority responsible for the maintenance of the scheme during its operational phase.

1.2.7. The LEMP will provide a consistent approach to the control of construction activities for the Scheme. It will cover protection of landscape and ecology during construction, reinstatement of vegetation and habitats post construction, and the implementation of ecological mitigation measures, together with the subsequent aftercare and, where applicable, monitoring arrangements. The LEMP will be in line with the habitat targets specified within the ES Appendix 8.1 (Biodiversity Net Gain Report) (**TR010066/APP/6.3**).

1.2.8. Under the terms of the draft DCO Requirement 5, the relevant part of the authorised development must be operated and maintained in accordance with the Third Iteration EMP. Any tree or shrub planted as part of a landscaping scheme that, within a period of five years after planting, is removed, dies or becomes in the opinion of the relevant planning authority, seriously damaged or diseased, must be replaced in the first available planting season with a specimen of the same species and size as that originally planted, unless the Secretary of State, following consultation by the undertaker with the relevant planning authority, gives consent to a variation.

1.2.9. A five-year aftercare period would be established for all soft environmental features of the Scheme, typically 1 to 3 years of which would be included as part of the construction contract requirements. Thereafter, the soft estate would be maintained by the Applicant and local planning authority. Typical maintenance

activities for land not retained by the Applicant post the five-year aftercare period would be subject to landowner agreement and defined within the LEMP.

1.3. Methodology

1.3.1. This OLEMP is based on the current design for which the DCO is being applied. It has been informed by the following documents:

- Design Manual for Roads and Bridges (DMRB) GM 701 Asset Delivery Asset Maintenance Requirements
- DMRB LA 104 Environmental assessment and monitoring
- DMRB LA 107 Landscape and visual effects
- DMRB LA 108 Biodiversity
- DMRB LD 117 Landscape design
- DMRB LD 118 Biodiversity design
- Series 3000 Landscape and Ecology - Appendices 30/1 to 30/12 of the Manual of Contract Documents for Highway Works (MCHW) Volume 1 Specification for Highway Works
- Interim Advice Note (IAN) 183/14 Environmental Management Plans
- IAN 182/14 Major Schemes: Enabling Handover into Operation and Maintenance.
- First Iteration EMP (**TR010066/APP/6.5**) and associated appendices
- ES Chapter 7 (Landscape and Visual Effects) (**TR010066/APP/6.1**) and associated appendices
- ES Chapter 8 (Biodiversity) (**TR010066/APP/6.1**) and associated appendices
- ES Figure 2.4 Environmental Masterplan (**TR010066/APP/6.2**)

1.4. OLEMP and LEMP objectives

1.4.1. The OLEMP and LEMP are produced to ensure that new features meet the following broad objectives:

- To promote the conservation, protection and improvement of the physical, natural and historic environment within the Scheme and its setting.
- To diversify ecological value through the retention, so far as reasonably practicable, of the existing hedgerows, trees and habitats. To ecologically enhance the Order Limits through creation of diverse habitats offering greater botanical and faunal interest to the Scheme.
- To ensure design and maintenance of landscape components that preserve and enhance the character of the landscape and the local distinctiveness

through creation of a mosaic of landscape features and habitats, including woodland areas, scrubland, hedgerows, wetland areas, scattered trees and grasslands.

- To provide a positive road user experience and appreciation of the surrounding landscape.
- To provide visual screening; wherever possible to retain existing screening vegetation; to screen views of new infrastructure of the Scheme from residents, which have been opened up due to construction works.
- To create new structural planting which links with existing habitats, and which takes account of species that are locally appropriate.
- To use native species of local provenance as required in the MCHW.
- To provide a variety of foraging, nesting and roosting opportunities for protected and notable species, including bats, reptiles and birds.
- To provide a framework for monitoring and reviewing the landscape implementation and establishment.

2. Environmental context

2.1. Landscape

2.1.1. The A46 is located approximately 5km to the east of Coventry city centre. The Scheme involves improvements to the B4082 which runs eastwards from Clifford Bridge Road to the existing Walsgrave Junction and the A46 which runs north-south to the east of Coventry. South of the existing Walsgrave Junction the road is generally elevated, and north of the existing roundabout, it is generally in cutting.

2.1.2. The A46 and B4082 corridor boundaries are heavily vegetated on all approaches to the existing Walsgrave Junction, which quickly give way to farmland and public open space beyond. The exception is the section of road adjacent to Coombe Abbey Park where there is significant tree belt separating the road from Coombe Pool.

2.1.3. Vegetation in the area includes:

- Mature woodland belts (roadside tree cover) running along the A46 / B4082 corridors.
- Coombe Abbey Park including associated Coombe Pool and woodland.
- Arable farmland associated with Walsgrave Hill and Hungerley Hall Farm, with grade 1 and 3 agricultural land.
- Associated vegetation of the River Sowe (trees/ woodland).

2.1.4. High voltage overhead power lines cross the study area in a north-south alignment.

Statutory designations

2.1.5. There are no statutory environmental designations (national or local) relating to landscape within the vicinity of the scheme.

2.1.6. As shown on ES Figure 7.1 (Landscape Policy Context) (**TR010066/APP/6.2**), part of the Scheme is within Rugby Borough Council and is located within the Green Belt.

2.1.7. Coombe Abbey grade II* Registered Park and Garden (RPG), also a Conservation Area, is located within the Coombe Abbey Park and borders the eastern boundary of the Scheme (refer to ES Figure 7.1 (Landscape Policy Context) (**TR010066/APP/6.2**)).

2.1.8. There are a number of statutory listed buildings and features located within the study area including several within Coombe Abbey Park, and the grade II listed Hungerley Hall Farmhouse and its surrounding buildings.

2.1.9. There are no woodlands within the Order Limits classified as either ancient or semi-natural woodland, or ancient replanted woodland (see ES Chapter 8 (Biodiversity) (**TR10066/APP/6.1**)).

2.1.10. Part of the woodland between the A46 and Coombe Abbey Park is protected by Rugby Borough Council's TPO No.82 (23 September 1985).

2.1.11. No veteran or ancient trees are listed within the Order Limits however, one tree was recorded of veteran condition during the tree survey, located just outside of the Order Limits. Due to its age, size and condition, this tree is of exceptional value from a landscape and habitat conservation perspective. One further tree, located outside of the Order Limits was identified as "beginning to veteranise". In both cases, due to the location outside of the Order Limits, no direct effects are anticipated. For further information refer to ES Appendix 7.4 (Arboricultural Impact Assessment) (**TR010066/APP/6.3**).

Non-statutory designations

2.1.12. There are no non-statutory designations relating to landscape within the vicinity of the scheme.

2.2. Ecology

2.2.1. Within the relevant scheme study area there are a number of statutory designated Sites of Special Scientific Interest (SSSIs) and Local Nature Reserves (LNRs), parcels of ancient woodland and non-statutory Local Wildlife Sites (LWSs). Refer to ES Chapter 8 (Biodiversity) (**TR10066/APP/6.3**) for further information.

Statutory designations

2.2.2. The following statutory environmental designations relating to ecology are located within 2km of the Scheme:

- Coombe Pool SSSI is located adjacent to the east of the Scheme. It is one of the most important ornithological sites in Warwickshire for its herons *Ardea cinerea,* and other breeding birds, and for its wintering wildfowl.
- Herald Way Marsh SSSI/Local Nature reserve (LNR) are located 1.5km and 1.4km south of the Scheme respectively. The site has been designated for its assemblage of invertebrates, a number of which are nationally rare, and wide range of habitats.

- Stoke Floods LNR is located 650m south-west of the Scheme with a direct hydrological connection and supports many wetland plants, species of duck, seven species of warbler in the summer and occasional unusual migratory visitors.

Non-statutory designations

2.2.3. There are 15 LWSs within 2km of the Scheme including Gainford Rise LWS which is located directly adjacent to the south-west of the scheme and is designated for floristically rich grassland with invertebrate interest.

2.2.4. Tributary of the River Sowe – Smite Brook, Headwaters and Tributaries Ecosite is located within the Scheme. It includes a small area of Smite Brook located within the Scheme. The brook is a linear site which runs through Coombe Pool SSSI. A tributary of the River Sowe with historical records of white-clawed crayfish *Austropotamobius pallipes*, otter *Lutra lutra* and water vole *Arvicola amphibius*.

2.2.5. Hungerley Hall Farm Ecosite is located within the Scheme. The south-west part of the Ecosite overlaps with Gainford Rise LWS.

2.2.6. Coombe Abbey Pool (part SSSI) Ecosite is located adjacent to the east of, and partially within, the Scheme. This ecosite overlaps with Coombe Pool SSSI designated as a nationally important site. The Ecosite is further designated for its ornithological interest, particularly a large heronry with water vole and otter present on site. The site is good for invertebrates such as butterflies and moths.

2.2.7. Information of other non-statutory designated sites is included in ES Chapter 8: (Biodiversity) (**TR010066/APP/6.1**).

2.3. Environmental mitigation principles

2.3.1. Mitigation measures will be integrated into the design of the Scheme to reduce identified landscape and visual effects. Mitigation design proposals will utilise Highways England (2020) DMRB LD 117 Landscape Design guidance.

2.3.2. Embedded mitigation principles in the Scheme design are set out in ES Chapter 7 (Landscape and Visual Effects) and ES Chapter 8 (Biodiversity) (**TR010066/APP/6.1**).

3. Roles and responsibilities

3.1.1. The key environmental management roles involved in the delivery of the LEMP are identified in Table 2-1 in the First Iteration EMP (**TR010066/APP/6.5**). These roles and responsibilities will be reviewed and updated in the LEMP to be developed in conjunction with the Second Iteration EMP.

3.1.2. The PC is responsible for all activities on site and to ensure that all other parties including supply chain, National Highways and any delegated consultants abide by their responsibilities to comply with the scheme's environmental policies and relevant environmental legislation and regulations.

3.1.3. All parties will be made aware of their duty of care to the environment and will be provided with sufficient training, supervision or instruction through site inductions, toolbox talks and specific method statements as necessary.

3.1.4. At the site induction, site personnel will be informed as to what to look out for during the works. In addition, contractors will be given toolbox talks by the PC or suitably qualified Ecological Clerk of Works (ECoW).

3.1.5. Should any protected or notable species be found during any activities, works will stop immediately and a suitably qualified ECoW will be contacted. The suitably qualified ECoW will advise how the works should proceed and measures to be taken to minimise disturbance to protected or notable species and hence avoid potential legal infringement.

3.1.6. If any works are likely to impact on veteran and notable trees, trees subject to a Tree Preservation Order (TPO), category A and B trees, and important hedgerows, works will stop immediately, and the PC's Environmental Specialist (Arboricultural Clerk of Works (ACoW)) will be contacted. The ACoW will advise how the works should proceed and measures to be taken to minimise disturbance to protected or notable vegetation.

3.1.7. The appointed suitably qualified ECoW shall be appropriately experienced and hold the appropriate membership grade of CIEEM for the tasks to be undertaken.

4. OLEMP Landscape requirements

4.1. Introduction

4.1.1. This section identifies the environmental requirements regarding the delivery of the mitigation, management, monitoring and maintenance of the landscape elements of the scheme in accordance with scheme objectives. This includes the time period before start of works, during construction and for the five-year maintenance period and for the following 25 years where relevant.

4.2. Landscape strategy and principles

4.2.1. As set out in ES Chapter 7 (Landscape and Visual Effects) (**TR010066/APP/6.1**) and illustrated on the Environmental Masterplan (ES Figure 2.4 (**TR010066/APP/6.2**)), there are a number of overarching mitigation principles relating to the protection and enhancement of the landscape character and sense of place.

- Restoration of existing landscape pattern including hedgerows along field boundaries, use of trees and shrub planting to create screening to the Scheme in line with local landscape character.
- Integrating the Scheme design within the surrounding context wherever possible, including use of muted colours in the design of structures.
- Planting proposals developed to integrate the development into the existing landscape setting.
- Reinstatement / mitigation planting, using local native species to aid landscape integration and provide biodiversity benefits, as well as visual screening where required.
- Reinstatement / mitigation planting will feature hedgerows, woodland (roadside belts), individual trees and grassland areas, features present within vicinity to aid integration and screening.
- Building in resilience for climate change by including diversity within the plant and grass species mixes to ensure that a range of species types suitable for a range of conditions are incorporated. Also taking into consideration the creation of soil conditions favourable to plant establishment under either dryer or wetter conditions.
- Sourcing plant and grass species of local provenance where possible in the interests of extending local flora and construction sustainability.

4.3. Landscape reinstatement

4.3.1. This section would set out the general principles for how reinstatement of vegetation and habitat would be undertaken. This would be developed and presented in detail in the LEMP.

4.3.2. As per Table 4.2a (Environmental function codes) of DMRB LD 117, the Environmental Masterplan (ES Figure 2.4 (**TR010066/APP/6.2**)) uses codes, to illustrate environmental mitigation and enhancement measures required as part of the Scheme (refer to Table 4-1 below).

Table 4-1 : Environmental function codes (from DMRB LD 117 Table 4.2a)

Code	Dataset
EFA	Visual screening
EFB	Landscape integration
EFC	Enhancing the built environment
EFD	Nature conservation and biodiversity
EFF	Visual amenity
EFG	Heritage
EFH	Auditory amenity

4.3.3. The landscape and ecology mitigation elements within the Scheme design have been assigned landscape element (LE) codes in accordance with Table 4.2b in DMRB LD 117. For information on plant mixes and LE codes, refer to ES Figure 2.4 (Environmental Masterplan) (**TR010066/APP/6.2**).

4.3.4. The LEs will be implemented, monitored, maintained and managed to achieve the environmental function(s) as outlined above in Table 4.1. LEs included within the project are listed below in Table 4-2.

Table 4-2 : Landscape elements (from DMRB LD 117 Table 4.2b)

Area	Dataset
Grassland	LE1.1 - Amenity Grass Areas LE1.2 – Grassland with Bulbs LE1.3 - Species Rich Grassland
Woodland, trees, and shrubs	LE2.1 - Woodland LE2.5 - Shrubs LE2.7 - Scattered Trees LE2.8 - Scrub
Planting areas	LE3.3 - Ground Cover
Hedgerows	LE4.3 - Native Species Hedgerows LE4.3.1 - Native Species Hedgerow - Hawthorn LE4.4 - Native Species Hedgerow with Trees
Trees (individual)	LE5.1 - Individual Trees

Area	Dataset
Aquatic Areas	LE6.1 - Marginal Planting LE6.2 - Banks and Ditches LE6.4 - Marsh and Wet Grassland

4.4. REAC Landscape

4.4.1. The landscape commitments identified in the First Iteration EMP REAC are provided below with details of how these REAC landscape commitments will be delivered including any pre-construction, construction or post construction measures.

LV1 - To ensure the establishment of the landscape planting, visual mitigation measures, and creation/enhancement of biodiversity habitats.

4.4.2. Planting and seeding, proposed as mitigation for landscape and visual effects and biodiversity effects, would be delivered in accordance with the Environmental Masterplan (ES Figure 2.4 (**TR010066/APP/6.2**)) and maintained in accordance with the LEMP in order to achieve their full establishment throughout the construction contract.

4.4.3. The maintenance of mitigation such as planting and seeding after the construction period will be the responsibility of National Highways and Coventry City Council ensuring all proposed mitigation reaches maturity and reflects the assessment at year 15, and ensuring the maintenance works are sympathetic to ecology windows related to specific species.

4.4.4. This will be detailed in the LEMP produced during detailed design and reported in the Second Iteration EMP.

LV2 - To limit the impact of construction on existing trees and vegetation to be retained.

4.4.5. The Principal Contractor will develop the Arboricultural Method Statement (AMS) during detailed design and adhere to the requirements during construction. The AMS to include, but not limited to the following:

- Tree protection measures in compliance with BS5837:2012 (Trees in relation to design, demolition, and construction – recommendations).
- Maintenance and monitoring requirements of the tree protection measure.
- Schedule of trees to be removed and retained in accordance with the detailed design.
- Tree root protection areas (RPAs).

- Contingency plan (chemical spillage, collision, emergency access to the root protection zone).
- Process to follow should access be needed within RPAs of existing trees and vegetation identified to remain.
- Tree protection monitoring measures on site. This shall include, but are not limited to the following:
  - Checking the robustness and positioning of tree protection fencing.
  - Checking that no materials or plant are stored within RPAs.

4.5. Best practice

4.5.1. A number of measures will be implemented as best practice during construction as part of the mitigation of impacts on landscape and visual receptors.

Construction

4.5.2. During construction best practice mitigation measures noted in the REAC that are specific to landscape include:

- limited hours of working (REAC reference G2)
- reduce light disturbance for sensitive receptors (REAC reference G3)
- limitations on night lighting (REAC reference G3)
- materials delivered on an ‘as needed’ basis to prevent unnecessary stockpiles (REAC reference LV3)
- keeping a tidy and organised site (REAC reference LV3)
- temporary storage of soil mounds in linear bunds in locations, where practicable, would be beneficial to the visual screening of construction works (REAC reference LV3)
- soil storage mounds managed in accordance with MCHW Series 600 (detailed at Stage 5) earthworks to assist visual integration (REAC reference LV3)
- protection of retained vegetation in accordance with British Standard (BS) 5837:2012 (REAC reference LV3)
- pre-works photography to be undertaken to prior to any construction works to provide a detailed baseline record. Photography to be used to demonstrate site restoration and replanting has been successful (REAC reference G6)

Operation

4.5.3. Post construction, the temporary construction areas (compounds and haul routes) will be restored to former habitats. The land will be restored to the reasonable satisfaction of the owners of the land.

4.5.4. Smoothly profiled cuttings and embankments will soften earthworks and help assimilate landform within the surrounding landscape associated with sensitive design and placement of fencing and environmental barriers will also help mitigate landscape and visual effects.

4.6. Establishment, management and maintenance

4.6.1. At detailed design a MCHW Series 3000 Landscape and Ecology specification will be produced for general planting and seeding operations during establishment and maintenance (Years 1 to 30). Typical management operations are summarised in Table 4-3 below, for Years 1 to 5.

4.6.2. At detailed design the LEMP will include further details of the management approach / targets and management prescriptions for each of the LEs to ensure they reach their targeted ecological condition.

Table 4-3 : Typical planting and seeding operations during establishment and maintenance

Ref.	Establishment and maintenance requirements – Years 1 to 5	J	F	M	A	M	J	J	A	S	O	N	D
1.0	**General operations**												
1.1	Supply details of site visits and operations		X										
1.2	Plant replacement inspection - trees, shrubs, marginals and aquatics									X			
1.3	Plant replacement – trees and shrubs											X	X
1.4	Plant replacement - marginals and aquatics				X	X							
1.5	Watering - discretionary				X	X	X	X	X	X			
1.6	Firming up of trees and shrubs	X	X	X	X	X	X	X	X	X	X	X	X
1.7	Pest and disease control	X	X	X	X	X	X	X	X	X	X	X	X
1.8	Plant support (ties/stakes)	X	X	X	X	X	X	X	X	X	X	X	X
1.9	General pruning (remove suckers, dead, discoloured, weak or damaged stems)	X	X							X	X	X	X
1.10	Maintain required margins between planting plots and infrastructure	X	X	X	X	X	X	X	X	X	X	X	X
1.11	Monitor and manage injurious and invasive weeds				X	X	X	X	X	X			
2.0	**Operations to trees and shrubs in pit planted areas (LE2.1, LE2.5, & LE2.8)**												
2.1	Weed control				X	X	X	X	X	X			
2.2	Apply translocated herbicide to plant circles				X	X	X	X	X	X			
2.3	Pruning Corylus species in LE2.1, LE2.5 and LE2.8 mixes – year 3 (cut back one third of plants in plots to 100mm above ground level)	X											
2.4	Check tree and shrub shelters and guards			X							X		
2.5	Remove tree and shrub shelters, guards, stakes and ties from all plants – year 5			X							X		
3.0	**Operations to individual trees (LE2.7, LE5.1 & LE4.4 (trees in hedgerows))**												
3.1	Weed control				X	X	X	X	X	X			
3.2	Apply translocated herbicide				X	X	X	X	X	X			
3.3	Check tree supports, stakes, ties, guys and guards			X							X		
3.4	Tree inspection	X	X	X	X	X	X	X	X	X	X	X	X

Ref.	Establishment and maintenance requirements – Years 1 to 5	J	F	M	A	M	J	J	A	S	O	N	D
4.0	**Operations to hedgerows (LE4.3, LE4.3.1 & LE4.4)**												
4.1	Weed control				X	X	X	X	X	X			
4.2	Apply translocated herbicide				X	X	X	X	X	X			
4.3	Check plant shelters and guards			X							X		
4.4	Remove plant shelters, guards, stakes and ties from all plants – year 5			X							X		
4.5	Check tree marker posts	X	X	X	X	X	X	X	X	X	X	X	X
5.0	**Operations to low maintenance grassland areas (LE1.1 including areas within planting plots & LE1.2 Grassland with bulbs)**												
5.1	Re-seeding as required			X	X	X				X	X		
5.2	Establishment cuts – years 1 and 2 taking into account nesting bird potential			X		X		X		X			
5.3	Weed control				X	X	X	X	X	X			
5.4	Control and removal of injurious and invasive weeds				X	X	X	X	X	X			
5.5	Maintenance cuts – year 3 onwards taking into account nesting bird potential							X					
6.0	**Operations to species rich grassland, calcareous grassland and marsh and wet grassland areas (LE1.3 & LE6.4) Note: Establishment and management of species rich grassland on site is subject to ongoing discussion and agreement across the project team.**												
6.1	Establishment cuts – years 1 and 2 taking into account nesting bird potential			X			X			X			
6.2	Weed control				X	X	X	X	X	X			
6.3	Control and removal of injurious and invasive weeds -years 1 and 2				X	X	X	X	X	X			
6.4	Control and removal of injurious and invasive weeds -year 3 onwards				X	X	X	X	X	X			
6.5	Maintenance cuts – year 3 onwards taking into account nesting bird potential									X			
7.0	**Operations to aquatics and marginals on banks of ponds (LE6.1 & LE6.2)**												
7.1	Inspection		X								X		
7.2	Weed control				X	X	X	X	X	X			
7.3	Control and removal of injurious and invasive weeds (monthly until year 3, then as required)				X	X	X	X	X	X			
7.4	Hand cut submerged and emergent aquatic plants (at a minimum of 0.1m above pond base) to 25% of pond surface										X		
7.5	Remove 25% of bank vegetation from water's edge to a minimum of 1m above water level										X		

Ref.	Establishment and maintenance requirements – Years 1 to 5	J	F	M	A	M	J	J	A	S	O	N	D
7.6	Removal of dead vegetation in ponds		X								X		
7.7	Removal of dead growth to scrub, trees and woodland around ponds										X		
8.0	**Operations to climbing and trailing plants (LE3.3 Ground Cover)**												
8.1	Inspection		X							X			
8.2	Plant replacement climbers and trailers											X	X
8.3	Attach/reattach climber and trailers to supporting structures			X		X		X		X			
8.4	Prune climber and trailers				X								
8.5	Repair climber and trailers supporting structures											X	X

5. OLEMP Ecology requirements

5.1. Introduction

5.1.1. This section identifies the environmental requirements regarding the delivery of the mitigation, management, monitoring and maintenance of the ecological elements of the scheme in accordance with scheme objectives. This includes the time period before the start of works, during construction and for the 30-year maintenance period where relevant.

5.2. Baseline surveys

5.2.1. A number of protected species surveys have been to establish the ecological baseline. The findings are detailed in the below survey reports.

- Badger Report (ES Appendix 8.2 (**TR010066/APP/6.3**))
- Breeding Bird and Barn Owl Report (ES Appendix 8.3 (**TR010066/APP/6.3**))
- Barn Owl Survey Report (ES Appendix 8.4 (**TR010066/APP/6.3**))
- Bat Roost Report (ES Appendix 8.5 (**TR010066/APP/6.3**))
- Bat Activity Report (ES Appendix 8.6 (**TR010066/APP/6.3**))
- Bat Crossing Point Report (ES Appendix 8.7 (**TR010066/APP/6.3**))
- Bat Hibernation Report (ES Appendix 8.8 (**TR010066/APP/6.3**))
- Great Crested Newt Report (ES Appendix 8.10 (**TR010066/APP/6.3**))
- Otter and Water Vole Report (ES Appendix 8.11 (**TR010066/APP/6.3**))
- Wintering Bird Report (ES Appendix 8.12 (**TR010066/APP/6.3**))

5.3. Ecology strategy and principles

5.3.1. As set out in ES Chapter 8 (Biodiversity) (**TR010066/APP/6.1**) and illustrated on the Environmental Masterplan (ES Figure 2.4 (**TR010066/APP/6.2**)), there are a number of overarching mitigation principles relating to the protection and enhancement of habitats and biodiversity.

- Keeping working areas to a minimum to reduce habitat loss.
- Maximise biodiversity delivery by providing more ecologically valuable habitat in place of existing farmland.
- Creation of foraging and nesting/roosting habitats through the inclusion of species-rich grassland, scrub and woodland, for the benefit of birds, invertebrates, bees, small mammals and bats.

- Habitat connectivity along the Scheme achieved through the creation of native hedgerows and tree lines along the verges.
- Woodland planting to mitigate for habitat loss within the SSSI, within an area adjacent and directly connected to the SSSI woodland.
- Creation of taller screens of vegetation along the road verges to minimise barn owl and bat mortality.
- Retention of the Hungerley Hall Farm accommodation bridge as a badger *Meles meles* commuting route and crossing point over the A46 carriageway for bats
- Creation of a badger crossing, with associated badger-proof fencing, beneath the B4082 to mitigate against badger mortality on the realigned B4082.

5.4. REAC Ecology

5.4.1. The ecology commitments identified in the First Iteration EMP REAC are provided below with details of how these REAC ecology commitments will be delivered including any pre-construction, construction or post construction measures.

BD1 Protection of badgers

5.4.2. A badger mitigation licence would be obtained from Natural England for the closure of an active subsidiary sett. The supporting information to the licence (ES Appendix 8.13 (**TR010066/APP/6.3**)) details necessary mitigation for closure of the badger sett including:

- A pre-exclusion walkover survey to confirm the site baseline at the time of closure
- Pre-closure soft-blocking and camera-monitoring
- Badger exclusion from the sett, if monitoring identifies the sett as active or partially-active, through the use of fencing and one-way gates and monitoring for a minimum 21-day period with no breaches
- Sett destruction under supervision of the accredited agent

5.4.3. The Hungerley Hall Farm accommodation bridge will remain open during construction to maintain this commuting route.

5.4.4. If any new setts are identified during pre-construction surveys an update to the mitigation licence may be required.

BD2 To ensure data on protected species is valid and robust

5.4.5. Pre-construction surveys would be undertaken in the appropriate seasons in 2025 for the following protected species: great crested newt (GCN) *Triturus cristaus,* barn owl *Tyto alba,* bats, badger *Meles meles,* otter *Lutra lutra* and water vole *Arvicola amphibius* to ensure the current baseline information is up to date.

G3 Reduce light disturbance for sensitive receptors

5.4.6. During works:

- Lighting shall be at the minimum luminosity necessary and use low energy consumption fittings. Lighting shall comply with the Institute of Lighting Professionals Guidance Notes for the Reduction of Obtrusive Light GN016 and the provisions of BS 5489 Code of practice for the design of road lighting, where applicable.
- Lighting will be directional, and positioned sympathetically, to minimise light spill and disturbance for sensitive receptors, in particular into retained habitat (including woodland) and linear features such as Smite Brook and hedgerows.
- Night lighting will only take place in areas that have had vegetation cleared during the daytime unless supervised by the ECoW, to avoid affecting species which may be present in uncleared areas.
- Lighting of the River Sowe corridor and Smite Brook would be avoided as far as feasible.
- Where construction lighting is required, it would be limited in duration and where feasible directed away from retained habitats.

5.4.7. During operation:

- All proposed operational mitigation will be designed to minimise light spill onto residential properties and habitats which support commuting and foraging bats.
- Where lighting columns back onto residential properties and/or sensitive receptors, backlight shields or similar mitigation will be required to mitigate significant effects.
- Lighting at the junction will be designed with backlight shields and LED bulbs to reduce light spill onto habitats which support commuting and foraging bats.

BD3 Protection of habitats and protected species during construction

5.4.8. An ECoW would be employed to provide advice and supervision of works.

5.4.9. The ECoWs roles and responsibilities are set out in Table 2.1 of the First Iteration EMP (**TR010066/APP/6.5**). The primary roles would be to:

- deliver toolbox talks on protected species, habitats and invasive non-native species (INNS) prior to relevant construction activities
- supervise site clearance through pre-works checks, supervision of sensitive felling techniques and supervision of vegetation clearance
- ensure commuting routes for mammals remain open through the site

5.4.10. Any discovery of an animal in pipes, trenches and holes, or an incident or injury to an animal must be reported immediately to the ECoW.

BD4 Protection of GCN, reptiles and other notable species (including hedgehog)

5.4.11. Where feasible, above-ground vegetation clearance of suitable habitat would be undertaken during the hibernation season (November to February inclusive).

5.4.12. No ground-breaking works would be undertaken within areas of suitable hibernation habitat, and no potential hibernacula (for reptiles, hedgehog or GCN (where within 500m of a GCN pond)) impacted, during the hibernation season (November to February inclusive).

5.4.13. Where this is not possible, and ground-breaking works and/or works to hibernacula are required during the hibernation season (November to February, inclusive), habitat will be made unsuitable and maintained as such. Habitats will be cleared under the supervision of the ECoW and with appropriate mitigation measures within suitable conditions (dry weather and temperatures >9°C) in the active season (March to October, inclusive).

5.4.14. The cleared areas which are to be impacted during the hibernation season would be kept clear of habitat until works in the area commence to prevent habitat suitable for these species developing and species moving back into the works area prior to works.

5.4.15. Works within the active season (March to October) to be undertaken in suitable conditions (dry weather and temperatures >9°C). Vegetation would be cleared in staged cuts, with an initial cut to 15cm, a walkover and destructive search of potential refugia by the ECoW, followed by a second cut to ground level.

BD5 Protection of breeding birds

5.4.16. To avoid adverse impacts on breeding birds, habitat clearance should take place outside of the core breeding bird season (March to August inclusive).

5.4.17. Where this is not feasible, and habitats are cleared or otherwise directly impacted (including partial felling, tracking over) within the core breeding bird season (March to August inclusive), they would be subject to appropriate checks by the ECoW.

5.4.18. Nest checks would be undertaken by the ECoW a maximum of 24 hours prior to clearance with any active nests left *in situ* with a suitable buffer of undisturbed vegetation around them until all young have fledged as confirmed by the ECoW.

5.4.19. Pre-construction checks of suitable habitat would be undertaken for kingfisher for works in the vicinity of the suitable habitat during the core breeding bird season (March to August, inclusive), with appropriate standoff distances in place should active nests be identified. This would mitigate against disturbance to this species listed on Schedule 1 of the Wildlife and Countryside Act 1981 (as amended).

BD6 Protection of barn owls

5.4.20. Two barn owl nest boxes will be installed within Coombe Abbey Park, a minimum of 1km from the Order Limits, prior to construction to provide alternative nesting habitat to that of Hungerley Hall Farm. Barn owl box locations and installation shall be in accordance with guidance from The Barn Owl Trust, and agreement sought from Coventry City Council.

BD7 Protection of wintering birds

5.4.21. Vegetation clearance in winter would be staggered to retain availability of natural food sources for foraging birds within the Order Limits. REAC commitments LV1 and G5 of the First Iteration EMP (**TR010066/APP/6.5**) detail potential opportunities to provide screening during construction, which if feasible would mitigate against visual disturbance to wintering birds.

BD8 Protection of bats

5.4.22. Five bat boxes, including two suitable for hibernation, would be installed in locations within Coventry City Council land ownership prior to construction to ensure no loss of roosting habitat. Boxes would be in place prior to construction and maintained for a minimum of five years post-construction completion. Locations and installation to be agreed with Coventry City Council.

5.4.23. To reduce the risk of harming bats during the maternity and hibernation seasons the trees with bat roosting potential that require felling/pruning should be felled/pruned during September or October. If this is not possible any trees with summer roosting potential only should be felled/pruned during the hibernation

season (November to March) and trees with hibernation potential should be felled during the active season (April to October).

5.4.24. In the event the above cannot feasibly be adhered to pre-felling inspections should be undertaken by a bat licensed ecologist to check for roosting bats. This would comprise endoscope inspections, with aerial assessment where required. Where a feature cannot be fully inspected (for example due to health and safety concerns) the tree should be subject to soft felling techniques under supervision of the licensed ecologist who would then undertake the check for bats at ground level.

5.4.25. Where bats are found during pre-felling inspections works would cease and Natural England would be consulted and a bat mitigation licence applied for.

5.4.26. To minimise disturbance to bats, construction lighting would minimise light spill, in particular into retained habitat (including woodland) and linear features such as Smite Brook and hedgerows.

BD9 Invasive Non-native Species (INNS)

5.4.27. Measures to prevent the spread of the Wildlife and Countryside Act 1981 (as amended) Schedule 9 species Rhododendron *Rhododendron ponticum* and Himalayan balsam *Impatiens glandulifera*.

5.4.28. Production of, and adherence to, an INNS Management Plan within the Second Iteration EMP.

5.5. Best practice

5.5.1. A number of measures will be implemented as best practice during construction as part of the mitigation of impacts on landscape and visual receptors.

Construction

5.5.2. During construction, best practice mitigation measures noted in the REAC that are relevant to ecology include:

- Directional lighting positioned sympathetically, to minimise light spill and disturbance for sensitive receptors (REAC reference G3)
- Toolbox talks and other briefings will be carried out to ensure operatives can identify habitats suitable for protected species, individual species themselves and understand measures required when these species are encountered. (REAC reference G7)

5.5.3. All exposed pipe systems, trenches, and holes must be infilled, capped or covered when contractors are off site. All steep sided excavations will either be infilled, covered (ideally) or otherwise provided with a ramp if left overnight. If this is not possible, then one side of the excavation will be graded to 30 to 45 degrees to allow any trapped mammals to escape excavations.

At operation

5.5.4. The inclusion of back shields to luminaires on highway lighting columns where appropriate will limit light spill.

5.6. Establishment, management and maintenance

5.6.1. At detailed design a MCHW Series 3000 Landscape and Ecology specification will be produced for general planting and seeding operations during establishment and maintenance (Years 1 to 30). Typical management operations are summarised in Table 4-3 above, for Years 1 to 5.

5.6.2. At detailed design the LEMP will include further details of the management approach / targets and management prescriptions to ensure they reach their targeted ecological condition.

6. Biodiversity net gain

6.1. Introduction

6.1.1. The Environment Act 2021 was granted Royal Assent on 9 November 2021 and contains provisions which mandates achieving BNG for developments in England seeking development consent. Statutory requirements for Nationally Significant Infrastructure Projects (NSIPs) are expected for those applications for development consent which are not yet in examination, in November 2025. These provisions will legally require developers to ensure that development sites are improved for biodiversity, or to ensure that off-site areas are improved as compensation, or a combination of both. These improvements must result in a 10% increase in habitat value for wildlife compared with the predevelopment baseline. Mandatory BNG is measured by the latest version of the Statutory Biodiversity Metric published by the Secretary of State for Environment Food and Rural Affairs.

6.1.2. Given the timing of the application for development consent for this Scheme there are no statutory requirements to undertake a BNG assessment or to achieve a particular percentage increase through the Scheme. However, NSIP applicants are encouraged to take a proactive approach in the transition to mandatory BNG by completing a metric and taking opportunities to improve scheme performance against this. The use of a metric is also useful in demonstrating to stakeholders how a scheme is taking biodiversity into account. Additionally, the Scheme is a transition scheme sitting within the Road Investment Strategy 2 (RIS2) period (2020 – 2025) and as such National Highways have set the following KPIs for the Scheme relating to BNG:

- Delivery of a 10% net gain for area-based habitats
- Delivery of a 10% net gain for linear-hedgerow habitats

6.1.3. BNG can be achieved through habitat creation or enhancement to existing habitats. No enhancement of retained habitat is proposed as part of the environmental masterplan. All biodiversity creation will be required to be maintained for a minimum of 30 years, as this is the longest time to target condition of any of the created habitats.

6.2. BNG assessment

6.2.1. The results of the 2022/2024 UK Habitat Classification surveys (as detailed in the ES Chapter 8 (Biodiversity) (**TR010066/APP/6.1**)) have been used as input for a BNG assessment of the scheme using the latest version of the Department for Environment, Food & Rural Affairs (Defra) Statutory Biodiversity Metric.

6.2.2. The BNG calculations are provided in the Biodiversity Net Gain Report (ES Appendix 8.1 (**TR010066/APP/6.3**)).

6.3. Detailed design assessment

6.3.1. The ecological design strategy will incorporate measures to ensure the BNG habitat creation achieves its stated target condition, in accordance with the Statutory Biodiversity Metric, within the given timescales through the following elements:

- Detailing the design/working methods to achieve stated objectives.
- Detailing the extent and location of proposed works.
- Describing the type and source of materials used.
- Providing a timescale for implementation of management prescriptions during the whole 30-year period to ensure long-term success.
- Setting out who is responsible for implementation of the ecological design strategy.
- Details of initial aftercare and long-term maintenance.
- Details for monitoring and remedial measures.
- Details for disposal of any wastes arising from works.

6.3.2. These will be presented in the LEMP, detailed design drawings and specifications.

7. Monitoring Specifications

7.1.1. Monitoring the progress towards the targets is critical to meeting the objectives of the LEMP and ensuring the long-term success of the proposed landscape and ecological mitigation scheme. Monitoring will be carried out for the whole of the 30-year establishment and maintenance period of the LEMP.

7.1.2. The monitoring will record details of management works carried out, targets met, and / or remedial actions required. Records of monitoring will be retained for reference. Monitoring will be continued for the duration that management activities are undertaken.

7.1.3. Monitoring will be carried out primarily to ensure the created habitats achieve and maintain their target conditions as presented in the Biodiversity Net Gain Report (ES Appendix 8.1 (**TR010066/APP/6.3)**) and to determine:

- Whether measures have been implemented as agreed.
- The relative success/effectiveness of the measures.
- How to remedy the situation if any of the measures fail.
- If further consultation / approvals are required in the instance that the proposed measures are not proving effective.

7.1.4. At detailed design, full details will be provided in the LEMP with regards to monitoring.

8. References

National Highways (2021). Asset Data Management Manual (ADMM) and other management and maintenance guides v13.0 [online] available at: https://nationalhighways.co.uk/suppliers/design-standards-and-specifications/admm-and-other-management-and-maintenance-guides/ Accessed July 2024

Her Majesty's Government (UK). (2021). Environment Act 2021. [online] Available at: https://www.legislation.gov.uk/ukpga/2021/30/contents/enacted Accessed June 2023

Highways England (2014). Design Manual for Roads and Bridges, Manual of Contract Documents for Highway Works (MCHW) [online] available at: https://www.standardsforhighways.co.uk/search?q&pageNumber=1&suite=MCHW&discipline&mchwVolume=2&mchwSection Accessed July 2024

Highways England (2020). DMRB LA 104: Environmental assessment and monitoring Revision 1 [online] available at: https://www.standardsforhighways.co.uk/search/0f6e0b6a-d08e-4673-8691-cab564d4a60a Accessed July 2024

Highways England (2020). DMRB LA 107: Landscape and visual effects Revision 2 [online] available at: https://www.standardsforhighways.co.uk/search/bc8a371f-2443-4761-af5d-f37d632c5734 Accessed July 2024

Highways England (2020). DMRB LA 108: Biodiversity Revision 1 [online] available at: https://www.standardsforhighways.co.uk/search/af0517ba-14d2-4a52-aa6d-1b21ba05b465 Accessed July 2024

Highways England (2020). DMRB LD 117 Landscape design [online] available at: https://www.standardsforhighways.co.uk/search/82073bde-ec0c-4d4f-8eeb-afe0ace3c639 Accessed July 2024

Highways England (2020). DMRB LD 118 Biodiversity design [online] available at: https://www.standardsforhighways.co.uk/search/9317652b-4cb8-4aaf-be57-b96d324c8965 Accessed July 2024

A46 Coventry Junctions (Walsgrave) Scheme number: TR010066

6.5 First Iteration Environmental Management Plan

Appendix B.5 – Construction Communication Strategy

APFP Regulations 5(2)(a)

Planning Act 2008

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

Volume 6

November 2024

Infrastructure Planning

Planning Act 2008

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

A46 Coventry Junctions (Walsgrave)
Development Consent Order 2024

FIRST ITERATION ENVIRONMENTAL MANAGEMENT PLAN
Appendix B.5 Construction Communication Strategy

Regulation Number	Regulation 5(2)(a)
Planning Inspectorate Scheme Reference	TR010066
Application Document Reference	TR010066/APP/6.5
Author	A46 Coventry Junctions (Walsgrave) Project Team, National Highways

Version	Date	Status of Version
Rev 0	November 2024	Application Issue

Table of contents

1. Introduction

1.1. Purpose of the Strategy

1.1.1. This document is the Construction Communication Strategy which forms Appendix B.5 of the First Iteration Environment Management Plan (EMP) (**TR010066/APP/6.1**)

1.1.2. This document sets out the communications plan to support the A46 Coventry Junctions (Walsgrave) scheme (the Scheme). It has been prepared in accordance with National Highway's Communications and Engagement Plan guidance to support subsequent stages of scheme development. This is with a view to achieving start of works (SoW) in Winter 2026.

1.2. Objectives of the Strategy

- To set out the communications strategy in relation to the SoW
- To provide consistent and effective leadership and control of all communications and stakeholder engagement
- To ensure there is clarity and consistency regarding what is communicated to all stakeholder groups throughout the lifecycle of the project
- To improve customer experience of National Highways through the communications and engagement undertaken to support scheme development
- To safeguard the reputation of National Highways by addressing any misunderstandings or inaccurate information as it arises

1.3. Monitoring & Evaluation

1.3.1. This Construction Communications Strategy will be monitored and evaluated throughout the project lifecycle to ensure it remains relevant and up to date.

1.3.2. The effectiveness of communications and engagement activity will be monitored throughout the lifecycle of the scheme through customer correspondence, surveys, sentiment and lessons identified sessions to ensure continuous improvement. This Construction Communication Strategy will be adapted accordingly

1.4. The Scheme

1.4.1. The Scheme is part of National Highways' commitment to improve the A46 'Trans-Midlands Trade Corridor' between the M5 and the Humber Ports. The A46 has historically experienced safety issues, and the section south of

Coventry was in the top 45% for total casualties and in the top 250 collision locations in England.

1.4.2. The Coventry Junctions scheme involves the upgrade of two at-grade junctions (Binley and Walsgrave) to provide relief from traffic congestion and to improve journey times by increasing the capacity on the A46 between the M6 and the M40. This will benefit both the strategic and local traffic needs and support future growth forecasts from Coventry City Council.

1.4.3. Walsgrave junction is the last remaining roundabout east of Coventry and north of Tollbar End junction that is at-grade, and as such it is a pinch point for traffic. The Tollbar End junction and M6 Smart Motorway improvements have increased the pressure on Binley and Walsgrave junctions.

1.4.4. The Binley roundabout is approximately 1.7km to the south of the Walsgrave junction. The A46 Binley junction improvement scheme was opened to traffic in November 2022, converting the junction from an at-grade signalised roundabout to a grade separated junction.

1.4.5. There are concerns that without further investment to reduce congestion on the A46, the benefits of the improvement works at Tollbar End junction would be limited. In particular, the current delays at the Walsgrave junction could undermine the existing investment which has been made on A46 improvements.

1.5. Programme

1.5.1. The indicative construction programme for the scheme is produced by the principal contractor and will be refined as necessary as the detailed design progresses.

1.5.2. The construction phase is currently split into phases, each requiring different Traffic Management arrangements. These are detailed in the Outline Traffic Management Plan (**TR010066/APP/7.5**).

1.5.3. The phases include a pre-commencement work phase, due to start in Autumn 2026. The proposed pre-commencement works include enabling works and vegetation clearance. Further details of the proposed pre-commencement works are provided in the Pre-Commencement Plan (**TR010066/APP/6.7**).

1.5.4. The full construction period is anticipated to take approximately 21 months.

2. Stakeholder Management

2.1. Tracking and Monitoring

2.1.1. Stakeholders will be managed via MP Connect, the National Highways Customer Relationships Management (CRM) System. Stakeholder related issues, risks and opportunities will be captured on the Stakeholder Tracker and where required, risk will be managed on Xactium. Risk and escalations will be managed through the regular stakeholder, Customer and Communication Check-In meetings.

2.2. Key Stakeholders

2.2.1. Key stakeholders include but are not exhaustive of those listed below:

- Strategic Planning Consultees
  - Coventry City Council
  - Warwickshire County Council
  - Rugby Borough Council
  - Transport for West Midlands
- Affected Parish Councils
  - Binley Woods
  - Binley & Willenhall
  - Wyken
- Members of Parliament
  - Zarah Sultana MP (Coventry South)
- Environmental organisations and groups
  - Natural England
  - The Environment Agency
  - Historic England
  - UKHSA
- Affected third parties
  - Utility providers
  - Interrelated projects
  - Affected landowners

2.3. Cohorts and Stakeholder Engagement

2.3.1. The Stakeholders for the Scheme have been defined by cohorts. Cohorts are grouped by individual, group or by vested specific interest. Each cohort

has been allocated a cohort lead and a liaison lead to ensure continuity of communication, messaging and ensure the key stakeholder has a regular and recognised point of contact for the scheme.

3. Communication and Engagement Methods

3.1. Consultation

3.1.1. We held our public consultation in 2023. We set out a summary of the responses received and the themes raised in our public consultation summary report which was published in May 2024. The full consultation report, summarising all the responses, and describing how our proposals have been informed and influenced by them, will form part of our DCO application. This will be available to the public if our application is accepted by the Planning Inspectorate. We expect to submit our application by autumn 2024 and, if consent is granted, work will start in autumn/winter 2026. In addition to this consultation process, we'll continue to engage with anyone interested in or impacted by the Scheme via targeted consultation process.

3.2. Regular Communication

3.2.1. We'll speak to anyone interested or impacted by the scheme via online or face-to-face meetings, briefings, scheme webpage updates, social media and where required through public information exhibitions (PIEs), public drop in events or utilising the National Highways engagement van.

3.2.2. Key communications and engagement activity. See tables below for:

- Appendix A – provides a full description of the communication and engagement channels to be used throughout the scheme lifecycle.
- Appendix B – provides details of how each stakeholder group will be communicated and engaged with throughout the scheme lifecycle

3.3. Managing Expectations

3.3.1. With the Start of Works anticipated in Winter 2026, it is important to ensure that the expectations of all stakeholders are managed effectively. Stakeholders will be informed regarding the detail of when construction works are going to happen. Ensuring clarity and transparency while maintaining relationships with our stakeholders. Key construction programme dates will be published via the webpage, newsletter and Public Information Exhibitions (PIEs), they will also be directly communicated to parish councils and other key stakeholders.

3.4. Engagement with Equality Diversity and Inclusion (EDI) groups

3.4.1. The Scheme Equality Impact Assessment (EqIA) provides an analysis of the proposals for the Scheme. It has been undertaken to support National Highways in meeting its statutory requirements under the Public Sector Equality Duty (PSED), as set out in the Equality Act 2010, to support good decision making and to ensure that the scheme meets the needs of all users of the road network and of local communities, in particular those equality groups covered under the Equality Act 2010.

3.4.2. EDI groups have been included in Appendix B under the stakeholder category of 'Community groups and organisations' where we will keep stakeholders informed and work together where a common ground exists. Throughout the lifecycle of the scheme, we'll ensure:

- The provision of appropriate and accessible materials in alternative formats (large print, Braille and alternative languages other than English if requested)
- Provision of appropriate and accessible materials in local communities/EDI centres/ prepared for hard to reach groups
- PIE venues will be selected in line with National Highways EqIA EDI principles, will be compliant with the Equality Act 2010 and an accessibility checklist completed.

4. Customer Care

4.1.1. The Octavius Customer Service Strategy 24 is designed to address the needs and improve the experience of people who use, or are affected by our work that we deliver on behalf of National Highways. See Annex A.

4.1.2. Customer care training will be delivered to the A46 Coventry junctions (Walsgrave) Integrated Project Team (IPT) and when the scheme goes into construction will form part of the site induction package.

4.1.3. Customer sentiment, themes, issues and correspondence will be tracked and communicated to the wider IPT throughout the project lifecycle via regular Stakeholder, Customer & Communications Check in meetings.

4.1.4. Customer correspondence and communications will be dealt with in accordance with National Highway's 'Normal not Formal' and 'Writing Reactive correspondence'.

4.1.5. The Correspondence Quality checklist will be used to ensure quality standards. The 10 day response time will also be adhered to and tracked and monitored through correspondence tracker and Stakeholder and customer meetings.

5. Project Control Framework (PCF) Communication Planning for Major Projects

5.1.1. We have developed and maintain three documents that make up the Communications Planning for Major Projects PCF Product.

5.2. Stakeholder Action Tracker

5.2.1. This document details the key stakeholders, their interest, influence, current relationship status, best method to engage and the latest communication. The 'Forward programme – milestones' plan details planned milestones, the related impact to the public and the associated planned communications and engagement activities.

5.3. Questions and Answers (Q&As)

5.3.1. This identifies key questions that may be asked by stakeholders with appropriate and pre agreed answers. This document will be maintained and developed throughout the project lifecycle. As the project develops, this document will be updated to include further key questions that may be asked during PIEs and the construction phase. This document will be supplied to the National Highways Customer Contact Centre (CCC) to support with customer correspondence where appropriate.

5.4. Key Points Brief & Key Messages House

5.4.1. This document provides an overview of the scheme, objectives, benefits and key stakeholder issues. It also provides key messages on a page.

6. Appendix A – Communication and Engagement Channels

Communications and engagement channels	Description
Advocacy groups	Stakeholder groups directly impacted by the scheme to receive regular updates where they can raise any issues or concerns in a face-to-face environment for mitigation or resolution. To date, no stakeholder advocacy groups have been identified, these may be identified and added throughout the lifecycle of the project. Qualitative customer feedback would be encouraged on specific subjects where necessary.
Communications network	A group of communications professionals that can cascade information through their own existing communications channels to large groups of stakeholders. For example, local authorities, emergency services and large employers in the area.
Regular meetings	Meetings with specific stakeholders either face to face or via Teams.
Newsletter	Once in construction, a quarterly A46 programme newsletter providing communications and messages regarding milestones, good news stories, traffic management and next steps
Website	National Highways scheme specific page – A46 Coventry Junctions upgrade - National Highways
Traffic Management Bulletin	Ad hoc bulletin sent to identified stakeholders as and when traffic management needs to be communicated wider.
Statutory letters	As defined by the Planning Act 2008
Statutory notices	As defined by the Planning Act 2008
Non-statutory letters	Specific stakeholders impacted by the scheme. For example, specific road closures or survey works as well as those who have requested to be updated.
Media release and press statements	Information sent directly to media outlets to inform of scheme news, updates, and changes. (Proactive and reactive)
Social media	Provide ‘bite-size’ communications to stakeholders regarding progress, milestones, good news stories and next steps.

Communications and engagement channels	Description
National Highways engagement van	Public information available in a mobile location that can travel to locations targeted to maximise directly affected communities or stakeholders. Information available about the scheme, with outcome of DCO, opportunity to sign up to communications, Q&A and updates, with the support of the project team to share information and answer customer questions.
Public information exhibitions (PIEs)	Exhibition open to the public in fixed community locations, using roller banners and other display material, with the support of the project team to share information and answer customer questions. Venues to be confirmed but exhibitions will take place before SoW.
Public information exhibitions (PIEs) (online)	Display material available as per PIEs above on an online platform to inform customers that are unable to attend a physical event.
Social Value activities	Targeted social value activities will be conducted to build trust and enhance the National Highways reputation within the community. These may include organisations like: • Local primary schools • Local secondary schools • Local colleges • Local charitable organisations • Local community groups This list is not exhaustive and can be added to throughout the lifecycle of the scheme.
Volunteering days	Volunteering days will be held in specific locations impacted by the scheme to raise awareness, gain positive engagement, and promote reputation.
Phone	As and when required, including responding to National Highways Customer Contact Centre enquiries.
Email	As and when required, including responding to National Highways Customer Contact Centre enquiries.
Posters	Information in hard copy and electronic format to provide information about any scheme specific communications.
Variable Message Signs (VMS)	May be used to communicate specific messages to motorists, for example traffic management, diversions and contact details.
Roller banners	Information in hard copy to provide information about any scheme specific communications.
Feedback Survey	Used to gain customer feedback in a quantitative or qualitative format.

7. Appendix B – Specific Stakeholder Engagement Channels

Stakeholder category	Stakeholder or audience	Communications channel or activity
Strategic consultees Stakeholders we manage closely and consult with throughout the scheme lifecycle.	• Coventry City Council • Warwickshire County Council • Rugby Borough Council • Transport for West Midlands • West Midlands Combined Authority	Communications network Regular meetings Newsletter Traffic Management Bulletin Statutory letters Statutory notices Social media Phone Email Posters Feedback survey PIEs Volunteering days
	National Highways • WM Regional Operations team • Coventry, Warwickshire & Worcestershire Route Manager • National Highways Operations Directorate	Regular meetings Phone Email
	Statutory environmental bodies • Environment Agency • Historic England • Natural England • UKHSA	Regular meetings Statutory letters – where applicable Statutory notices – where applicable Phone Email
	Members of Parliament • MP Coventry South	Regular meetings Newsletter Traffic Management Bulletin Non-statutory letters Media release Phone Email

Stakeholder category	Stakeholder or audience	Communications channel or activity
Community groups, organisations and affected landowners Stakeholders we keep informed and work together with, where a common ground exists.	• Parish councils • Landowners (Book of Reference) • Individuals, communities, and businesses impacted by constructions and traffic management.	Regular meetings Newsletter Website Traffic Management Bulletin Statutory letters – where applicable
	• Residents Associations • Business groups and forums	Statutory notices – where applicable Social media Email Phone National Highways PIEs Social Value activity Posters Feedback survey
	Community groups	Newsletter Website Traffic Management Bulletin Non-statutory letters Media release Social media PIEs Volunteering days Posters Feedback survey
	Equality and diversity groups	Regular meetings Newsletter Website Statutory letters – where applicable Statutory notices – where applicable Social media Phone Email

Stakeholder category	Stakeholder or audience	Communications channel or activity
	Traffic generators (leisure, events, and large employers)	Newsletter Website Traffic Management Bulletin Social media Communications network VMS Roller banners Feedback survey
	Seasonal traffic and events • Events at the Coventry Building Society Arena • Coventry Half Marathon • Coventry Godiva Festival • Coventry Moto Fest • Coventry Pride • Caribbean Reggae Fever • Coventry Rocks	Newsletter Website Traffic Management Bulletin Social media PIEs Email VMS Feedback survey
	Major event venues • Coventry Building Society Arena	
	Transport operators	Regular meetings Traffic Management Bulletin Statutory letters – where applicable Statutory notices – where applicable Phone Email VMS Feedback survey
	Utilities • National Grid • Vodafone • Severn Trent Water	Regular meetings Statutory letters – where applicable Statutory notices – where applicable Phone Email

Stakeholder category	Stakeholder or audience	Communications channel or activity
	Interrelated projects	Communications network Regular meetings Newsletter Traffic Management Bulletin Non-statutory letters Social media PIES Social Value activities Phone Email
	Schools and colleges	Newsletter Website Social media Social Value activities STEM Events Posters
	Local environmental groups (non-statutory)	Newsletter Website Non-statutory letters Media release Social media PIEs Volunteering days Phone Email Feedback survey
	National Highways • WM Regional Operations team • Coventry, Warwickshire & Worcestershire Route Manager • OD Midlands CCC • National Highways CCC	Regular meetings Traffic Management Bulletin Phone Email VMS

Stakeholder category	Stakeholder or audience	Communications channel or activity
Customers we keep informed of our scheme and monitor responses	• Service stations • Active Travel • West Midlands Combined Authority • Transport for West Midlands	Roller banners Posters Email VMS
	Neighboring Local Authorities (indirectly affected)	Newsletter Statutory letters – where applicable Statutory notices – where applicable Email TM Bulletin
	Residents – in Public Consultation Zone (outside of Book of Reference)	Newsletters Non-statutory letters Website Social media Media releases Statutory publicity
Stakeholders we listen and respond to	Media	Press releases Press statements
	Speed watch groups	Newsletter Media Statutory notices – where applicable TM Bulletin

8. Annex A – Customer Service Strategy

Octavius Customer Service Strategy 24

References:
Making a difference for our customers - National Highways
National Highways Customer Service Strategy
National Highways Customer Service Plan 2023-24

This strategy is designed to address the needs and improve the experience of people who use, or are affected by our work that we deliver on behalf of National Highways. Our customers may include road users, drivers, pedestrians, cyclists, public transportation users, business users, freight hauliers, local businesses, landowners, communities and community groups.

Through our customer service strategy, we strive to support the strategic priorities of National Highways through activities that reflect the Strategic Roads Users Survey (SRUS), National Highways Customer Service Plan and the six strategic customer themes, these are outlined below:

Empowering our people
A dedicated project level customer lead to support with all customer related activity
Apply the 5 guiding principles and requirements of the National Highways Roadworks: A Customer View
Ensure knowledge and best practice is shared cross-project, across the region and industry
Integrate our suppliers to support with customer related activity and act on customer needs and expectations
Our active Customer Centric Action Plan ensures we are developing our customer culture and maturity scores
Utilise feedback provided by the National Highways Strategic Customer Experience Team
Work closely with National Highways regional route manager, Network Planner and Traffic Officers to understand driver behaviours, trends and potential conflict points for road users
Our customer facing people receive training and tool box talks on key messages and lines to take to equip them for dealing with members of the public

Developing better relationships
Support National Highways with Public Information Events
Actively listen to our stakeholders through forums, stakeholder meetings, collaborative sessions or bespoke engagement
Identifying lessons and capture feedback from customers ensuring we track and monitor themes, comments and sentiment and actively listen to their needs
Seek and identify opportunities where National Highways designated funds can be used to leave a positive legacy for communities
Seek and identify opportunities where National Highways Social Value fund can be used to leave a positive legacy for communities
Implement and deliver social value in accordance with the four pillars of the National Highways social value plan

A well maintained and safe network
Develop a robust Traffic Management Plan in conjunction with National Highways and local authority partners
Action Customer Experience Drive Through Audits comments to ensure continuous improvement and improve customer experience
Collaborate with local authorities to ensure we maximise traffic management for activities such as litter picking
Collaborate with other organisations to combine work to reduce customer impact

Providing better information
Establish channels for feedback and assistance via the scheme mailbox, attendance at forums, regular communications with stakeholders and monitoring social media
Provide collateral for National Highways scheme webpage, social media platforms and press releases
Develop FAQs for use at National Highways Customer Contact Centre
Work proactively with our National Highways Project Support teams to ensure customer correspondence is dealt with within the 10 day SLA timeframe

Work closely with our National Highways Project Support teams to ensure quality scores for all correspondence are maintained in accordance with National Highways writing reactive correspondence and normal not formal guidance
Track and monitor customers and cases via the MP Connect CRM system
Alongside our supply chain, undertake extensive social value and outreach activities in accordance with the four pillars of the National Highways social value plan

A better end to end experience
Collaborate with local authorities on behalf of National Highways via forums to improve ways of working where our work may interact
Ensure ease of navigation through webpage updates, advanced signage and clearly marked diversion routes
Share knowledge and best practice and glean lessons from others by attending Regional centre of excellence meetings and contributing to the National Highways and supply chain community
Capture, track and monitor customer experience data through customer interactions, surveys, feedback forms public consultation responses, social media, online reviews and website analytics
Analyse the feedback from our Customer Performance Assurance Audit to drive continuous improvement and improve customer experience

Improving Journey Times
Stranded vehicle detection for incident reporting to National Highways recovery service
Variable Messaging Signs to inform road users of future works and potential delays to inform road users and reduce traffic delays
Remain flexible and collaborative with local authorities and partners Eg. Adapt road closure timings to suit major events or busy times of the day to ensure we reduce customer impact
Collaborate with our stakeholders to understand key community events or traffic generators to seek the least disruptive solution

A46 Coventry Junctions (Walsgrave) Scheme number: TR010066

6.5 First Iteration Environmental Management Plan

Appendix B.6 Unexpected Archaeological Finds Protocol

APFP Regulations 5(2)(a)

Planning Act 2008

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

Volume 6

November 2024

Infrastructure Planning

Planning Act 2008

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

A46 Coventry Junctions (Walsgrave)
Development Consent Order 202[x]

FIRST ITERATION ENVIRONMENTAL MANAGEMENT PLAN
Appendix B.6 Unexpected Archaeological Finds Protocol

Regulation Number	Regulation 5(2)(a)
Planning Inspectorate Scheme Reference	TR010066
Application Document Reference	TR010066/APP/6.5
Author	A46 Coventry Junctions (Walsgrave), Project Team & National Highways

Version	Date	Status of Version
Rev 0	November 2024	Application Issue

Unexpected Archaeological Finds Protocol
Quick Reference Sheet

This section is a short, easy to digest guide for site staff to refer to in the first moments of a discovery. A more display-friendly resource is included below. Further details are given in the main body of the document.

It is often hard to identify archaeological material. A toolbox talk will be delivered to site staff by the Retained Archaeologist/ACoW but, site staff will not be expected to be proficient at this skill. As a rule of thumb:

If you do not know exactly what an object is, AND that it is modern (i.e. from within the last 20 years or so), act as if it is an archaeological find.

Treat any bone as possibly human and any unknown metal object as possible Treasure

In the event of the discovery of unexpected archaeological remains during construction, including treasure and human remains, the following reporting procedure will be followed:

- Stop work
- Notify the Site Manager and ACoW
- Protect the find
- Assess and record the find
- Resume work if safe and appropriate to do so

Stop work

The discoverer of unexpected archaeological remains will immediately notify machinery operators and site personnel in the area that they believe that they have come across unexpected archaeological remains. Work will be stopped in the immediate area so no further disturbance will occur. The discovery should be left untouched and not moved or handled any further.

Notify the Site Manager and ACoW

The discoverer will notify the Site Manager (or via a supervisor as appropriate) who will notify the ACoW as soon as possible of the discovery.

The Site Manager should also make a preliminary record of the location of the find and its current state. A mobile phone photo will do. Something should be included in the photo that gives an idea of relative scale of the find.

For example, a modern coin, a pen etc if it is a small item. A measuring tape is ideal. Something larger, like a ranging pole or shovel may be appropriate if the remains are more substantial. The mobile phone app ‘what3words’ is adequate to record the approximate location if there is no better alternative to hand.

Protect the find

As soon as possible after the discovery, the Site Manager will arrange for the find to be protected by being fenced off and will keep ongoing work and other disturbance out of this area. Ideally, the find should be covered over with loose soil if available without causing further disturbance to the immediate area. Do not discuss finds with anyone not working on the project.

Assess and record the find

Within 24 hours of the discovery the ACoW will investigate the nature, extent and location of the find and report their findings to the Principal Contractor and, if appropriate, the Client. The ACoW will agree an appropriate response with the relevant parties. This may include the archaeological recording of the discovery as soon as practicable, particularly where the location or scope of the archaeological works have the potential to affect the construction programme.

Resume work

The ACoW will inform all parties as soon as the archaeological mitigation work is complete. The Principal Contractor / Client will inform the site supervisor that the area is no longer locked out and work may continue in the area.

Human Remains and Treasure

There are specific procedures for human remains and treasure set out below. Failure to follow them may result in a criminal offence. The above measures are an appropriate first response for human bone and treasure.

Table of contents

1. Unexpected archaeological finds protocol

1.1. Purpose of the protocol

1.1.1. Archaeological remains are an important heritage asset. They are a finite and non-renewable resource and should be treated with respect. In some instances, even where appropriate and robust cultural heritage assessments are undertaken during the environmental impact assessment process, and suitable heritage mitigation put in place, heritage assets that are previously unknown can be encountered during construction.

1.1.2. The purpose of this protocol is to provide guidance to site personnel in the event of an unexpected find of archaeological remains, including but not limited to treasure and human remains.

1.1.3. This document forms Appendix B.6 of the First Iteration Environmental Management Plan (EMP) (**TR010066/APP/6.5**) and has been prepared with reference to the First Iteration EMP Register of Environmental Actions and Commitments (REAC) cultural heritage requirements. It provides the methodology through which the cultural heritage commitments identified in the REAC are delivered and the draft Development Consent Order (DCO) Schedule 2 Requirement 10 is discharged. This is detailed at REAC cultural heritage commitment CH2 as follows:

CH2 – *"An unexpected archaeological finds protocol (UAFP) will be included in the Second Iteration EMP. The protocol will be secured through DCO condition and captured within an appendix to the Second Iteration EMP. The content of the UAFP will be agreed with Coventry City Council and Rugby Borough Council. Measures will include provision for appropriate archaeological advice as well as minimum standards for any potential archaeological works including reporting, archiving and dissemination."*

1.2. Scope

1.2.1. This protocol outlines the procedure that should be followed on the discovery of previously unknown archaeological remains during construction. It covers discoveries of unexpected archaeological remains in the whole of the area required for construction. It also sets out the process of notification, recording and reporting of unexpected archaeological remains on site.

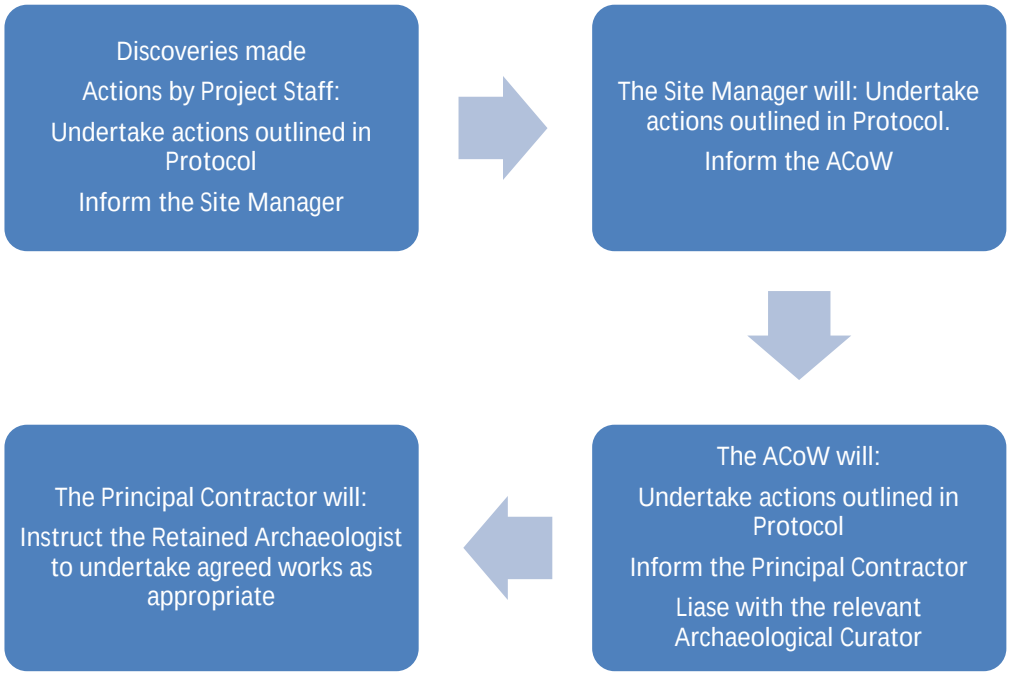
1.3. Roles and Responsibilities

1.3.1. The following roles and responsibilities are referred to throughout this protocol. Contact details may be updated at any time and up-to-date information should be kept on site.

Table 1 - Roles

Role	Body/Title	Contact	Responsibilities
Principal Contractor	Project Manager	TBC (contact details to be added prior to commencement and updated through the works)	Undertake site works in accordance with this protocol.
Site Manager	Site Manager for each work site	TBC (contact details to be added prior to commencement and updated through the works)	The person formally appointed by the Principal Contractor to be responsible for reports arising from a particular activity location. The Site Manager should be a person in a position to control the immediate works.
Client	National Highways	TBC (to be contacted via the Principal Contractor)	Ensure all works are in compliance with the DCO requirements for the scheme
Archaeological Clerk of Works (ACoW)	TBC	TBC (contact details to be added prior to commencement and updated through the works)	Advice to the Principal Contractor, Site Manager and other site teams regarding potential finds and appropriate responses within this protocol. Liaison with and periodic reporting to the Archaeological Curator
Retained Archaeologist	TBC	TBC (contact details to be added prior to commencement and updated through the works)	Undertaking any required archaeological recording works
Archaeological Curator	Archaeological Advisors to Coventry City Council and Rugby Borough Council	[redacted]	Monitoring this protocol and any archaeological work arising from it. Each curator will monitor within their respective council's boundaries but are free to delegate, share resources and advise each other as needed.

Table 2 – Sequencing



1.4. Protocol

1.4.1. An unexpected archaeological find is defined as any unanticipated archaeological discovery that has not been identified during a previous assessment or identified during archaeological works.

1.4.2. The range of potential archaeological discoveries can include but are not limited to:

- Artefacts and artefact scatters or clusters including worked flint and stone, worked metal objects, coins and coin hoards, pottery, glass, animal bones and clay pipes, tiles and bricks
- Organic archaeological remains such as leather and worked wood in waterlogged environments
- Archaeological human remains
- Items that would be classed as treasure
- Remains of infrastructure including walls, wall footings, wells, cisterns, drainage services, kerbing, pavements, former path and road surfaces, timber and stone culverts and infilled ditches and post-holes

1.4.3. The unexpected discovery of human remains or items classed as treasure should be dealt with discreetly and sensitively. Any discoveries should be reported in line with this protocol. No one should take part in any form of public

engagement, or disclosure in any form, of their knowledge of a discovery of treasure or human remains without the express permission of the Client.

1.5. Reporting procedure

1.5.1. In the event of the discovery of unexpected archaeological remains during construction, including treasure and human remains, the following reporting procedure will be followed:

- Stop work
- Notify the Site Manager and ACoW
- Protect the find
- Assess and record the find
- Resume work

Stop work

1.5.2. The discoverer of unexpected archaeological remains will immediately notify machinery operators and site personnel in the area that they believe that they have come across unexpected archaeological remains. Work will be stopped in the immediate area so no further disturbance will occur. The discovery should be left untouched and not excavated, moved or handled any further.

Notify the Site Manager and ACoW

1.5.3. The discoverer will notify the Site Manager (directly or via their site supervisor), who will notify the ACoW as soon as possible of the discovery.

1.5.4. The Site Manager should make a record of the location of the find and its current state. A mobile phone photo will do, although something should be included in the photo that gives an idea of relative scale of the finding for example a modern coin if it is a small item. Something larger if the remains are more substantial. The mobile phone app ‘what3words’ can be used record the approximate location in the first instance.

1.5.5. If necessary and appropriate, the ACoW will advise the Site Manager of other information to record, to prepare a Preliminary Record. This would usually include:

- Date and time of discovery
- Date and time that the ACoW was informed
- Name of the Site Manager and the discoverer of the find
- NGR location of the find and positional accuracy

- A note on the circumstances of the find (has it been moved by operations, was further disturbance necessary for safety etc.)

Protect and assess the find

1.5.6. As soon as possible after the discovery, the Site Manager will arrange for the find to be protected by being fenced off and will keep ongoing work and disturbance out of this area.

1.5.7. Within 24 hours of the discovery the ACoW will investigate the nature, extent and location of the find and report their findings immediately to the Principal Contractor and, if appropriate, the Client.

1.5.8. Potential finds of treasure or human remains will be investigated and assessed by the ACoW as soon as possible after they have been notified of the discovery. Ideally, the find should be covered over with loose soil, if available, without causing further disturbance to the immediate area. The ACoW may advise other protection methods, if practicable, following the guidelines in ORPAD

1.5.9. The ACoW will liaise with the appropriate bodies to agree a suitable mitigation strategy for the area and programme for this work. This is likely to be simple recording of the find but may involve more involved archaeological works or potentially redesign of The Works.

1.5.10. In the unlikely event of the discovery of significant archaeological remains that may warrant preservation in situ the mitigation strategy for dealing with these remains will be agreed by all parties. If necessary, a site meeting will be arranged as soon as possible between all parties in order to decide on how best to proceed so that work in this area can recommence as soon as possible.

Record the find

1.5.11. The ACoW will advise the Client and Principal Contractor regarding any agreed mitigation work. This will usually include the recording of the discovery archaeologically as soon as practicable, particularly where the location or scope of the archaeological works have the potential to impact upon the construction programme. The retained Archaeologist may be appropriate to mobilise for this work. For larger or more complex mitigation, scoping, procurement and management of a subcontractor may be required.

1.5.12. Any and all archaeological works will follow the standards and methods set out in section 3 below unless otherwise agreed with the Archaeological Curator.

Resuming work

1.5.13. The ACoW will inform all parties as soon as the archaeological mitigation work is complete. The Client and/or (as delegated) Principal Contractor will discuss between them, as advised by the ACoW, to agree to / how to proceed in consultation and agreement with the Archaeological Curator. In the event of trivial or no archaeological work, the ACoW will inform the Site Manager directly of the all-clear to continue.

1.6. Treasure

1.6.1. Any items that are classed as treasure must not be removed from site or unnecessarily disturbed by the Principal Contractor or their sub-contractors. Any such finds must be reported immediately by the discoverer to the Site Manager who will inform the ACoW. The Site Manager should make a record of the find and its location and pass that information on immediately to the ACoW. If the item has already been removed from the ground it should not be cleaned. It should be put into a clean plastic bag and handed over to the ACoW as soon as possible. The ACoW will notify the local coroner and finds liaison officer within 14 days of the discovery.

1.6.2. Any treasure will be removed to a secure store. Where removal cannot be achieved on the same working day as the discovery, suitable security measures must be implemented by the Principal Contractor to protect the finds from theft.

1.7. Human remains

1.7.1. Disturbing human remains without a license is an offence and can be punished by fines and/or imprisonment.

1.7.2. Any finds of human remains made during the course of a project will be left in situ, covered and protected. The procedure for reporting human archaeological remains is as set out above; stop the work, notify the find and protect it. The site should be left undisturbed and no objects moved or handled under any circumstances. Suspected finds of human archaeological remains must be reported immediately by the discoverer to the Site Manager and ACoW.

1.7.3. Humans remains include individual human bones, skeletons (whole or part of) and cremated remains in the form of a distinct small deposits of ash and fragments of bone without or with a container such as a ceramic burial urn or vessel.

1.7.4. As soon as possible after notification of the find the ACoW will investigate the nature, extent and location of the find and report their findings immediately to the

Principal Contractor and Client. They will determine if the remains found are human and archaeological or not and call the police if necessary, to report the find. The police may take control of the site of the find and any further investigation as required.

1.7.5. If the human remains are archaeological, the ACoW will agree a suitable mitigation strategy for the area with all parties and programme for this work. The mitigation is most likely to take the form of avoidance.

1.7.6. If removal is unavoidable, it will take place under appropriate regulations (including in accordance with the relevant licence obtained from the Ministry of Justice) and with due regard for health and safety issues and the requirements of the Burial Act 1857.

1.7.7. All human remains will be screened from casual view by site staff and passers-by at all times. Any visitors to the site will be made aware that human remains may be visible. Images of human remains must only be those needed to inform the ACoW according to this protocol and will not be used for any purposes other than this.

1.8. Military remains

1.8.1. Any military remains should be assumed to be a hazard for unexploded ordnance in addition to an archaeological find. The site should be left undisturbed and no objects moved or handled under any circumstances. Those present on site should enact their unexploded ordnance procedure as well as informing the ACoW as above. The ACoW will be led in the first instance by the advice of the ordnance risk assessment. If it is safe to proceed, the ACoW will notify the Joint Casualty and Compassionate Centre (JCCC) commemorations and licencing team and agree an appropriate archaeological response with the relevant parties.

2. Routine site attendance

2.1.1. The ACoW will implement site attendance by a suitably qualified archaeologist. The purpose of attendance is to:

- Deliver toolbox talks to ensure construction staff are appropriately briefed
- Conduct basic site inspections to ensure the protocol is being followed and is still appropriate as mitigation
- Make recommendations as appropriate

2.1.2. The programme for site attendance will be agreed with the local authority archaeological advisor. Visits are expected to occur at irregular intervals, before and during initial site clearance/topsoil stripping. Visits may include either or both a toolbox talk and basic inspection

2.1.3. Following each visit, a short summary will be provided by the ACoW to the Principal Contractor, Client and Archaeological Curator. The summary structure may vary as appropriate to the findings but is expected to include as a minimum:

- Date, time and details of the attending archaeologist
- Purpose of the visit (basic inspection, toolbox talk, etc)
- Any results or issues identified (or lack thereof)

2.2. Basic inspection

2.2.1. The attending archaeologist will be afforded access to the site so far as is safe and reasonable to do so. They will make visual inspections of excavation activities and areas and make notes as appropriate. It is not expected that any physical investigations will be undertaken however, cursory investigations may be undertaken on agreement with the Site Manager.

2.2.2. The attending archaeologist may initiate the procedure for discovery if necessary.

2.3. Toolbox talk

2.3.1. The ACoW will implement toolbox talks to communicate information to the Principal Contractor's site staff and sub-contractors on the following topics:

- The protocol for dealing with the discovery of unexpected archaeological remains including treasure and human remains.
- The delicate and sensitive nature of unexpected finds of treasure and human remains and dealing with these finds discreetly.

- The law regarding human remains and treasure and the importance of adhering to the relevant legislation and the consequences of the failure to do so.

2.3.2. To account for personnel changes, toolbox talks will be scheduled as often as reasonably required to ensure that project staff are adequately briefed.

3. Standards for archaeological recording

3.1. General

3.1.1. This section serves as an expected minimum standard for archaeological recording where non-trivial remains have been identified and it has been agreed with the Archaeological Curator that standalone works under a written scheme of investigation are required. Variations to this method are to be expected, taking into account the specific circumstances. Any variations will be captured in each written scheme of investigation and/or Retained Archaeologist's method statement for each occurrence.

3.1.2. All work will be undertaken in accordance with the standards described in the Chartered Institute for Archaeologists' (CIfA), Standard and Guidance for Archaeological Monitoring and Recording[1], Standard and Guidance for Archaeological Excavation[2], Standard and guidance for the collection, documentation, conservation and research of archaeological materials[3], and the Generic Archaeological Fieldwork Guidelines for Warwickshire.

3.1.3. The Retained Archaeologist will follow the Code of Conduct of the Chartered Institute for Archaeologists[4].

3.1.4. The Retained Archaeologist will produce a site-specific method statement detailing the staffing, programme, and methodology for the work, which will be submitted to the Principal Contractor for distribution to the project team.

3.2. Health and Safety

3.2.1. The Retained Archaeologist shall adhere to all relevant Health and Safety regulations and legislation.

3.2.2. A Health and Safety Risk Assessment and Method Statement (RAMS) for the whole scheme will be prepared by the Retained Archaeologist and submitted to

[1] CIfA (2023) *Standard for Archaeological Monitoring and Recording* [online] available at: https://www.archaeologists.net/sites/default/files/Standard%20for%20archaeological%20monitoring%[20]%26%20recording.pdf (last accessed July 2024).
[2] CIfA (2023) *Standard for Archaeological Excavation* [online] available at: https://www.archaeologists.net/sites/default/files/Standard%20for%20archaeological%20excavation.pdf (last accessed June 2024).
[3] CIfA (2020) *Standard and guidance for the collection, documentation, conservation and research of archaeological materials* [online] available at: https://www.archaeologists.net/sites/default/files/CIfAS%26GFinds_2.pdf (last accessed June 2024).
[4] CIfA (2022) *Code of Conduct* [online] available at: https://www.archaeologists.net/sites/default/files/Code%20of%20conduct%20revOct2022.pdf (last accessed June 2024).

the Principal Contractor. Prior to the starting of on-site work, the RAMS must be approved by the Principal Contractor.

3.2.3. The RAMS will include details regarding appropriate levels of Personal Protective Equipment (PPE) to be worn during the trial trenching and other risk avoidance procedures.

3.2.4. The Retained Archaeologist will be responsible for undertaking a Dynamic Risk Assessment before and during the trial trenching work. Any newly identified hazards or risks will be reported to the Principal Contractor Project Manager as soon as possible, and the RAMS will be updated accordingly.

3.3. Written schemes of investigation (WSI)

3.3.1. In the event of the discovery of unexpected archaeological remains during construction the Retained Archaeologist will produce a WSI for dealing with the occurrence.

3.3.2. The WSI will be reviewed by the ACoW, Principal Contractor and the Archaeological Curator.

3.3.3. The WSI will take account of the following factors:

- the density and physical extent of any archaeological deposits
- the location of deposits
- the (potential) significance of the archaeological deposits

3.3.4. Research aims and objectives should be clearly set out in the WSI, with specific reference to research objectives from the West Midlands Research Framework[5], as applicable. These may be updated by the Retained Archaeologist in their reports as appropriate. Objectives from the Archaeological Resource Assessment of the Aggregates Producing Areas of Warwickshire and Solihull'[6] may also be relevant, despite the site not being an aggregate producing site, as the research focuses on sand and gravel geologies, which the site is located on. The objectives are broadly in line with the regional research framework and the Retained Archaeologist shall consider these objectives throughout the works.

3.3.5. The generic requirements for archaeology in Warwickshire state that any on-site fieldwork should be preceded by the examination of any available maps (printed

[5] Watt. S (ed) (2011) The Archaeology of the West Midlands A framework for research
[6] Alexander, M, Palmer, S and Chadd, L (2008) Archaeological Resource Assessment of the Aggregates Producing Areas of Warwickshire and Solihull [online] available at: https://www.solihull.gov.uk/sites/default/files/migrated/Planning_LDF_Archaeological_Resource_Assessment_of_Aggregate_Prod.pdf (accessed June 2024)

and manuscript), aerial photographs and other relevant background material including the County Historic Environment Record (HER) and County Record Office. The relevant records will be made available to the Retained Archaeologist by the Principal Contractor, taken from the Environmental Statement.

3.4. Machining

3.4.1. If necessary and appropriate, any removal of overburden by machine will be by a back-acting mechanical excavator operating under archaeological supervision at all times, using a toothless ditching bucket. Care will be taken to avoid damage to archaeological remains and be limited to removal of overburden or topsoil (unless agreed with the Principal Contractor and the Archaeological Curator). Mechanical excavators shall not track over exposed surfaces once excavated.

3.5. Planning

3.5.1. All survey instruments will be in good working condition with no known defects. The instruments will be safe, insured and either purchased, hired or on loan for commercial use. The instruments will be suitably calibrated if necessary, and appropriate certification will be made available on request.

3.5.2. Each area will be accurately surveyed using a Total Station system or survey grade GPS and will be related to the Ordnance Survey (OS) grid reference and mapped upon (or during) machine excavation.

3.5.3. A record of the full extent in plan of all archaeological deposits as revealed in the investigation will be made, either digitally or by hand, and related to the OS grid reference. Where digital planning is used, the project archaeologists will ensure that enough points are taken on each feature to ensure an accurate representation of the site. A plan of each area will be made and included in the report where appropriate.

3.5.4. Enough levels will be taken across the excavated areas to gain a sub-surface topographical model.

3.6. Hand investigation

3.6.1. If significant archaeological features are encountered, the following sampling strategy will be used. Each sampled context will be excavated in sequence.

3.6.2. The following sampling strategy will be adopted where features are sampled to ascertain the extent, nature, depth, date (if possible) and state of preservation of

archaeological features as well as the stratigraphical relationships of these deposits and features to one another:

- Normally 50% of the fills of pits, post holes and other discrete archaeological features will be excavated.
- Pits or postholes will be fully excavated if they are particularly rich in environmental or artefactual evidence or have the potential to contain human remains. These feature types will be fully excavated if dating material is not recovered from the initial 50% sample.
- The exposed lengths of ditches will be sampled to characterise and date the phase of activity. There is no specified percentage of sampling or excavation segment length since these will be established in the field following stripping. Terminals of linear features and intersections will normally be targeted by excavation. A flexible approach will be adopted to the location of excavation samples such that areas of exposed ditch fill with higher artefact or ecofact content may be targeted. Also, longer sample segments will be excavated to attempt to provide a secure date for the features.
- At least 50% of the excavation of ring ditches or gullies will include excavation of the terminals and sections at each side to the rear. Special regard will be given to significant stratigraphical relationships and concentrations of artefactual material.
- In the event that stone structures are encountered, these will be excavated in sufficient detail to establish their construction sequence and sequence of repairs or extensions. All stratigraphic associations will be recorded.
- Should floor levels be encountered, these will be fully cleaned, excavated and environmentally sampled.
- 100% of hearths, furnaces or kilns and ovens will be excavated in all cases where these are identified. They will be fully excavated (and bulk sampled) to determine their function and any sequence of repairs or replacements. Consideration of dating techniques should be undertaken prior to the commencement of archaeological investigation of any such features identified. The advice of the Historic England Science Advisor (West Midlands) should be sought.
- 100% of ancient human burials, including cremations and ancient animal burials, will be excavated in all cases where these are identified. Human remains will only be excavated after obtaining the relevant Ministry of Justice Licence, as required by the Burials Act of 1857 (amended 1981). The discovery of human remains will be reported to the local coroner. Other structured or placed deposits will be recorded and retained as ‘small finds’. Animal bone groups will be recorded following best practice guidance.

3.6.3. Metal detectors will be used by the archaeological contractor by suitably trained staff to scan for metallic finds on spoil heaps, vacated areas, areas of modern

disturbance and during the excavation of key archaeological features or deposits.

3.7. Recording

3.7.1. The following procedures will be followed:

- All archaeological features will be planned either digitally or hand drawn and located on appropriate scale plans. Plans will show the limits of the areas and will be related to the OS grid reference.
- All features will be planned at a scale of 1:20 and either digitally or hand drawn and located on appropriate scale plans. Plans will show the limits of the excavations and will be related to the OS grid reference.
- All sectioned and excavated archaeological features will be drawn at a scale of 1:20 or 1:10 and will be levelled to Ordnance Datum.
- All archaeological features, layers or deposits will be allocated unique context numbers. These will be recorded on pro-forma context sheets detailing character, contextual relationships, a detailed description, associated finds, interpretation and cross referencing to the drawn, photographic and finds records. On-site matrices will be compiled during the excavation such that the results of the written stratigraphical records may be fully analysed and phased.
- An adequate photographic record of the investigations will be made of all excavated areas and all archaeological features and deposits, including appropriate scales. The photographic record will consist of digital images and will include photographs and images of all archaeological features (pre- and post-excavation), working shots and photographs for publication purposes. Photographic records will include information detailing: site code, date, context(s), section number, a north arrow and a scale unless they are to be used for publication purposes. All photographs will be listed and indexed on context record sheets. Digital photographs will be taken using a minimum of 11-megapixel camera and photographs will be taken in raw format (RAW or NEF). Photographs will be converted into uncompressed Tagged Image File Format (tiff). Photographs must not be taken in jpeg format.
- All photographs will be listed and indexed on context record sheets.
- A record or index will be maintained of all site drawings and these will form part of the project archive. All site drawings will contain the following information: site name, site number and code, scale, plan or section number, orientation, date and compiler.

3.8. Finds and environmental sampling

3.8.1. All finds will be treated in a proper manner and to standards agreed in advance with the recipient museum (see section 8 for further information regarding

archive deposition). They will be exposed, lifted, cleaned, conserved, marked, bagged and boxed in accordance with best professional practice.

3.8.2. All finds of gold and silver will be recorded, removed to a safe place and reported to the Coroner in accordance with the Treasure Act 1996 and the Treasure (Designation) Order (2002). Where retrieval is not possible on the same day, appropriate security measures will be put in place to safeguard the finds.

3.8.3. Environmental sampling strategies will be developed subject to the requirements of the investigation. If contamination is not an issue, specialist archaeological contactor staff will have a role in ensuring that appropriate deposits are sampled to retrieve palaeoenvironmental and economic indicators to fulfil the project aims. These strategies will be agreed with the monitors from the LPA following advice from the HE Regional Scientific Advisor.

3.8.4. Preparation, taking, processing and assessment of environmental samples will be in accordance with guidance provided by Historic England's Environmental Archaeology: A Guide to the Theory and Practice of Methods, from Sampling and Recovery to Post-excavation (Second Edition, 2011).

- If necessary, the sampling strategy and methodology will be based on the following (subject to health and safety considerations):
- All collected samples will be labelled with context and sequential sample numbers.
- Appropriate contexts will be bulk sampled for the recovery of carbonised plant remains and insects in accordance with the Historic England guidance. Assemblages of charred crop remains are of particular importance and will be used to provide data in addition to the associated weed flora on agricultural activities and the economy of the site. Plant remains should be studied with the following subjects to be addressed:
- Range of preservation types (charred, mineral-replaced, waterlogged), and their quality.
- Concentrations of macro-remains, to inform the size of bulk samples on any future excavation.
- Any differences in remains from undated and dated features affecting the degree of likely association or disassociation.
- Variation between different feature types and areas of site.
- Environmental samples will be taken in well-stratified, datable deposits and selected undated deposits, and will be fully processed. Bulk samples (40 litres or the whole context dependent upon size) will be taken for wet sieving and flotation where there is clear indication of good analytical potential and dating evidence for such material (subject to excavation requirements).

Where there is potential for spatial variation in the distribution of such remains, the sampling strategy will include a percentage sample of each feature and deposit type, distributed throughout the excavation area.

- Bulk samples may be taken if appropriate, from significant datable waterlogged deposits for insects and macroscopic plant remains.
- Sub-samples or monolith samples of waterlogged deposits and sealed buried soils with potential for pollen preservation will be taken for assessment if appropriate, and columns of such samples will be taken through deposits where there is clear potential for recovering a datable sequence of environmental information.
- Recovery of small animal bones, bird bones and large molluscs will normally be achieved through processing other bulk samples or 40 litre samples may be taken specifically to sample particularly rich deposits.

3.8.5. Appropriate specialist staff will be used on this project depending on the type of artefacts and soil samples recovered during the fieldwork. Details of specialists will be provided in the archaeological contactor's method statement.

3.9. Scientific dating

3.9.1. If hearths, ovens, kilns or burials are discovered it will be necessary to scientifically date the features by either radiocarbon dating or archaeomagnetic dating, whichever is most appropriate.

3.9.2. For these features, and any others of potential significance, the advice of the Historic England Science Advisor should be sought.

3.10. Reinstatement of land

3.10.1. The Retained Archaeologist may receive instructions from the Principal Contractor relating to how the area of excavation is to be left following evaluation works. Unless otherwise stated by agreement with the client, the land will be restored as close as possible to that which was found at the beginning of excavations including drainage ditches, land drains and other similar features.

3.10.2. Excavation areas must not be backfilled without prior approval of the Archaeological Curator unless there is necessity for urgent and compelling safety reasons. Communications in regard to backfilling should be directed via the Principal Contractor in the first instance.

3.11. Utilities

3.11.1. The Principal Contractor will provide the Retained Archaeologist with Geo-referenced digital utilities information.

3.11.2. The Retained Archaeologist must request clarification from the Principal Contractor as to the location and proximity of identified services prior to commencing works.

3.12. Post-excavation analysis

3.12.1. The level of post-excavation work shall be commensurate with the findings of the archaeological investigations and will comply with guidance within Management of Research Projects in the Historic Environment (MoRPHE[7]), Investigative Conservation[8] and CIfA Standards and Guidance for Archaeological Excavation.

3.12.2. Expert analysis of any finds and environmental evidence shall be carried out by specialists. These specialists must be able to document and demonstrate levels of professional competence and technical expertise and access to comparative material, names and details of which should be included in the archaeological contactor's health and safety risk assessment and method statement (RAMS).

3.12.3. An archaeological science contingency shall be included for every site. It is the Principal Contractor's responsibility to make sure that there are sufficient financial resources in place to cover this at the beginning of the project.

3.13. Interim reporting

3.13.1. The Retained Archaeologist will provide weekly progress updates to the Principal Contractor. These will consist of:

- Number of staff on site
- Summary of areas opened
- Summary archaeological observations.
- Notes on any communications or issues arising. If these are recorded in more detail elsewhere, a short summary and reference to the more detailed record will suffice.
- Site photos or sketch plans if appropriate.

3.13.2. A summary report outlining the results of the works will be produced within two weeks of completion of the fieldwork and submitted to the Principal Contractor for distribution to the ACoW and the Archaeological Curator.

3.13.3. The summary report will include the following:

- Introduction.

7 Historic England (2006) Management of Research Projects in the Historic Environment (MoRPHE)

8 Historic England (2008) Investigative Conservation

- Brief methodology.
- Initial results summary – this section will be a summary (including photography) of the initial results and not a detailed feature-by-feature description.
- Conclusion.
- Overall plan showing investigation locations.
- Plans showing annotated features as appropriate.

3.14. Final report

3.14.1. A draft report shall be produced within eight weeks of completion of the fieldwork (or to a timeframe mutually agreed with the Archaeological Curator) and submitted to the Principal Contractor for distribution to National Highways and the Archaeological Curator.

3.14.2. The report should consider the results of the archaeological working the context of local and regional sequences along with local, regional and national research frameworks.

3.14.3. At a minimum it is considered the report should contain the following elements:

- The HER search/licence reference number.
- A description of the methodology employed.
- Plans showing survey areas showing positions of the areas investigated.
- Plans and sections at appropriate scales showing location and position of photographic views.
- A list of and spot date for any significant finds recovered.
- A portfolio of drawn sections and plans.
- An assessment of the artefacts and ecofacts and, where produced, reports on any further analyses.
- A full description and interpretation of the archaeological sequence, setting the site into the context of the known archaeology of the area. This interpretation should also identify where there are perceived areas of increased archaeological potential which may warrant further investigation.
- An index to and details of the location of the archive.

3.14.4. The report will inform the need, or otherwise, for further mitigation strategies to be prepared. If no further work is required (or a break in works scheduled), a summary should still be prepared for inclusion in the annual relevant County round-ups. If further archaeological work is required there may be a requirement for publication in local or national journals. This may involve transfer of archive to

another Retained Archaeologist later in the overall scheme programme (for instance, in the event of mitigation excavations). The provision, costs and scope of such works would be agreed in advance between the Principal Contractor and the Retained Archaeologist.

3.14.5. The full structure of the report will be included in the Retained Archaeologist's Method Statement.

3.14.6. Pottery reports will be expected to refer to the appropriate type series, including the Warwickshire type series for Roman, medieval and post-medieval pottery.

3.14.7. A draft report will be submitted to the Principal Contractor within six weeks of the completion of the on-site works (2 weeks prior to distribution of the final report). the Principal Contractor will provide the draft report to the ACoW, who will review the document, and any adjustments will be carried out by the Retained Archaeologist before resubmission.

3.14.8. The Principal Contractor will submit copies of the approved draft report to the Archaeological Curator for comment. The Retained Archaeologist will make any appropriate changes before issuing a final draft to the Principal Contractor, who will supply the approved final report to Archaeological Curator for their final approval before archiving.

3.15. Archive

3.15.1. Proposals for the archiving of the results of the survey, including a digital data management plan, shall be included in the Retained Archaeologist's method statement.

3.15.2. The digital archive will follow the standards set out by the Archaeological Data Service and the CIfA toolkit for managing digital data[9] and should be deposited with the Archaeological Data Service within 6 months of the completion of the project, along with appropriate forms for the online OASIS database.

3.15.3. The physical archive repository will be the Herbert Art Gallery & Museum, Jordan Well, Coventry CV1 5QP. The Retained Archaeologist will obtain and adhere to the latest archive standards from the museum. A single archive repository has been chosen so as to preserve the integrity of the archive, as opposed to splitting it between repositories in both local authorities.

3.15.4. Proposals and arrangement for the deposition of the site archive shall be presented to the museum, in accordance with their requirements for

[9] [online] available at: https://www.archaeologists.net/digdigital (accessed June 2024)

conservation and storage, as well as the CIfA toolkit for selecting archaeological archives[10] as soon as practicable, in advance of the fieldwork.

3.15.5. At the conclusion of on-site works, the Retained Archaeologist will confirm the budget to cover the museum's deposition charge, which will need to be agreed with the Principal Contractor.

3.15.6. All recovered artefacts shall be fully catalogued, shall constitute a single deposit and shall be deposited within 6 months of submission of the approved final report.

3.15.7. All finds packaging, including boxes and bags shall be clearly marked with the assigned accession number. There may be a case for non-retention of certain artefacts of low academic value; in which case discussion should be undertaken with the depository before any action is taken. The selection of these will also accord with Archaeological Archives: A Guide to best practice in creation, compilation, transfer and curation[11].

3.15.8. Two hard copies and one pdf copy of the report should be deposited with each of the Warwickshire and Coventry City Historic Environment Records, on the understanding that it will be made available as a public document after an appropriate period (usually not exceeding 6 months from the completion of fieldwork).

3.15.9. Copyright and ownership of the report and documentary archive will remain with the Archaeological Contactor. The Retained Archaeologist shall grant the Principal Contractor and National Highways indefinite licence to use, replicate and distribute the report in whole or part for the purposes of the scheme or related projects. Should the Principal Contractor or National Highways reproduce excerpts, the Retained Archaeologist will be credited. This licence shall be extended to the repositories, the relevant planning authorities and HERs for use in their official duties.

3.15.10. Should alternate archiving arrangements become necessary, the Retained Archaeologist will inform the Archaeological Curator and agree the amended methodology.

[10] [online] available at: https://www.archaeologists.net/selection-toolkit (accessed June 2024)
[11] Brown, D (2011), Archaeological Archives A guide to best practice in creation, compilation, transfer and curation

Appendix A - Site display sheet

Unexpected Archaeological Finds Protocol

This sheet gives guidance for construction contractors undertaking ground breaking/intrusive activities for the above works where an archaeologist is not present on-site. It will help you avoid damage to archaeology and to minimise delays to the works as a result.

Background
The consent for the works includes a commitment to ensure that any unexpected archaeological remains are appropriately handled.

Coventry has a rich and varied history which will be added to by carefully investigating and recording the surviving archaeological remains within the project area. As the project enters the construction phase, the archaeological risk still needs to be managed for all ground breaking/intrusive works. Features of archaeological interest often show up against the subsoil as

dark patches 'imprinted' on a machine stripped surface. These are generally the top-most parts of features that can be quite deep

The Principal Contractor, has employed xxTBCxx to provide archaeological advice and organise any works that might be necessary (the ACoW role). There is no requirement for a full-time archaeological presence on site throughout the works. However, there is always a chance that you could find something unexpected that could require an archaeological response to make sure the works remain compliant with consent requirements and the law.

It is the responsibility of all contractors and sub-contractors to be observant and report any possible discoveries.

Unexpected Archaeological Discoveries
Archaeological features are most likely to be discovered during the stripping of topsoil and subsoil. Whilst the government's policy is to prefer preservation of archaeological remains in place, 'preservation by record' may also be acceptable. Preservation by record involves a professional archaeologist making a record of the archaeology through means such as photography, illustrations, surveying and notes prior to the archaeological features / remains being removed.

Artefacts can be found within the soft overburden (the topsoil or subsoil) or the solid subsoil; watch out for:

- darker marks in the subsoil
- pottery
- bone
- tile
- worked flint

Site staff are not expected to become experts at identifying archaeological remains!
If you see something and do not know exactly what it is, read the blue box to see what to do. This means you might be sending us pictures of odd rocks and bits of brick but don't worry, ACoWs don't get bored easily.

- Stop works temporarily, but make sure you do so safely.
- If possible, leave them where they are and mark out the immediate area, so people and plant don't enter it. Do not touch bones.
- Report it to your supervisor, who will inform the Site Manager.
- The Site Manager will contact the ACoW for advice.
- Take photos of what you have found so these can be sent to the archaeologists for review. It would help to include something for scale, but only if it is safe and does not disturb the remains.
- Do not continue works in the area of the find until it has been 'green lighted 'to continue.

Archaeological artefacts should not be removed from the find's location unless they are already loose on the surface and therefore vulnerable to loss, damage or theft. If this is the case, please carefully place the artefact into an appropriate container and securely store until the ACoW has assessed the situation and issued their advice. Please record or mark the location of where you found the artefact without digging into the find's location. A surveyed coordinate is ideal if you have the equipment out and in use already. Otherwise, a flag/marker placed immediately beside the area (not on it) or a What3Words location in a pinch.

Archaeology and the Law
Miss-handling or miss-reporting of certain types of remains might be an offence under UK law.

Treasure
If an artefact or artefacts classed as potential treasure (significant metal finds) are found during the works, the Treasure Act (1996) requires that it is to be reported to the local Finds Officer within 14 days of discovery or realisation that the artefact(s) constitute potential treasure. The ACoW will do this. Please follow the guidance in the blue box if you come across anything which you believe to be of archaeological interest.

Military Remains
The Protection of Military Remains Act 1986 law prohibits the disturbance of any aircraft which has crashed while in military service. If you come across anything which you believe to be associated with an aircraft/military remains, please follow the guidance in the blue box. The site's unexploded ordnance and other SHEQ procedures should also be followed.

Human Remains
The Burial Act of 1857 makes the removal of buried human remains a crime unless a licence from the Ministry of Justice has first been obtained.
If you discover or suspect human remains please follow the guidance in the blue box. The human remains should be left in place and treated with respect (and, if possible, covered and protected) until the ACoW can assess if they are required to be professionally excavated by an archaeologist.

Treat all bones as human untill otherwise confirmed. They must be reported to the Site Manager immediately.

If human remains are found, there is potential for the police to become involved.

Skeletal remains of all kinds can still carry certain diseases for a very long time.

Archaeological Mitigation
If archaeological discoveries are made, this will be managed between the Client, Principal Contractor (and their sub-contractors), and the ACoW to ensure delays to the works programme are minimised. Concerns about delays must not prevent you from reporting potential discoveries.

ACoW Contact Details
XXnamed individualXX (XXcompanyXX XXrole/titleXX)
XXphone contact number(s)XX
XXemailXX

A46 Coventry Junctions (Walsgrave) Scheme number: TR010066

6.5 First Iteration Environmental Management Plan

Appendix B.7 Historic Building Recording Written Scheme of Investigation

APFP Regulations 5(2)(a)

Planning Act 2008

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

Volume 6

November 2024

Infrastructure Planning

Planning Act 2008

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

A46 Coventry Junctions (Walsgrave)
Development Consent Order 202[x]

FIRST ITERATION ENVIRONMENTAL MANAGEMENT PLAN Appendix B.7 Historic Building Recording Written Scheme of Investigation

---

Regulation Number	Regulation 5(2)(a)
Planning Inspectorate Scheme Reference	TR010066
Application Document Reference	TR010066/APP/6.5
Author	A46 Coventry Junctions (Walsgrave), Project Team & National Highways

Version	Date	Status of Version
Rev 0	November 2024	Application Issue

Table of contents

1. Introduction

1.1. Purpose of survey

1.1.1. This Written Scheme of Investigation (WSI) outlines the proposal and specification for historic building recording for the scheme. This report has been prepared by the Principal Contractor on behalf of National Highways.

1.1.2. The building to be recorded is a brick wall that forms part of the boundary of the western-most yard of Hungerley Hall Farm (location shown on Environmental Statement (ES) Figure 6.4 (Historic Building Recording – Location Plan) (**TR010066/APP/6.2**)). The wall is listed as part of the listing for Hungerly Hall Farmhouse (grade II, list entry 1265694). The entirety of the free-standing part of the wall is to be removed during construction of the scheme and the setting of Hungerly Hall Farm will be affected. Recording will conform to a Level 3 record based upon the Historic England 2016 guidance document Understanding Historic Buildings. This is a descriptive, photographic and drawn record and is proportionate to the heritage assets significance and the level of impact the construction and operation of the scheme would have upon it.

1.1.3. The WSI will be used as a basis for procurement. It will be supplemented with a method statement, produced by the appointed contractor, which will complete the details required for compliance with the relevant guidance described below. The WSI will be submitted to the local authority conservation officer for agreement prior to procurement, and again prior to mobilisation with the contractor's method statement appended.

2. Purpose of the WSI

2.1.1. This WSI forms Appendix B.7 of the First Iteration Environmental Management Plan (EMP) (**TR010066/APP/6.5**).

2.1.2. The report has been prepared with reference to the First Iteration EMP (**TR010066/APP/6.5**) Appendix A - Register of Environmental Actions and Commitments (REAC) cultural heritage requirements.

2.1.3. The WSI provides the methodology through which the cultural heritage commitments identified in the REAC are delivered and the Development Consent Order (DCO) (**TR010066/APP/3.1**) Schedule 2 Requirement 10 is discharged. This is detailed at REAC cultural heritage commitment CH1 as follows:

- CH1 – "Pre-construction historic building recording of a wall at Hungerley Hall Farm will be secured through DCO condition and captured within a WSI. The content of the WSI will be agreed with Coventry City Council. The record will conform to "Level 3" standard according to Understanding Historic Buildings: A Guide to Good Recording Practice (Historic England 2016). Measures will include provision for appropriate reporting, archiving and dissemination."

2.1.4. A WSI would usually include details of specific specialists, equipment and programme provided by the Archaeological Contractor appointed to undertake the work. Once an Archaeological Contractor is appointed, a detailed method statement will be produced by the Archaeological Contractor and will be appended to the WSI for agreement with Coventry City Council.

3. Roles and Responsibilities

3.1.1. There are a number of roles and definitions associated with the heritage works:

- WSI. This document as produced by the archaeological consultant appointed by Sweco, the design consultant
- The Principal Contractor – Employer of the Archaeological Contractor and archaeological clerk of works
- The Archaeological Contractor – The contractor and their sub-contractors appointed by the Principal Contractor to undertake works defined in this WSI
- Archaeological clerk of works (ACoW) – A heritage consultant appointed by the Principal Contractor to manage the works in this WSI as well as any that may occur under the Unexpected Archaeological Finds Protocol (First Iteration EMP Appendix B.6 (**TR010066/APP/6.5**)). The ACoW will ensure works are undertaken according to this WSI.
- Coventry City Council – The planning committee of the Council, with the Conservation Officer as the main point of contact. – Approval of all documents and monitoring of works.

3.1.2. The Archaeological Contractor will be a Registered Organisation (RO) with the Chartered Institute for Archaeologists (CIfA) or Institute of Historic Building Conservation (IHBC) under the Historic Environment Service Provider Recognition (HESPR) scheme and will provide a project manager to direct the survey work who has CIfA/IHBC membership (or equivalent experience) to at least Associate level.

3.1.3. The Archaeological Contractor will adhere to the specification outlined in this document and will be responsible for staffing the project as well as following suitable standards of recording and reporting.

3.1.4. The Archaeological Contractor will be responsible for the preparation of a Health and Safety Risk Assessment and Method Statement (RAMS), weekly progress reports and, following the completion of the works, a full report presenting the results of the survey.

3.1.5. Coventry City Council will be invited to monitor the survey during site works however, this is not considered to be likely to be required.

4. Legislation, standards and guidance

4.1. National legislation

4.1.1. The overarching legislation and policy relating to the historic environment in England and relevant to the scheme is as follows:

- The Planning (listed buildings and Conservation Areas) Act 1990 gives statutory protection to listed buildings and conservation areas and their settings. Listed buildings are protected against unauthorised demolition, alteration and extension; consent is required for works that may affect the buildings or their settings.

National Networks National Policy Statement 2024

4.1.2. The National Networks National Policy Statement (NPS NN) sets out guidance concerning infrastructure projects. Of relevance to this document is Section 5: The historic environment which establishes the need for the Secretary of State to set requirements with regards to archaeological recording. This is the supporting principle of Schedule 2 Requirement 10 of the draft DCO (**TR010066/APP/3.1**).

4.2. Relevant guidance

4.2.1. The ACoW and Archaeological Contractor will work in accordance with, but will not be limited to using, the following guidance documents when fulfilling the scope of work set out within this HWSI:

- Archaeology and Construction: Good Practice Guide (CIRIA, 2021)
- Design Manual for Roads and Bridges (DMRB) LA 106 Cultural Heritage Assessment (DfT 2020)
- Code of Conduct (CIfA 2014a, Revised October 2019)
- Standard and guidance for the creation, compilation, transfer and deposition of archaeological archives (CIfA 2014d updated October 2020)
- Standard and guidance for the archaeological investigation and recording of standing buildings or structures (CIfA 2014e, updated October 2020)
- Standard and guidance for commissioning work on, or providing consultancy advice on, archaeology and the historic environment (CIfA 2014f updated October 2020)

- Archaeological Archive: A guide to best practice in creation, compilation, transfer and curation (Archaeological Archives Forum 2011)
- Instructions for Depositors (Archaeology Data Service, online resource)
- Guides to Best Practice (Archaeology Data Service, online resource)
- Digital Image Capture and File Storage: Guidelines for Best Practice (Historic England 2015b)
- Metric Survey Specifications for Cultural Heritage (Historic England 2015c)
- Understanding Historic Buildings, A guide to good recording practice (Historic England 2016)

4.2.2. The updated guidance contained within DMRB LA 106 concerns only assessment of impacts and does not contain detailed information on mitigation processes and methods. The guidance listed above is considered sufficient to inform the mitigation design.

4.3. Aims and Objectives

4.3.1. The aim of the programme of historic building recording is to create a permanent record of the buildings prior to and during implementation of the consented development.

4.3.2. A Level 3 record is an analytical record. The scope as defined by Historic England is as follows:

"[A Level 3 Record] will comprise an introductory description followed by a systematic account of the building's origins, development and use. The record will include an account of the evidence on which the analysis has been based, allowing the validity of the record to be re-examined in detail. It will also include all drawn and photographic records that may be required to illustrate the building's appearance and structure and to support an historical analysis.

The information contained in the record will for the most part have been obtained through an examination of the building itself. The documentary sources used are likely to be those which are most readily accessible, such as historic Ordnance Survey maps, trade directories and other published sources. The record may contain some discussion the building's broader stylistic or historical context and importance. It may form part of a wider survey of a number of buildings which will aim at an overall synthesis, such as a thematic or regional publication, when the use of additional source material may be necessary as well as a broader historical and architectural

discussion of the buildings as a group. A Level 3 record may also be appropriate when the fabric of a building is under threat, but time or resources are insufficient to allow for detailed documentary research, or where the scope for such research is limited."

4.3.3. The objectives of the works are therefore as follows:

- To view, describe and photograph the materials and construction information for the building, including any structural detail, architectural decorations, or small-scale functional detail.
- To undertake suitable documentary research to develop an account of the buildings' history and use.
- To prepare a report describing the results of the recording.
- To present annotated drawings using existing elevations and plans, augmented with observations on site, with any phasing depicted in differential shading.
- To present conclusions regarding the buildings' development and use, including any interaction between groups of buildings.

4.3.4. The record will be presented as a standalone report illustrated with relevant maps, photographs, and figures.

4.3.5. A digital archive will be prepared and submitted to the Archaeology Data Service.

4.3.6. The report will contain a description of the significance of the structure with reference to the objectives set out in the West Midlands Regional Research Framework.

5. Methodology

5.1. General

5.1.1. All work will be undertaken in accordance with the standards listed above.

5.1.2. The Archaeological Contractor will follow the Code of Conduct of the Chartered Institute for Archaeologists and / or IHBC as appropriate.

5.1.3. The Archaeological Contractor will produce a site-specific Method Statement detailing the staffing, programme, and methodology for the work, which will be submitted to the Principal Contractor for distribution to the project team.

5.2. Health and Safety

5.2.1. The Archaeological Contractor shall adhere to all relevant Health and Safety regulations and legislation.

5.2.2. A Health and Safety Risk Assessment and Method Statement (RAMS) for the works described in this WSI will be prepared by the Archaeological Contractor and submitted to the Principal Contractor. Prior to the starting of on-site work, the RAMS must be approved by the Principal Contractor.

5.2.3. The RAMS will include details regarding appropriate levels of Personal Protective Equipment (PPE) to be worn during the survey and other risk avoidance procedures.

5.2.4. The Archaeological Contractor will be responsible for undertaking a Dynamic Risk Assessment before and during the survey. Any newly identified hazards or risks will be reported to the Principal Contractor Project Manager as soon as possible, and the RAMS will be updated accordingly.

5.2.5. Land access will be arranged by the Principal Contractor.

5.2.6. No lone working is permitted for the Scheme.

5.2.7. All survey instruments will be in good working condition with no known defects. The instruments will be safe, insured and either purchased, hired or on loan for commercial use. The instruments will be suitably calibrated if necessary, and appropriate certification will be made available on request.

5.3. Level 3 built heritage survey and reporting

5.3.1. Two report types are likely to be required and these will comprise:

- mitigation report (a description of the investigation results with appropriately scaled drawings detailed below)
- brief academic publication (a short summary paragraph of the works for the appropriate county roundup)

5.3.2. In the first instance a digital copy of the reports will be submitted by the Archaeological Contractor to the ACoW for review by the project team. Any alterations required will be carried out by the Archaeological Contractor and a revised digital document submitted. The ACoW will submit this to Coventry City Council for review in digital pdf format.

5.3.3. Once the reports are approved, the Archaeological Contractor will submit a completed version of the mitigation report to the Archaeology Data Service's online database OASIS and a copy of the completed OASIS forms will be appended to the back of the report. A copy of this version of the report which includes the OASIS form should be submitted to Coventry City Council by the Archaeological Contractor. The reports will be submitted within 3 months of completion of the fieldwork.

5.3.4. The mitigation report will conform to the Historic England 2016 guidance document, Understanding Historic Buildings. Numbers in the list below refer to numbered items in the guidance.

5.3.5. Not all items may be relevant but are included in case relevant evidence is identified during survey. As a relatively simple structure, the written record should include discussion of the associated farm group to add the proper consideration of setting and context.

The photographic record

5.3.6. In accordance with the approved project design and Historic England (2016) paragraph 4.4.8, the photographic record shall comprise:

- 1 - General views of the building in its wider setting.
- 2 - The building's external appearance as a series of oblique views and, where possible, at right-angles to the plane of the elevation.
- 3 - Further views to reflect the original design intentions of the builder or architect.

- 4 - The overall appearance of the principal spaces and circulation areas.
- 5 - Any external or internal detail, structural or decorative, which is relevant to the building's design, development and use, with scale where appropriate.
- 6 - Any machinery or other plant, or evidence for its former existence.
- 7 - Any dates or other inscriptions; any signage, makers' plates or graffiti which contribute to an understanding of the building. A transcription will be made wherever characters were difficult to interpret.
- 8 - Any building contents which have a significant bearing on the building's history.
- 9 - Copies of maps, drawings, views and photographs that may be present in the building and illustrating its development or that of its site.
- The location and direction of all photos shall be plotted on plan. Photographs shall contain an appropriate scale.

The drawn record

5.3.7. In accordance with Historic England (2016) para 4.3.3, the drawn record (Appendix 2) shall include:

- 2 - Measured plan as existing. The plan will show the form and location of any structural features of historic significance.
- 5 - Measured drawings to show the form of any architectural decoration (for example the moulding profiles of door surrounds) or small-scale functional detail not easily captured by photography.
- 6 - Measured elevations to aid an understanding of the building's design, development and function.
- 7 - A site plan relating the building to other structures and to any related topographical and landscape features.
- 8 - A plan identifying the location and direction of accompanying photographs.

The written record

5.3.8. In accordance with Historic England (2016) paragraph 4.5.2, the content of the written record shall include:

- 1 - The precise location of the building as an address and in the form of a National Grid reference.

- 2 - A note of any statutory designation (that is, Listing, Scheduling, Registered Historic Parks and Gardens, Conservation Area). Information on statutory designations can be found on the Historic England website. Non-statutory designations (local lists) may be added.
- 3 - The date when the record was made, the name(s) of the recorder(s) and the location of any archive material.
- 5 - A contents list, a list of illustrations or figures.
- 6 - A longer summary statement summarising the building's form, function, date and sequence of development. The names of architects, builders, patrons and owners should be given if known. Its purpose is to describe the building when no fuller record is necessary. Alternatively, it may serve as an introduction to the more detailed body of a record that may follow, for users who may need a summary of the report's findings.
- 7 - An introduction briefly setting out the circumstances in which the record was made, its objectives, methods, scope and limitations, and any constraints. Where appropriate the brief for the work or the project design should be stated or appended.
- 8 - Acknowledgements to all those who have made a significant contribution to the making of the record, or who have given permission for copyright items to be reproduced.
- 9 - A discussion of the published sources relating to the building and its setting, an account of its history as given in published sources, an analysis of historic map evidence (map regression) and a critical evaluation of previous records of the building where they exist.
- 11 - An account of the building's overall form (structure, material, layout) and of its successive phases of development, together with the evidence supporting this analysis.
- 12 - An account of the building's past and present use, and of the uses of its parts, with the evidence for these interpretations. An analysis of a circulation pattern or of a decorative or liturgical scheme. An account of any fixtures, fittings, plant or machinery associated with the building, and their purpose. In an industrial building, a sequential account of the way in which materials or processes were handled.
- 13 - Any evidence for the former existence of demolished structures or removed plant associated with the building.
- 16 - An assessment of the potential for further investigative or documentary work, and of the potential survival of below-ground evidence for the history of the building and its site.
- 18 - Copies of historic maps, drawings, views or photographs illustrating the development of the building or its site (the permission of owners or copyright holders may be required).

- 23 - Full bibliographic and other references, or a list of the sources consulted (in long reports it is preferable to include both). Websites which may prove to be ephemeral should be avoided as references wherever possible; where their use is unavoidable the full web address and the date on which the site was consulted should be noted.
- 24 - A glossary of architectural or other terms likely to be unfamiliar to readers. If few in number, terms may be explained more economically within the text or in footnotes.

5.4. Brief academic publication

5.4.1. Provision will be made for publicising the results of the work locally by presenting a summary of the results to a relevant archaeology or heritage journal.

5.4.2. A draft must be submitted for review to the ACoW by the Archaeological Contractor. On approval, the summary will be submitted for publication to the Coventry HER within 6 months after the completion of the survey.

5.5. Archive

5.5.1. It is anticipated that the project will generate a digital archive only. The digital archive, comprising the photographic and drawn records, will initially be backed up on secure cloud-based and local servers in accordance with the Archaeological Contractor's digital data management guidelines. Site indexes will be digitised and metadata for the archive populated in accordance with ADS pro-forma templates.

5.5.2. Archiving procedures will follow best practice guidance published in Brown's Archaeological Archives a Guide to Best Practice in Creation, Compilation, Transfer and Curation (2007), the CIfA's Standard and Guidance for the Creation, Compilation, Transfer and Deposition of Archaeological Archives (2014) and the Archaeological Data Service's Guides to Good Practice.

5.5.3. The final digital archive will be submitted to the Archaeological Data Service in accordance with their guidelines for depositors within 6 months following completion of all site works.

5.6. Public Benefit

5.6.1. The nature of the recording works and health and safety constraints within the operational development site is not suited to public participation on site while the project is ongoing.

5.6.2. The results of the record will be disseminated to the Coventry City Historic Environment Record and online OASIS library where they will be freely accessible to the public.

6. Other provisions

6.1. Programme

6.1.1. The start date for the survey is yet to be determined. The Archaeological Contractor will provide a confirmed programme prior to starting work, that will be distributed to National Highways and appropriate stakeholders.

6.1.2. The programme will include the survey and reporting.

6.1.3. It is anticipated that the survey will be undertaken in a single phase of works. Should access or other factors make this untenable, the Archaeological Contractor shall inform the Principal Contractor at the earliest opportunity.

6.1.4. A projected timetable for work on site, including staff structure and numbers, will be provided in the Archaeological Contractor's method statement.

6.1.5. The currently envisioned programme is to undertake survey prior to any groundworks or clearance in the vicinity of the farm and to report within 3 months of the completion of the survey.

6.2. Monitoring

6.2.1. Provision should be made to allow for site monitoring by Coventry City Council during the survey. If requested by Coventry City Council, this shall take the form of a site meeting attended by the Archaeological Contractor, the Conservation Officer for Coventry City Council and The Principal Contractor on behalf of National Highways. Other parties, such as Historic England may be included in monitoring meetings by mutual agreement.

6.3. Site information

6.3.1. The Principal Contractor will supply the Archaeological Contractor with the following information/data:

- Digital ordnance survey base mapping at an appropriate scale and referenced to national grid coordinates.
- On request, copies of the heritage chapter and specialist appendices from the Environmental Statement for background information and context.

- Details of any known environmental or safety constraints that may affect the survey.

References

Department for Transport (2024) National Policy Statement for National Networks [online] available at: https://assets.publishing.service.gov.uk/media/65e9c5ac62ff48001a87b373/national-networks-national-policy-statement-web.pdf (last accessed June 2024).

Archaeology Data Service, [online] available at: https://archaeologydataservice.ac.uk/help-guidance/instructions-for-depositors and https://archaeologydataservice.ac.uk/help-guidance/guides-to-good-practice last accessed June 2024

Archaeology Data Service, [online] available at: https://archaeologydataservice.ac.uk/help-guidance/guides-to-good-practice last accessed June 2024

Research Frameworks Network, West Midlands Research Framework [online] available at https://researchframeworks.org/wmrf/ (last accessed June 2024)

A46 Coventry Junctions (Walsgrave) Scheme number: TR010066

6.5 First Iteration Environmental Management Plan

Appendix B.8 Outline Carbon Management Plan

APFP Regulations 5(2)(a)

Planning Act 2008

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

Volume 6

November 2024

Infrastructure Planning

Planning Act 2008

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

A46 Coventry Junctions (Walsgrave)
Development Consent Order 202[x]

FIRST ITERATION ENVIRONMENTAL MANAGEMENT PLAN
Appendix B.8 Outline Carbon Management Plan

Regulation Number	Regulation 5(2)(a)
Planning Inspectorate Scheme Reference	TR010066
Application Document Reference	TR010066/APP/6.5
Author	A46 Coventry Junctions (Walsgrave), Project Team & National Highways

Version	Date	Status of Version
Rev 0	November 2024	Application Issue

Table of contents

Tables

1. Outline carbon management plan

1.1. Introduction

1.1.1. The purpose of a Carbon Management Plan (CMP) is to provide a framework on managing carbon emissions through the lifetime of the Scheme aligned to PAS2080:2023 (Carbon Management in Buildings and Infrastructure). The CMP outlines roles and responsibilities of project team members and the approach to integrating low-carbon thinking required to achieve positive carbon outcomes at the system level. The CMP explains how to conduct whole life carbon emissions assessments as well as monitoring, baselining and benchmarking, and reporting carbon emissions against the defined targets. The CMP details how to identify and manage carbon saving opportunities through the design and construction and describes how carbon opportunities can be incorporated into the Scheme.

1.1.2. It should be noted that the term ‘carbon’ is used as shorthand for all greenhouse gas (GHG) emissions.

1.1.3. This Outline Carbon Management Plan (CMP) presents the framework for collaboratively reducing the greenhouse gas (GHG) emissions associated with the A46 Coventry Junctions (Walsgrave) Scheme (hereafter referred to as ‘the Scheme’). This document outlines the Scheme’s specific context as well as the carbon quantification methodology, carbon target review and the development of carbon mitigation strategies, of which all are required to be implemented from the outset of the Scheme’s preliminary design, detailed design, construction and operational stages. A qualitative consideration of the impacts and mitigation of carbon emissions was applied during the preceding options selection stage.

1.1.4. Carbon management on the Scheme is being carried out in accordance with the National Networks National Policy Statement (NPS NN), described in Section 1.4 of this CMP. The carbon assessment of the Scheme is detailed in Environmental Statement (ES) Chapter 14 (Climate) (**TR010066/APP/6.1**).

1.2. Background to the Plan

1.2.1. National Highways (the Applicant) has submitted an application under Section 37 of the Planning Act 2008 (the 2008 Act) to the Secretary of State via the Planning Inspectorate (the Inspectorate) for a Development Consent Order (DCO) to build and operate the Scheme.

1.2.2. The Scheme comprises of an upgrade to the junction of the A46 Coventry Eastern bypass and the B4082, east of Walsgrave. The Scheme is described in detail in ES Chapter 2 (The Scheme) (**TR010066/APP/6.1**).

1.2.3. This Outline CMP sets out how whole life carbon (hereafter referred to as WLC) has been assessed during the development of the DCO application design and how it will be assessed during the design of the Scheme to further reduce GHG emissions during construction and operation of the Scheme. WLC emissions are the carbon emissions resulting from materials, construction and use over a scheme's entire life. The Scheme's carbon management approach is aligned with the PAS 2080:2023 – Carbon Management in Buildings and Infrastructure standard so that carbon reduction is fully integrated into the project team's culture. The Carbon Management approach will adhere to up-to-date changes with PAS 2080.

1.2.4. This Outline CMP is designed to inform all relevant parties of:

- How carbon reduction for the Scheme will be implemented; and
- The requirements to support implementation of Design Manual for Roads and Bridges (DMRB) LA114 – Climate during the design, construction, and operation of the Scheme.

1.2.5. This Outline CMP has been prepared to support the DCO Application to detail the approach and methodology for carbon management for the Scheme at the detailed design and construction stages.

1.2.6. This Outline CMP forms part of the First Iteration Environmental Management Plan (EMP) (**TR010066/APP/6.5**) and will be updated to a full Carbon Management Plan and form part of the Second Iteration EMP and secured through Requirement 4, Schedule 2 of the draft DCO (**TR010066/APP/3.1**). The full Carbon Management Plan will set out how carbon will be managed during detailed design, construction and operation of the Scheme.

1.2.7. A preliminary design carbon assessment has been completed based on estimated construction data from the available design information. This forms the basis for this Outline CMP.

1.3. Roles and Responsibilities

1.3.1. The Applicant and their appointed supply chain have key responsibilities in leading the efforts to implement low-carbon solutions during design and delivery.

1.3.2. The Applicant has the overall responsibility for setting Scheme specific carbon reduction targets and driving the carbon reduction. The Applicant's supply chain lead, the Principal Contractor, is responsible for carbon reduction throughout the design and construction for the Scheme. The Principal Contractor makes sure there is early engagement by the supply chain through workshops and events to upskill, share knowledge share and unlock innovation to whole life cost and carbon.

1.3.3. From amongst the supply chain the Principal Contractor appoints the following value chain members (as described in PAS 2080:2023) to lead the efforts to implement low-carbon solutions during design and delivery of the Scheme:

1.3.4. **Project Manager** – ultimate responsibility for compliance with legislation and client Scheme commitments. Making sure the carbon management is a key part of design and decision making.

1.3.5. **Design leads** – overall responsibility for guiding the design to minimise carbon emissions as far as possible. Providing a level of challenge to make sure that focus is given to low carbon options.

1.3.6. **Design team** – practical role in developing designs that minimise emissions and capturing and recording low-carbon options. The design team includes engineering and environment discipline leads (e.g. landscape, ecology, noise, flood risk, highways, utilities, structures, pavements, lighting etc.).

1.3.7. **Sustainability Manager** – working closely with the design team to determine low carbon solutions and providing strategic advice on delivering environmental requirements in line with the framework.

1.3.8. **Quantity Surveying (QS) team** – supporting the production of information relevant to the carbon assessment, challenging cost and productivity within their models and identifying associated low carbon opportunities.

1.3.9. **Site Manager** – managing compliance with and directly supporting the design team with implementation of the objectives of this Outline CMP, in particular the carbon reduction hierarchy, and expectations, priorities and challenges that are set. Also to make sure a carbon assessment of options is undertaken to the required level of detail.

1.3.10. **Carbon Lead** – setting the framework for considering carbon and undertaking the required quantifications. Training and informing the design managers and teams. Supporting the design team to identify low-carbon solutions and providing links to other environmental disciplines to highlight co-benefits or risks with the Project Manager, co-ordinates and collaborates with value chain members to make sure that best practice is shared and implemented on the Scheme.

1.4. Legislative and Policy Framework

1.4.1. Principal legislation and planning context for the Scheme has been considered during the assessment of climate and environmental impact, and resilience. Policies and legislation relevant to the effects of the Scheme on carbon, and the requirements of carbon management are listed below.

International Legislation

1.4.2. Under the Planning Act 2008 section 104(4), the Secretary of State is to determine the DCO in accordance with the NPS NN. Where the Secretary of State finds that deciding the application in accordance with any relevant national policy statement (NPS) would lead to the United Kingdom being in breach of any of its international obligations, the Secretary of State is not required to adhere to the NPS in this instance. Relevant international law considered in accordance with the Planning Act Section 104(4) is:

United Nations Framework Convention on Climate Change (UNFCCC), 1992

1.4.3. The foundational treaty that provided a basis for international climate negotiations, including the Kyoto Protocol (1997) and its successor the Paris Agreement (2015) to act on climate change and regularly report on their progress.

1.4.4. The key objective of the Convention was the "*stabilisation of greenhouse gas concentrations in the atmosphere at a level that would prevent dangerous anthropogenic interference with the climate system"* within a timeframe that allows people and planet to adapt and economies to develop sustainably.

Kyoto Protocol, 1997

1.4.5. Operationalised the UNFCCC by committing industrialised countries and economies in transition to limit and reduce GHG emissions in accordance with agreed individual targets. The Convention itself only asks those countries to adopt policies and measures on mitigation and to report periodically.

The Paris Agreement, 2015

1.4.6. A legally binding international treaty on climate change, adopted by 196 Parties at the UN Climate Change Conference.

1.4.7. Its overarching goal is to hold "*the increase in the global average temperature to well below 2°C above pre-industrial levels*" and pursue efforts "*to limit the temperature increase to 1.5°C above pre-industrial levels.*"

1.4.8. In December 2020, the United Kingdom of Great Britain and Northern Ireland (the UK) communicated its Nationally Determined Contribution that committed the UK to reducing economy-wide GHG emissions by at least 68% by 2030, compared to 1990 levels. This has been further strengthened and detailed since the 2026.

National Legislation

Climate Change Act 2008, (as amended)

1.4.9. Establishes a framework to facilitate climate change adaptation. This includes a requirement for the government to report, at least every five years, on climate change risks to the UK, and to publish a programme setting out how these will be addressed. The Committee on Climate Change advises and critically reviews the

Government's adaptation work. The Climate Change Act 2008 is essential to the UK Government's plan to reduce carbon emissions, committing the UK to a reduction of 80% against 1990 levels by 2050. In 2019 the UK Government updated their commitments under the Climate Change Act (2050 Target Amendment) Order 2019 to state that *"the minimum percentage by which the net UK carbon accounts for the year 2050 must be lower than the 1990 baseline is increased from 80% to 100%*".

1.4.10. A key provision of the Climate Change Act 2008 is the setting of legally binding carbon budgets limiting the amount of carbon emitted in the UK over the successive five-year periods. The six budgets developed currently cover the period to 2037; see Table 1. The UK is currently in the fourth carbon budgetary period (2023-2027). The Sixth Carbon Budget enshrined in law in 2021 is the first budget to take account of the UK Government's 2050 net zero target.

Table 1 UK Carbon Budgets

Carbon Budgets	Carbon Budget Level ($MtCO_2e$)	Reduction below 1990 levels
Third Carbon Budget (2018-2022)	2,544	36% by 2020
Fourth Carbon Budget (2023-2027)	1,950	51% by 2025
Fifth Carbon Budget (2028-2032)	1,725	57% by 2030
Sixth Carbon Budget (2033-2037)	965	78% by 2035

National Policy

National Networks National Policy Statement, 2024

1.4.11. The National Networks National Policy Statement (NPS NN) sets out the policy which the Scheme should comply with. It is also the basis for informing a judgement on the impacts of a Scheme, for example whether the Scheme is consistent with the requirements of the NPS NN.

1.4.12. In the current NPS NN, greenhouse gas emissions, measured as carbon dioxide equivalent, are referred to as *"carbon emissions*", as outlined in Paragraph 5.26 of NPS NN.

1.4.13. Through Paragraphs 4.33-4.44, the NPS NN sets out how applicants and the Secretary of State should consider the effects of climate change when developing infrastructure applications.

1.4.14. The below table summarises how this CMP addresses the requirements of Paragraph 5.35.

Table 2 NPS NN Paragraph 5.35

NPS NN 2024 Paragraph Number	Paragraph text	How this is addressed in the Outline Carbon Management Plan
5.35	*"Having regard to current knowledge, a carbon management plan should be produced as part of the Development Consent Order submission and include:*	This Outline Carbon Management Plan has been produced for the Scheme and aligns to NPS NN.
	• *a Whole Life Carbon Assessment for the project*	Section 3 outlines the Whole Life Carbon Assessment methodology for this Scheme. A Whole Life Carbon Assessment was undertaken for the preliminary design stage and is detailed in ES Chapter 14 (Climate) (**TR010066/APP/6.1**).
	• *an explanation of the steps that have been taken to drive down the carbon impacts of the project*	Section 2 details the steps required to drive down carbon impacts of this Scheme
	• *how construction and operational emissions and, where applicable, emissions from maintenance activities, have been reduced as much as possible using the carbon reduction hierarchy (e.g. as set out in PAS 2080) (recognising that the case of road projects while the developer can estimate the likely emissions from road traffic, it is not solely responsible for controlling them).*	Section 3.1 outlines which modules (including operational and maintenance) will be included in the assessment of this Scheme. Section 1.6 details how the carbon reduction hierarchy will be followed.
	• *whether and how any residual emissions will be (voluntarily) offset or removed using a recognised framework (any offsetting of emissions should not be used in the Whole Life Carbon Assessment headline figures)*	Section 2.2 and 3.4 highlights approach to identifying options for offsetting.
	• *where there are residual emissions, the level of emissions and the impact of those on relevant statutory carbon budgets."*	Section 1.4 outlines the carbon budget. Section 3.3 outlines requirement to compare assessment against the carbon budget. A Whole Life Carbon assessment was undertaken for the preliminary design stage and is detailed in ES Chapter 14 (Climate) (**TR010066/APP/6.1**).

1.4.15. Paragraphs 5.38-5.42 of the NPS NN require the Applicant to take all reasonable steps to reduce the total carbon emissions of the Scheme at all stages of development. Here, the NPS NN recommends applicants compare their scheme against carbon budgets, the net zero target, and the UK Nationally Determined Contributions.

1.4.16. Paragraph 5.41 of the NPS NN recognises that operational carbon emission from some types of national network infrastructure cannot be totally avoided, and a net increase in carbon emissions is not, of itself, reason to withhold planning consent for national network projects or impose restrictions on them in the planning policy framework.

1.4.17. An assessment of how the Scheme complies with the NPS NN can be found in the NPS NN Accordance Tables (**TR010066/APP/7.2**). An assessment has also been undertaken to demonstrate the Scheme's carbon emissions in line with the requirements of the NPS NN and can be found in ES Chapter 14 (Climate) (**TR010066/APP/6.1**).

Local Policy

West Midlands Combined Authority Five Year Plan (2021 – 2026)

1.4.18. This Plan states: "*Under a highly ambitious Accelerated scenario, goals in domestic, commercial, industrial, transport and land use sectors could deliver a 33% reduction by 2026 (against 2016 baseline) and net zero by 2041*".

Coventry City Council: Coventry Local Plan (2011-2031)

1.4.19. Policy DS3 outlines the Council's presumption in favour of sustainable development contained in the National Planning Policy Framework (NPPF). The Council states "*it will work proactively with applicants to find solutions to enable proposals to be approved wherever possible, and to secure development that improves the economic, social and environmental conditions in the area.*"

Rugby Borough Council: Local Plan (2011-2031)

1.4.20. The Plan states development will be accommodated where it supports decarbonisation and protect or enhances the area.

National Highways

National Highways Net zero highways: our 2030 / 2040 / 2050 plan (2021)

1.4.21. The Applicant have outlined their strategy to achieve net zero:

- Corporate emissions – net zero by 2030
- Maintenance and construction emissions – net zero by 2040
- Road user emissions – net zero by 2050

1.4.21.1. To enable net zero by 2040 for construction and maintenance the following interim targets are proposed:

- A trajectory of 0-10% reduction by 2025
- A 40-50% reduction by 2030
- A 70-80% reduction by 2035

- Net Zero by 2040

1.4.22. National Highways are targeting the use of only zero carbon plant on their sites by 2030. The Scheme will directly affect the maintenance and construction emissions of National Highways.

National Highways: Strategic Business Plan 2020-2025 (2020)

1.4.23. The Strategic Business Plan 2020-2025 sets out National Highways' response to the Government's second Road Investment Strategy (RIS2), which includes delivery of the Scheme. It presents the careful balancing between maintaining and operating the SRN safely and providing new capacity where it is needed. It supports the Government's ambition to achieve net zero UK carbon emissions by 2050. It notes that National Highways has a shared responsibility to tackle climate change and is dedicated to minimising the GHG emissions generated from the activities within National Highways' control including designing schemes and services to be carbon and energy efficient, reducing carbon footprint through initiatives such as introducing energy-saving measures for maintenance depots and using low-energy lighting and control systems for motorways.

Topic-specific guidance

Design Manual for Roads and Bridges LA 114

1.4.24. The Design Manual for Roads and Bridges (DMRB) sets out the design and safety standards for managing the motorways and all-purpose trunk roads across England.

1.4.25. DMRB LA 114 sets out the requirements for assessing and reporting the effects of climate on highways (climate change resilience and adaptation), and the effect on climate of greenhouse gas from construction, operation, and maintenance projects. An assessment of changes in GHG emissions during the construction and operational phases of the Scheme has been undertaken in accordance with DMRB LA 114 and reported within ES Chapter 14 (Climate) (**TR010066/APP/6.1**).

1.4.26. This Outline CMP describes the actions taken to meet the requirements of DMRB LA 114 to minimise and regularly reporting on the construction carbon emissions.

British Standards Institution: PAS 2080:2023 Carbon Management in Infrastructure and Built Environment

1.4.27. The updated PAS 2080:2023 specification summarises the requirements for all value chain members to best control and influence WLC management at the asset, network and system levels. Value chain requirements are structured around the following components:

- effective leadership

- maximising opportunities for whole life carbon reductions at all stages of the delivery process
- selecting appropriate carbon emissions assessment methodologies
- setting appropriate carbon reduction targets
- determining baselines against which to assess carbon reductions
- establishing metrics (e.g. key performance indicators – KPIs) for credible carbon emissions monitoring and reporting
- integrating carbon management into procurement
- continual improvement of carbon management and performance

Institute of Environmental Management & Assessment Guide: Assessing Greenhouse Gas Emissions and Evaluating their Significance 2nd Edition (2022)

1.4.28. Whilst DMRB LA 114 remains the sole standard according to which the Scheme has been assessed against and reported in this ES, the Institute of Environmental Management and Assessment (IEMA) guidance has been used to assist, as it provides a complementary narrative to some elements of DMRB LA 114. IEMA states that this guidance is to assist GHG practitioners with addressing GHG emissions assessment, mitigation and reporting in statutory and non-statutory Environmental Impact Assessment (EIA).

IEMA Environmental Impact Assessment Guide to: Climate Change Resilience & Adaptation (2020)

1.4.29. This guide provides a framework for the effective consideration of climate change resilience and adaptation in the EIA process in line with the UK Town and Country Planning (EIA) Regulations (2017).

1.4.30. This guidance notes that ES should provide clarity on whether climate resilience has been appropriately considered in the design and development of a scheme.

1.4.31. ES produced in line with this advice will:

- Be proportionate in their approach and not include superfluous assessment that does not address likely material issues and always refer to climate change.
- Provide a concise explanation of how a project's resilience to climate change was considered.
- Set out clearly how effects related to climate change have been assessed.
- Define significance of effects pragmatically, taking account of the knowledge base used in the impact assessment.

1.5. PAS 2080:2023 Carbon Management in Buildings and Infrastructure

Decarbonisation principles

1.5.1. PAS 2080 is a global standard for managing infrastructure carbon and has been developed to meet World Trade Organisation requirements. PAS 2080 provides the framework for performing whole life carbon WLC assessment and aims to reduce carbon emissions and cost through the design, construction and usage stages.

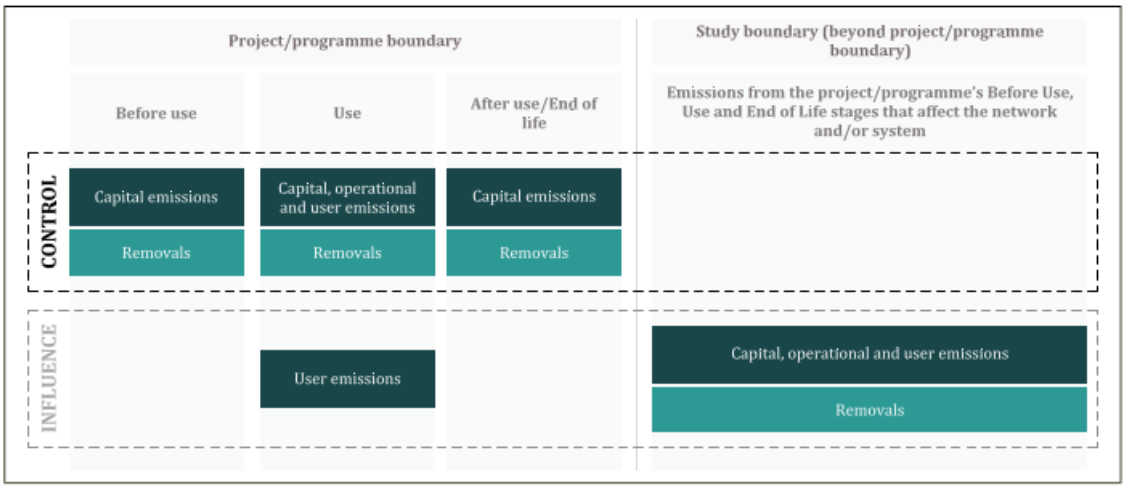
1.5.2. Successful carbon management utilises the knowledge of the entire value chain from other projects. Recognising co-benefits (e.g. climate adaptation and nature-based solutions) of an approach or innovation in the initial design or optimisation stages can allow for further effective decarbonisation approaches, often beyond the scope of a project.

1.5.3. PAS 2080:2023 provides a carbon management process to manage carbon on all projects and programmes in the built environment and includes requirements for developing a carbon management process.

1.5.4. The carbon management process within PAS 2080 is underpinned by a set of fundamental principles; the core of which is that no asset of the built environment can function in isolation from its surroundings, as the asset's construction, operation and use are impacted by, the functions of the networks and systems in which a project exists.

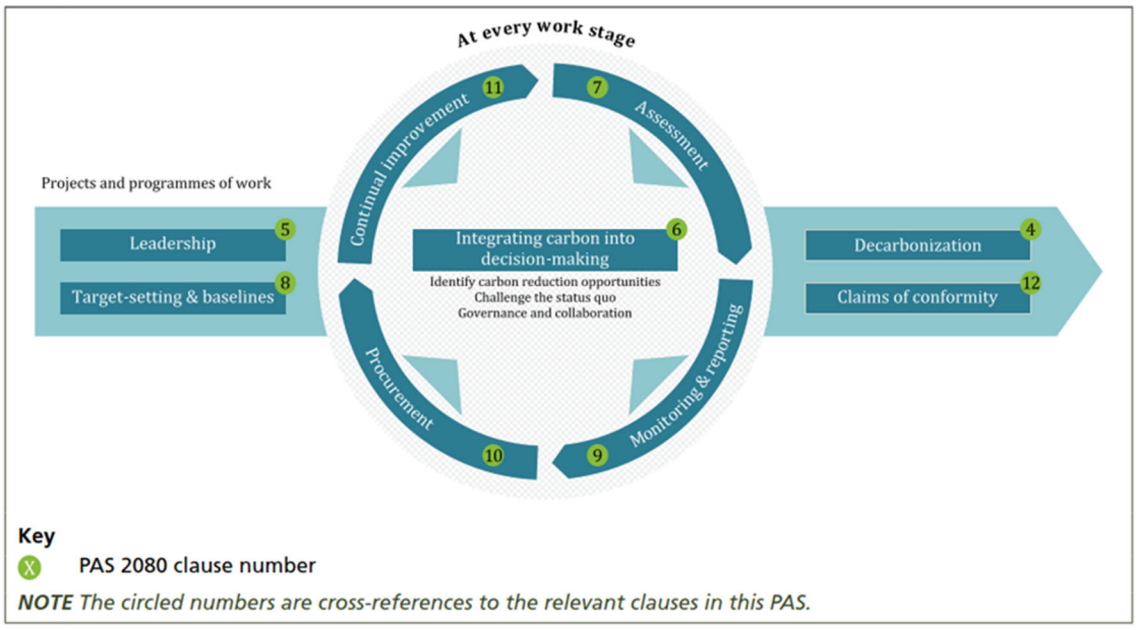
1.5.5. The decarbonisation principles apply to all value chain members to an extent. All value chain members will identify all activities that result in carbon emissions or removals that they control and influence, at the asset, network, and system level (see Figure 1) Due to the complexity involved in decarbonising the built environment, a holistic framework is required when informing decision-making and managing WLC emissions.

Figure 1 PAS 2080 whole life carbon framework for decision-making (Source PAS 2080:2023).



1.5.6. Figure 2 illustrates the carbon management process to be followed in managing WLC, which includes the quantification of baseline and projected GHG emissions, followed by target setting, continued monitoring, effective procurement, and continual improvement through the identification of further carbon reduction opportunities.

Figure 2 - Overview of carbon management process based on PAS 2080:2023 guidance (Source: PAS 2080:2023).



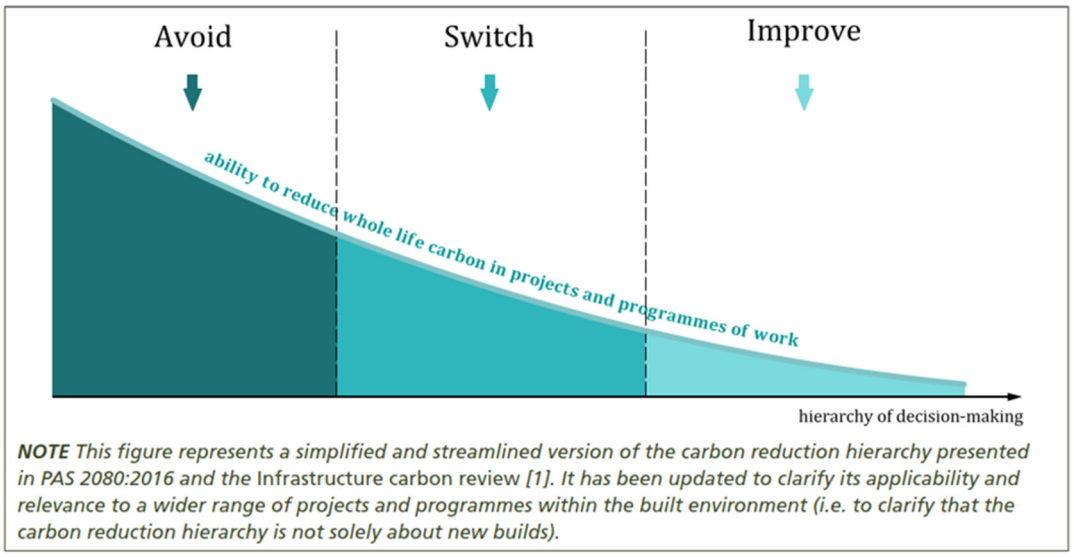
1.6. Managing WLC and aligning to Net Zero

1.6.1. Carbon reduction measures for a project should be prioritised to align with and support the transition to net zero as set out at the system, network, or national level.

1.6.2. Figure 3 illustrates the Carbon Reduction Hierarchy (Avoid, Switch, Improve) that should be followed and applied to manage all emissions from the construction and use of asset:

- **Avoid**: Challenge the need to build or operate an asset, aligning outcomes of a project with the net zero transition at the system level and evaluate the basic need at the asset and/or network level.
- **Switch**: Assess and adopt solutions that reduce WLC emissions through innovation, alternative materials, renewable technologies for operational carbon reduction, among others.
- **Improve**: Identify and adopt solutions that improve the use of resources and design life of an asset/network, including circular economy principles and efficient construction methods to improve the asset's potential for reuse or recycling at the asset's end-of-life

Figure 3 The carbon reduction hierarchy (Source: PAS 2080:2023)



NOTE This figure represents a simplified and streamlined version of the carbon reduction hierarchy presented in PAS 2080:2016 and the Infrastructure carbon review *[1]. It has been updated to clarify its applicability and relevance to a wider range of projects and programmes within the built environment (i.e. to clarify that the carbon reduction hierarchy is not solely about new builds).*

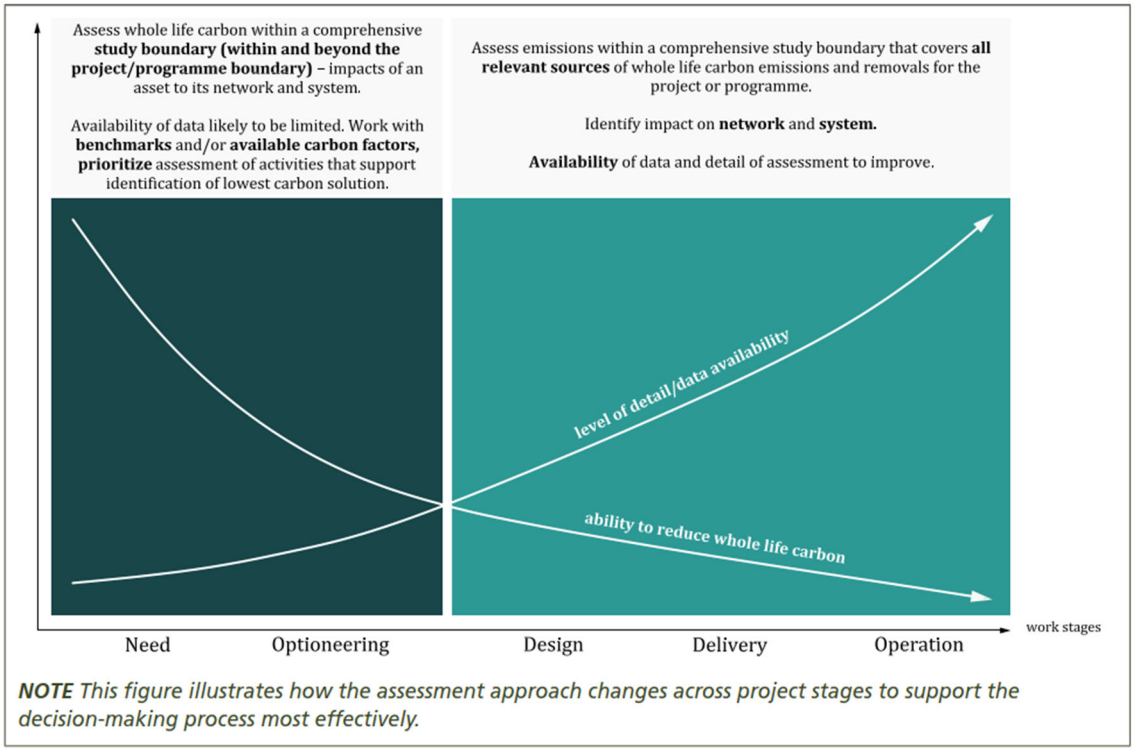
1.6.3. Priority should be given to low-carbon solutions that promote network and system decarbonisation as far as possible (including nature-based solutions such as sustainable drainage systems).

2. Integrating WLC in decision making

2.1. Approach

2.1.1. The earlier that carbon is considered, the more opportunities to reduce carbon emissions through the whole life cycle of a project. At the same time, the accuracy of the assessment improves with time as presented in Figure 4, but initial high-level assessments can be beneficial for enabling the greatest reductions. A Carbon Engagement Log is populated to demonstrate how carbon is being integrated within design and decision making; the log from the preliminary design development is presented in Appendix B.

Figure 4 Degree of accuracy and data availability in whole life carbon assessments across work stages



NOTE This figure illustrates how the assessment approach changes across project stages to support the decision-making process most effectively.

2.2. Carbon Workshops

2.2.1. With the support of the Carbon Lead and use of workshops, the design team makes sure the impact of carbon is assessed both qualitatively and quantitatively. A 'Carbon Opportunities Register' is used to capture the options supporting the achievement of the carbon commitments and the register remains a live document throughout a project. Within Appendix A is a section of the Scheme's working Carbon Opportunities Register which highlights opportunities implemented to date for the Scheme, other potential opportunities are not detailed.

2.2.2. To help embed carbon in design and decision making, at the start of the preliminary design, detailed design, and construction, carbon workshops are

hosted by the Carbon Lead with the design and construction teams to challenge the design as it progresses through the development stages. The discussion in the workshops covers the following key points:

- identifying the key carbon hotspots with highest impacts
- review of carbon reduction opportunities in the materials, design, and construction (including nature-based solutions)
- review of carbon management plan and ideas for further improvement
- identifying any options for offsetting residual carbon

2.2.3. Outputs from the workshops are captured within an Opportunities Register. Opportunities are assessed against the PAS 2080:2023 Carbon Reduction Hierarchy (Avoid, Switch, Improve). The Register is shared with the relevant teams and used to monitor the opportunity implementation and impact on carbon.

2.3. Challenges to Overcome

2.3.1. Alongside the Opportunities Register, a Carbon Reduction Opportunities Log is developed to form a live log for the duration of this Scheme to be updated at regular intervals to illustrate how opportunities have been taken forward. Appendix B contains a copy of the log from the preliminary design of the Scheme.

2.3.2. Subject to award of the DCO, further opportunities to mitigate carbon will be considered during the detailed design and construction phases of the Scheme. The carbon reduction opportunity register will continue to be managed throughout the Scheme lifecycle so that carbon management is monitored and throughout, with opportunities implemented where possible.

2.3.3. To facilitate discussion in workshops and with the design teams, the following key questions are considered to prompt consideration of carbon reduction through the whole life of the Scheme:

- Can any existing infrastructure be utilised?
- During the design, was there any consideration of minimising earthworks as much as possible?
- Have the selected materials in the design been optimised? Have the lowest carbon materials been considered?
- Have the excavation works been considered?
- Have low carbon concrete and low carbon soil stabilisation materials been considered?
- Has any minimisation of waste been considered by using off-site manufacture?
- Has any re-using or recycling of site won aggregates been considered?

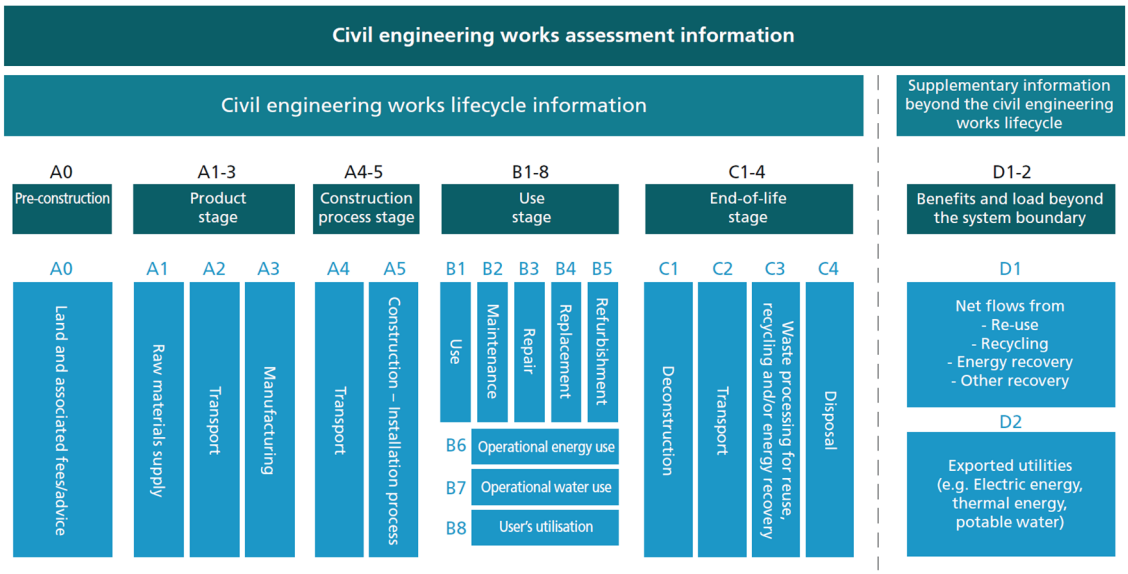
- Is there any consideration of how structures will be dismantled / removed at the end of their life to optimise recycling and reuse of components?
- Has the design focused on minimising the maintenance requirements?
- In the methods, was there any consideration of optimising resources to reduce construction duration and cost?
- Have any new construction techniques been considered to minimise construction time leading to less temporary works and less fuel consumption?
- Has any minimisation of transport been considered, or optimal materials been used to reduce the unnecessary transport?
- Was there any consideration of low carbon fuels for construction plant?
- Can we incorporate nature-based solutions?

3. Carbon Management Process

3.1. Life Cycle Stages

3.1.1. A WLC assessment is broken down into different lifecycle stages as show in Figure 5.

Figure 5 Life cycle stages (Source PAS 2080:2023)



Source: BS EN 17472:2022

3.1.2. Module A accounts for emissions during the Construction period and is broken down as follows:

- Modules A1-A3 cover the material production emissions and are calculated using carbon factors from databases such as CESMM4 (Civil Engineering Standard Method of Measurement).
- Module A4 covers material transport to site and is calculated based on the transport distance and load.
- Module A5 covers plant emissions from construction calculated using assumptions on fuel consumption of machinery.

3.1.3. Module B covers the Use Stage and is broken down as follows:

- Module B1 is use and is generally considered negligible on infrastructure projects.
- Modules B2 and B3 are maintenance and repair. Assumptions about these modules can be taken from sources such as the RICS Professional Statement for Whole Life Carbon (2017).

3.1.4. ModuleB4 is the replacement and refurbishment of assets. Replacement of materials is the largest source of emissions from the asset. This can be quantified

based on assumptions of how often replacement is required (e.g. a new road surface).

3.2. Study Boundaries and Temporal Scope

3.2.1. A1 to A5 and B1 to B4 are assessed for the construction of the Scheme over an anticipated 18 month period and operation of the Scheme over a 60-year period; see Section 4.3 for the methodologies used for these assessments.

3.2.2. The WLC assessment for the Scheme is produced in accordance with following standards.

- PAS 2080:2023 Carbon Management in Buildings and Infrastructure
- DMRB LA 110 - Material assets and waste
- DMRB LA 114 - Climate

3.3. Assessment Methodology

3.3.1. In accordance with paragraphs 3.11 to 3.20 of DMRB LA 114 (Highways England, 2021b), changes in GHG emissions associated with the construction, maintenance and operation of the Scheme are estimated and compared to relevant UK carbon budgets to assess their significance.

3.3.2. The only statutory carbon targets are the carbon budget targets and the Net Zero 2050 target that are set at a national level; i.e., they are targets for the UK. The Applicant is not aware of any relevant non-statutory targets. There are no sectoral targets (e.g., for transport), nor any targets set at a subnational geographic scale. The Net Zero 2050 and the carbon budget targets are themselves cumulative as they are a sum of carbon emissions for a range of sectors. In addition to the absence of sectoral or sub-national scale targets for carbon emissions, it is not possible for the Applicant to produce a baseline at such scales. Accordingly, there is no reasonable basis upon which the Applicant can assess the potential likely significant effect of the Scheme's carbon emissions at anything other than at the national level.

3.3.3. A WLC assessment was undertaken for the preliminary design stage and is detailed in ES Chapter 14 (Climate) (**TR010066/APP/6.1**).

3.3.4. The Applicant has set a Carbon reduction target of 20% from the baseline preferred option design.

3.3.5. The subsequent development of the Scheme's preliminary design achieved carbon emissions of 12,193 tCO2e associated with the construction of the Scheme. This was calculated using quantities of material provided within the bill of quantities. There is a provisional carbon reduction target of 55% against the baseline design's carbon emissions of 26,906 tCO2e.

3.3.6. Table 3 below highlights the performance of the Scheme's preliminary design against the baseline. Further reductions will be sought against the baseline as the detailed design is developed and throughout construction.

Table 3 Carbon assessment comparison between the preliminary design and the baseline.

		Carbon baseline (tCO_2e)	Scheme performance (tCO_2e)	Comparison to baseline (%)
Construction Carbon	A1-3 Construction materials	*19,035 Tonnes CO_2e*	*8,630 Tonnes CO_2e*	*-55%*
	A4 Construction transport	*5,810 Tonnes CO_2e*	*2,837 Tonnes CO_2e*	*-51%*
	A5 Construction plant (incl. land use and waste disposal)	*2,061 Tonnes CO_2e*	*726 Tonnes CO_2e*	*-65%*
	Overall Total	***26,906 Tonnes CO_2e***	***12,193 Tonnes CO_2e***	***-55%***

3.3.7. A construction phase carbon assessment, in accordance with DMRB LA 114, measures GHG emissions during construction using recognised calculation methodologies and tools:

- The National Highways Carbon Forecasting Tool October 2023 v2.5.1
- The Royal Institution of Chartered Surveyors (RICS) Whole Life Carbon Assessment (WLCA) for the Built Environment guidance and assumptions on the transport of materials to site
- Environmental Product Declarations (EPD) detailing the emissions for certain design aspects where appropriate for bespoke items
- The Woodland Carbon Code (WCC) for the soil carbon change unless an alternative site-specific methodology is determined

3.3.8. The construction emissions assessment accounts for the emissions arising from waste materials produced, transportation, as well as construction / plant emissions from onsite activities. This is complemented with an assessment of carbon emissions that result from land-use change during construction. The assessment of uses data from the Bill of Quantities for the Scheme design to estimate emissions from all materials used and their transportation to site (including surplus material).

3.3.9. The assessment of operational carbon emissions from end-users over the design life of the Scheme operation over a 60-year period in accordance with DMRB LA 114 and using the Emissions Factors Toolkit (EFT) v12.0.1 (December 2023),

published by the Department for Environment, Food and Rural Affairs (DEFRA). The operational assessment is based upon traffic data derived from a traffic model for the Scheme, as referred to in the Transport Assessment (**TR010066/APP/7.3**).

3.3.10. During the operation of the Scheme, the Applicant can maintain the network while also significantly cutting the Applicant's carbon emissions from their operational teams, according to the Applicant's net zero plan to hit net zero for their own emissions by 2030. This includes a commitment that their non-traffic officer vehicles will be 100% electric by 2027 and traffic officer vehicles to be 100% electric by 2030. Refer to: New electric vehicles help National Highways cut emissions - Driving for Better Business.

3.3.11. The assumptions and limitations of the climate assessment is detailed within ES Chapter 14 (Climate) (**TR010066/APP/6.1**).

3.4. Monitoring and Reporting

3.4.1. A Carbon Management Report will be prepared at the end of each stage to provide a baseline for monitor delivery of the next stage, for example operation after construction stage, to continually strive for reduced carbon emissions. 's. As a minimum the reports will:

- Provide an overview of the Scheme, and scope and boundary of assessment.
- State the methodology followed to quantify whole life carbon.

3.4.2. Present the results of the assessment at that work stage and identify carbon hotspots – this should be linked to the lifecycle modules scoped into the assessment as described above and have a comparison of results to previous work stages.

3.4.3. Link to the Carbon Opportunities Register and highlight areas that will be explored further in future stages. Opportunities are to include the possible embedment of nature-based solutions and technological solutions to mitigate, capture or offset the emissions of construction (e.g. through sustainable drainage systems (SuDS), woodland creation or low carbon technology).

3.4.4. The Carbon Opportunities Register will also be a main document to support monitoring and reporting. It will be updated through workshops with the Scheme's design team. Any updates at the end of each stage will be recorded in the Carbon Opportunities Register. The carbon intensity of the Scheme will be reviewed in the progress meetings. The Carbon Opportunities Register will be distributed to all relevant parties to aid their communication to the wider team.

3.5. Continual Improvement

3.5.1. Continual improvement allows lessons learnt to impact and improve the delivery of both current and future projects, allowing organisations to mature their carbon management experience and target Net-Zero objectives. Continual improvement also facilitates the effective approaches and required innovation to achieve the end goal of decarbonisation.

3.5.2. To make sure that lessons are learnt from this project, any carbon opportunities identified will be shared with the value chain (in workshops or through the delivery of stage reports). Where opportunities arise, best practice will be shared to demonstrate what worked well and what could be done to take steps forward.

3.5.3. The relevant carbon emissions data will be stored by the Carbon Lead. Upon completion of the Scheme, there will be a full review of the carbon measurement process to establish effectiveness of the process and potential improvements that can be made going forward. This overview will be presented in a technical note to provide guidance for future projects, and a carbon reduction legacy for this Scheme.

Appendix A – Carbon Opportunities Register (Highlighting Implemented Opportunities Only)

ID	*Carbon area of impact*	*Opportunity name*	*Opportunity description*	*Preliminary Design Update*
022	Construction	Geotechnical: Cut-Fill	Reduction of Ground Replacement	**IMPLEMENTED** **Potential carbon impact**: 11.60 tCO2e
003	Construction	Structures: Main Bridge	Reinforced earth wall & bank seat, in lieu of full height abutment & piles	**PARTIALLY IMPLEMENTED** **Estimated carbon impact**: 575 tCO2e **Potential Update**: Requires further assessment and discussion with SES.
006	Construction	Structures: HHF Bridge	Retaining the existing farm access bridge. Baseline = demolition.	**IMPLEMENTED** **Estimated carbon impact**: 5 tCO2e
007	Construction	Earthworks: HHF Retaining Cutting	Remove requirement for retaining wall.	**IMPLEMENTED** **Estimated carbon impact**: 409 tCO2e
008	Construction	Highways: VRS	Length of new Vehicle Restraint Systems (VRS) required on A46 Mainline. Concrete Step Barrier (CSB) not required -> 260m saved (tie-in shortening) (Southern end). This is the "gap" between Binley ending and Walsgrave beginning.	**IMPLEMENTED** **Estimated carbon impact**: 91 tCO2e
012	Construction	Pavements: Pavement	Reduce pavement refurbishment / retain existing where possible	**IMPLEMENTED** **Estimated carbon impact**: 580 tCO2e
051	Construction	Drainage: Outfalls	Explore options for designing out the proposed long length outfall pipes in Stage 2 or combined drainage proposal in form of pipes, swales, open channels, etc.	**IMPLEMENTED** **Estimated carbon impact**: 24 tCO2e
073	Construction	Construction Management: Energy	Construction energy sources – exclude red diesel/contractually compulsory to use HVO	**IMPLEMENTED** **Estimated carbon impact**: 1425.3 tCO2e
183	Construction	Highways: CSB	Reduction in CSB profile due to no streetlight provisions. 1m width to 580mm width.	**IMPLEMENTED** **Estimated carbon impact**: 468 tCO2e
209	Construction	Street Lighting: Main Deck	Bridge deck location of columns.	**IMPLEMENTED Estimated carbon impact**: 0.8 tCO2e

Appendix B – Carbon Engagement Log Template

Carbon Team Stakeholder Engagement Log						
Date	**Title**	**Delivered by**	**Location**	**Engagement Type**	**Attendees**	**Summary**
dd/mm/yy	*e.g. workshop with XX, or title of presentation*		*Online or in person*	*Training, workshop, presentation etc.*	*e.g. team or organisation*	*Brief summary of contnet and what was covered*
24.03.23	Carbon Workshop	Octavius	Online	Workshop	Octavius, Sweco, Cowi, National Highways, Acardis	Initial Carbon workshop - - What is carbon? - How is it measured? - Why is it important - Carbon Reduction Workshop Breakout Sessions - Next steps
03.08.23	Carbon Workshop	Octavius	In Person	Workshop	Octavius, Sweco, Cowi, National Highways, Acardis	Second Carbon Workshop - Review of Baseline Calculations - Review of progress to date by individual disciplines - Comment on What 35% reduction might look like for key disciplines. - Next Steps

Appendix C - Environmental method statements

To be produced prior to construction by the Principal Contractor. This section will be developed during detailed design and will include:

- Arboricultural method statement
- Protected species method statements
- Ornithological noise monitoring at Coombe Pool SSSI Method Statement

Appendix D - Emergency procedures and record of any environmental incidents

To be produced prior to construction by the Principal Contractor. This section will include:

- Confirmation of procedures in the event of an environmental emergency.

A record of environmental incidents (in table format) if occurred to include the following information:

- Date and location of the incident
- Details of the reporting procedure followed
- Description of the incident and relevant legislation
- Remedial actions
- Lessons learnt
- Details of any contact with enforcing bodies.

Appendix E - Copy of evaluation of change register

To be produced during DCO examination by the design team. This section should include:

- A record of any design changes after the completion of the Environmental Statement.
- A description as to how these design changes have been assessed and any environmental actions required as a result of these changes (e.g. further environmental survey required).

Appendix F - Final environmental investigation and monitoring reports

To be produced prior to construction by the Principal Contractor. This section should include:

- Copies of relevant reports (relating to protected species/ habitats and cultural heritage investigations, and any environmental monitoring reports) or cross reference to the locations of these easily if accessible elsewhere.