

Ref:	NR/L2/ENV/015/ADD
Issue:	1
Date:	06 January 2026
Compliance date:	06 January 2026

Addendum

NR/L2/ENV/015/ADD

Sustainability Minimum Requirements for Projects – Design and Construction - Addendum

This addendum affects the stated parts of NR/L2/ENV/015, Issue 10
Sustainability Minimum Requirements for Projects – Design and Construction

The rest of the content remains current and is unchanged from the date of publication. It has not been reviewed or updated.

Approvals

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Standard Change Lead

Content approved by:



Jo Lewington

Standard and Control Document Owner

Approved for publication by:



Kerry Marchant,
Standards and Controls Management Team

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User information

This Network Rail document contains colour-coding according to the following Red–Amber–Green classification.

Red requirements – no variations permitted

- Red requirements are to be complied with and achieved at all times.
- Red requirements are presented in a red box.
- Red requirements are monitored for compliance.
- Non-compliances will be investigated and corrective actions enforced.

Amber requirements – variations permitted subject to approved risk analysis and mitigation

- Amber requirements are to be complied with unless an approved variation is in place.
- Amber requirements are presented with an amber sidebar.
- Amber requirements are monitored for compliance.
- Variations can only be approved through the national variations process.
- Non-approved variations will be investigated and corrective actions enforced.

Green guidance – to be used unless alternative solutions are followed

- Guidance should be followed unless an alternative solution produces a better result.
- Guidance is presented with a dotted green sidebar.
- Guidance is not monitored for compliance.
- Alternative solutions should be documented to demonstrate effective control.

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Compliance

This Network Rail standard/control addendum is mandatory and shall be complied with by Network Rail Infrastructure Limited and its contractors if applicable from 06 January 2026.

Where it is considered not reasonably practicable¹ to comply with the requirements in this standard/control document, permission to comply with a specified alternative should be sought in accordance with the Network Rail standards and controls process, or with the Railway Group Standards Code if applicable.

If this standard/control document contains requirements that are designed to demonstrate compliance with legislation they shall be complied with irrespective of a project's Project Acceleration in a Controlled Environment (PACE) phase or equivalent governance framework. In all other circumstances, projects that have formally completed PACE strategic development & project selection phase may continue to comply with any relevant Network Rail standards/control documents that were current when PACE phase 1 was completed.

NOTE 1: Legislation includes National Technical Specification Notices (NTSNs)

NOTE 2: The relationship of this standard/control document with legislation and/or external standards is described in the purpose of this standard.

NOTE 3: For more information on PACE see NR/L2/P3M/201.

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¹ This can include gross proportionate project costs with the agreement of the Network Rail Assurance Panel (NRAP).

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Issue record

Issue	Date	Comments
1	January 2026	Published to implement minor correction identified during implementation of issue 10.

Purpose

NR/L2/ENV/015 is not re-issued, however this addendum is needed to implement minor corrections identified during implementation of Issue 10.

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Amendments

Clause/sub-clause	8.3.3	Change (Add/amend/delete)	Amend
Current text			
8.3.3 Whole life carbon management for renewal projects			
In addition to the requirements set out in 8.3.1, for renewals projects or works with an Anticipated Final Cost (AFC) greater than £1 million, the Designer/Contractor shall conduct two quantified carbon assessments:			
Amended text			
8.3.3 Carbon management for renewal projects			
In addition to the requirements set out in 8.3.1, for renewals projects/works with an Anticipated Final Cost (AFC) greater than £1 million, the Designer/Contractor shall conduct two quantified carbon assessments:			
Clause/sub-clause	8.10	Change (Add/amend/delete)	Amend
Current text			
8.10 Weather Resilience and Climate Change Adaptation (WRCCA)			
Prior to PACE 1, the Asset Manager and/or Sponsor producing the Project remit shall identify if the project is located within an area covered by an Adaptation Pathway.			
NOTE 28: <i>Guidance on Adaption Pathways can be found on the Greener Railway Hub NR/GN/ESD41 Climate Change Adaptation Pathways.</i>			
Where an Adaptation Pathway has been identified for a project, the Asset Manager and/or Sponsor shall align the remit of works with the strategic aims of the Adaptation Pathway.			
Projects with a Project Complexity Assessment (PCA) rating between 1 (Highly Complex Project) and 3 (Standard Project) shall undertake a Weather and Climate Change Impact Assessment.			
NOTE 29: <i>The Network Rail Weather Service provides forecasts of adverse and extreme weather conditions. These forecasts should be used in the Weather and Climate Change Impact Assessment, together with the Climate Projections Guidance Note. For region-specific information on weather and climate resilience, contact the relevant Regional Weather Resilience and Climate Change Adaptation Team.</i>			
The Designer shall produce the Weather and Climate Change Impact Assessment during PACE 1 as part of the design development process. The assessment shall include:			
a) The potential for weather events to impact project assets including direct and indirect impacts on rail infrastructure, neighbouring communities and the local environment;			
NOTE 30: <i>This should include, but not be limited to, flooding (river, coastal, surface and groundwater), high and low temperatures, wind, lightning, railhead adhesion, landslip/subsidence risk, and precipitation patterns (rain/snow/hail). This should also include a high-level review of historic weather events that impacted the railway and/or are adjacent to the project area.</i>			
b) an evaluation of how future climate change may influence the severity, frequency or nature of the identified weather-related risks;			
c) Identification of mitigation measures that the project can implement to improve the resilience of associated assets (e.g. drainage systems, earthworks, structures) to both current and future weather events;			

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NOTE 31: A basic introduction to the impacts of weather on the railway and on general trends projected due to climate change can be found on Safety Central (Weather Resilience and Climate Change Adaptation - Safety Central).

d) Any supporting cost benefit analysis to assess identified mitigations to account for:

- 1) The operational, safety and asset degradation impacts of current and future weather for the design life of the asset and;
- 2) The benefits of avoided costs realised through proposed resilience intervention(s) when assessing and selecting solutions.

NOTE 32: Consideration should be given to the use of collaborative solutions with external parties (e.g. adjacent landowners, Flood Risk Management Authorities) and more sustainable solutions, such as nature-based solutions.

NOTE 33: Guidance on how to undertake a Weather Resilience and Climate Change Impact Assessment (NR/GN/ESD11) and on Climate Change Projections (NR/GN/ESD23) can be found on the Greener Railway Hub.

The Weather and Climate Change Impact Assessment shall be approved by the Project Manager prior to the completion of PACE 1, with any agreed mitigations incorporated into the Project scope for PACE 2 onwards.

Projects which require an Environmental Permit under the Environmental Permitting Regulations (England and Wales) 2016 (as amended) shall carry out a Weather and Climate Change Impact Assessment as part of their site environmental management system.

The assessments shall cover all design and operation aspects of the permitted activity and shall be used to inform asset and process design, operational plans and emergency planning and response plans.

Conclusions of the assessment and records of the actions taken shall be included in the site Environmental Management System submitted with the permit application. The Environmental Management System and permit shall also be included in the project handover documents.

During PACE 2 – 4, the Designer shall be responsible for notifying the Designated Project Engineer (DPE) of any significant design modifications or new information arises that may materially affect the agreed Climate Impact Assessment outcomes. Where the DPE determines that an uplift to the Climate Impact Assessment is required, the Designer shall obtain formal guidance to determine whether the Assessment requires revision and reapproval by the Project Manager.

Changes to the Weather and Climate Change Impact Assessment shall be recorded in the Designers Risk Assessment and managed within the ESMP (or as specified in the Projects' Engineering Management Plan).

Amended text

8.10 Weather Resilience and Climate Change Adaptation (WRCCA)

Prior to PACE 1, the Asset Manager and/or Sponsor producing the Project remit shall identify if the project is located within an area covered by an Adaptation Pathway.

NOTE 28: Guidance on Adaption Pathways can be found on the Greener Railway Hub NR/GN/ESD41 Climate Change Adaptation Pathways.

Where an Adaptation Pathway has been identified for a project, the Asset Manager and/or Sponsor shall align the remit of works with the strategic aims of the Adaptation Pathway.

Projects with a Project Complexity Assessment (PCA) rating between 1 (Highly Complex Project) and 3 (Standard Project) shall undertake a Weather and Climate Impact Assessment (WCIA).

NOTE 29: The Network Rail Weather Service provides forecasts of adverse and extreme weather conditions. These forecasts should be used in the WCIA, together with the Climate Projections Guidance Note. For region-specific information on weather and climate resilience, contact the relevant Regional Weather Resilience and Climate Change Adaptation Team.

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The Designer shall produce the WCIA during PACE 1 as part of the design development process. The assessment shall include:

- a) The potential for weather events to impact project assets including direct and indirect impacts on rail infrastructure, neighbouring communities and the local environment;

NOTE 30: *This should include, but not be limited to, flooding (river, coastal, surface and groundwater), high and low temperatures, wind, lightning, railhead adhesion, landslip/subsidence risk, and precipitation patterns (rain/snow/hail). This should also include a high-level review of historic weather events that impacted the railway and/or are adjacent to the project area.*

- b) an evaluation of how future climate change may influence the severity, frequency or nature of the identified weather-related risks;
- c) Identification of mitigation measures that the project can implement to improve the resilience of associated assets (e.g. drainage systems, earthworks, structures) to both current and future weather events;

NOTE 31: *A basic introduction to the impacts of weather on the railway and on general trends projected due to climate change can be found on the Greener Railway Hub (Weather Resilience and Climate Change Adaptation - Safety Central).*

- d) Any supporting cost benefit analysis to assess identified mitigations to account for:

1. The operational, safety and asset degradation impacts of current and future weather for the design life of the asset and;
2. The benefits of avoided costs realised through proposed resilience intervention(s) when assessing and selecting solutions.

NOTE 32: *Consideration should be given to the use of collaborative solutions with external parties (e.g. adjacent landowners, Flood Risk Management Authorities) and more sustainable solutions, such as nature-based solutions.*

NOTE 33: *Guidance on how to undertake a WCIA (NR/GN/ESD11) and on Climate Change Projections (NR/GN/ESD23) can be found on the Greener Railway Hub.*

The WCIA shall be approved by the Project Manager prior to the completion of PACE 1, with any agreed mitigations incorporated into the Project scope for PACE 2 onwards.

Projects which require an Environmental Permit under the Environmental Permitting Regulations (England and Wales) 2016 (as amended) shall carry out a WCIA as part of their site environmental management system.

The assessments shall cover all design and operation aspects of the permitted activity and shall be used to inform asset and process design, operational plans and emergency planning and response plans.

Conclusions of the assessment and records of the actions taken shall be included in the site Environmental Management System submitted with the permit application. The Environmental Management System and permit shall also be included in the project handover documents.

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Changes to the WCIA shall be recorded in the Designers Risk Assessment and managed within the ESMP (or as specified in the Projects' Engineering Management Plan).

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Clause/sub-clause	8.11	Change (Add/amend/delete)	Amend
Current text			
NOTE 34: <i>Guidance on Heritage Significance can be found in NR/GN/COV/100/05 (Heritage: Care and Development).</i>			
Amended text			
NOTE 34: <i>Guidance on Heritage Significance can be found in NR/GN/CIV/100/05 (Heritage: Care and Development).</i>			

Standard and control document briefing note

Ref: NR/L2/ENV/015/ADD			Issue: 1
Title: Sustainability Minimum Requirements for Projects – Design and Construction			
Publication date: 06 January 2026		Compliance Date: 06 January 2026	
Standard/Control Document Owner: Chief Environment & Sustainability Officer			
Standard change lead/contact for briefings: Noami Sandford-de Quincey, Principal Planning & Integration Manager (E&S), Technical Authority			Tel: +447701064887
What’s new, what’s changed and why:			
The purpose of this change is to clarify mistakes with the RAG rating in the updated standard as well as wording clarifications to improve correctness of the document.			
Overview and reasons of the change:			
Amending the reference of a document which was quoted incorrectly Amending the wording of an assessment Amending incorrect RAG rating formatting Clarification of wording to remove duplications			
Affected documents			
Reference	Issue	Impact	Document type
NR/L2/ENV/015/ADD	1	New	Addendum
Briefing requirements:			
Briefings are given to those who have specific responsibilities within, or are directly affected by, this standard/control document. A copy of briefings may be available from the Standards & Controls site. Requirements to cascade briefings are described within any implementation plans.			
Briefing (T-Technical/ A-Awareness)	Post	Function(s)	Responsible for cascade briefing? Y/N
D	Chief Environment and Sustainability Officer	Technical Authority	N
D	Head of Environment and Sustainability	Route Services, Regions	N
D	Head of Health Safety and Environment	Regions	N
D	Regional Heads of Sustainable Growth	Regions	N
D	Head of Consents & Environment Planning	Route Services, Regions	N
D	Head of Safety and Sustainable Development	Route Services, Regions, Property	N
D	Head of Workforce Health, Safety and Environment	Regions	N
D	Health Safety and Environment Director	Regions	N
D	Route Health and Safety Manager	Regions	N
D	Principal Planning & Integration Manager (E&S) and Planning & Integration Manager (E&S)	Technical Authority	N
D	Principal Systems & Capability Manager (E&SD) and Sustainability Manager (Systems & Capability)	Technical Authority	N
D	Environment Manager and Environment Specialist	Route Services, IP Regions, Technical Authority	N
D	Principal Environment & Social Value Manager and Social Value Manager	Regions	N
D	Biodiversity Strategy Manager	Technical Authority	N
D	Consents Manager	Regions	N
D	Ecologist	Regions	N
D	Head of Climate Change Resilience & Adaptation & Climate Change Adaptation Manager	System Operator	N
D	Energy & Carbon Strategy Manager	Technical Authority	N
D	Senior Engineer (QHSE) [Energy and Carbon], Assistant Engineer (QHSE) [Energy and Carbon] and Senior Analyst (QHSE)	Technical Authority	N
D	Circular Economy Strategy Manager and Circular Economy Manager	Technical Authority	N
O	HSEA Specialist	Regions	N

OFFICIAL

O	Workforce Health, Safety and Environment Manager	Regions	N
O	Workforce Health, Safety and Environment Manager (HO and WD)	Regions	N
O	Infrastructure Maintenance Workforce HSE Advisor	Regions	N
D	HSE Directors	Route Services, Regions	N
D	SHE Managers	Route Services	N
D	Safety Health and Environment Specialist (Assurance, Environment, Improvement, Risk & Assurance and Risk Improvement]	Route Services	N
D	Scheme Project Manager	Route Services, Regions	N
D	Project Management Assistant	Route Services, Regions	N
D	Project Manager	Route Services, Regions	N
D	Works Delivery	Route Services, Regions	N
D	Infrastructure Directors	Route Services, Regions	N
O	Offtrack teams	Route Services, Regions	N
O	Drainage Engineers	Route Services, Regions	N
Briefing (T-Technical/ A-Awareness)	Role	Function	
O	Various (*to include as a minimum the below roles)	Determined by Regions	
O	Programme Manager	Regions	
O	Health and Safety Manager – Capital Delivery	Regions	
O	Project Planner	Route Services, Regions	
O	Project Engineer	Route Services, Regions	
O	Project Development Manager	Route Services, Regions	
O	Community Relations Manager & Community Relations Executive	Route Services, Regions, Technical Authority	
O	Commercial and Procurement Managers	Regions	
D	Sponsor	Regions	
D	Regional Engineer [Discipline]	Regions	
D	Senior Development Manager and Lead Development Manager	Regions	

NOTE: Contractors are responsible for arranging and undertaking their own Technical and Awareness Briefings in accordance with their own processes and procedures.

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Level 2

Business process

Sustainability Minimum Requirements for Projects – Design and Construction

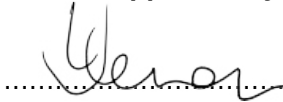
Approvals

Content approved by:



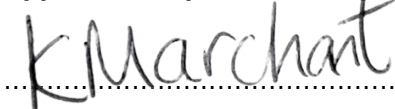
Naomi Sandford-deQuincey,
Standard Change Lead

Content approved by:



Jo Lewington,
Standard and Control Document Owner

Approved for publication by:



Kerry Merchant
Standards and Controls Management Team

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Issue record

Issue	Date	Comments
1	August 1999	Original Document
2	April 2000	Revised RT/LS/S/015
3	June 2000	Revised to harmonise clauses with MITTE3
4	October 2002	Revised to apply to all works and design contracts,
5	April 2004	Company Reorganisation
6	December 2011	Revised to apply to service contracts
7	June 2018	Revised to include social impacts and other widespread edits. Service contracts removed.
8	March 2019	Revised to apply to GRIP projects only and exclude Route Business Maintenance teams.
9	June 2021	Post Implementation Review
10	December 2025	Revised to aligned to current and future compliance obligations

Reference documentation

NR/L1/ENV/100	Network Rail Environment and Social Performance Policy
NR/L2/CIV/003/FormD	Architectural and Layout Acceptance form
NR/L2/ENV/120	Waste Management
NR/L2/ENV/121	Managing Environmental and Social Impacts of Noise and Vibration
NR/L2/ENV/122/01	Management of biodiversity
NR/L2/ENV/123	Prevention of Pollution to Land and Water
NR/L2/INF/02202	Records management of health and safety files
NR/L2/OHS/006	Maintenance and Contents of the National Hazard Directory
NR/L2/MTC/006	Maintenance and Contents of the National Hazard Directory
NR/L2/MTC/089	Arrangements for the Exchange of Asset Data and the Continuing Maintenance of Assets Undergoing Change
NR/L2/OHS/00135	Diversity Impact Assessments
NR/L2/OHS/0044	Planning and Managing Construction Work
NR/L2/OHS/CP0070	Principal Contractor Licensing Assurance
NR/L2/SCO/306	Disposal of redundant assets
NR/L2/SIG/11201/Mod A2-23	Recovery of Redundant Assets
NR/L3/ENV/044	Track Maintenance Renewal or Alteration - Used Ballast and Excavation Waste Handling
NR/L3/ENV/305	How to Change Utility Supplies
NR/L3/INV/3001/900	Leading an Investigation
NR/L3/INV/3001/902	Reporting of Accidents, Incidents and Occupational Health
NR/L3/MTC/MG0194	Management of Third-Party Complaints
NR/L2/CSG/10070	Managing customer contact, complaints, advance notification of railway work and community engagement
NR/L3/OPS/045/4.14	Control of Environmental Incident Procedures
NR/L3/TRK/003/TEF3069	Pesticide application record form
NR/GN/CIV/100/01	Design Advice Panel (DAP) Project Guidance
NR/GN/CIV/100/04	Climate Action for Buildings and Architecture
NR/GN/CIV/100/05	Heritage Care and Development
NR/GN/CIV/400/05	Office Workplace DNA
NR/GN/ESD07	Managing Whole Life Carbon in Infrastructure
NR/GN/ESD11	Weather Resilience and Climate Change Impact Assessment
NR/GN/ESD23	Climate Change Projections
NR/GN/ESD34	Environmental Incidents & Close Calls
NR/TM/ESD/001	Contaminated Land

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NR/L2/CTM/201	Competence management
NR/GN/ES044	Delegation of Authority
NR/L2/ASR/016	NR/L2/ASR/016
NR/GN/ESD037	Contaminated Land Guidance Note
NR/L2/P3M/201	Project Acceleration in a Controlled Environment (PACE)
NR/GN/ES/034	Environmental Incidents & Close Calls
NR/L2/ELP/27314/Form05	Testing and Commissioning Plan
NR/L3/ENV/305	How to change utility supplies
NR/GN/OTK/6201	How to manage Invasive, non-native and harmful plants
NR/L2/ENV/125	Carbon Management for Projects and Engineering Works
NR/L2/ELP23101	Management of Polychlorinated Biphenyls (PCBs) in Electrical Power Assets
Network Rail document	Buildings and Architecture Strategy
Network Rail document	Railway Sustainability Design Guide
Network Rail document	Herbicide Agreement
Network Rail document	Greener Railway Strategy
Network Rail document	Everyone Belongs
External document	Appendix I of the Convention on International Trade in Endangered Species
External document	BES 6001 Framework Standard for Responsible Sourcing
External document	BS EN 17472:2022 Sustainability of construction works. Sustainability assessment of civil engineering works. Calculation methods
External document	BS EN 13306:2017 Maintenance. Maintenance terminology
External document	CIBSE TM54 Evaluating operational energy use at the design stage
External document	CL: AIRE Definition of Waste: Code of Practice
External document	Control of Pollution Act
External document	EN 15804:2012 Sustainability of construction works. Environmental product declarations. Core rules for the product category of construction products
External document	Guidelines for Preliminary Ecological Appraisal
External document	HM Government Building Regulations Approved Document G
External document	International Handbook of Suicide Prevention, 2nd Edition
External document	ISO 14025:2006 Environmental labels and declarations
External document	Land Contamination Risk Management
External document	PAS 2080:2023 Carbon Management in Buildings and Infrastructure

Legislation

Compliance with this standard/control document does not, on its own, provide compliance with the legislation listed.

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1 Purpose

This standard sets out Network Rail's minimum requirements for the management of sustainability risks and opportunities during design and/or construction activities.

The implementation of this standard delivers a range of benefits to Network Rail including:

- a) improved business cost-efficiency from sustainable practices, such as designing for whole-life energy efficiency, transitioning to a circular economy, and capital carbon value engineering;
- b) increased social value created by maximising opportunities for inclusive design, improving the wellbeing of communities, and supporting local economies;
- c) reduced risk of legal and regulatory non-compliance and negative reputational exposure by delivering Network Rail's sustainability compliance obligations; and
- d) alignment with Network Rail's Greener Railway Strategy.

2 Scope

This standard is mandatory for all internal and external construction and design services and works carried out by Network Rail and its contractors.

This standard applies to but is not limited to:

- a) Projects requiring Investment Authority as defined in IR01 Investment Regulations and that enhance or renew the operational railway and therefore, follow PACE as defined under NR/L2/P3M/201;
- b) Network Rail business units where they act as a design or contractor entity according to Construction (Design and Management) Regulations definitions, e.g. Network Rail Engineering Services Design Delivery and Works Delivery engaged in construction and design works; and
- c) any non-construction works that comply with NR/L2/OHS/0044 – Planning & Managing Construction work.

This standard excludes any works that meet the definition of maintenance in BS EN 13306:2017 (see clause 3 'definitions').

Throughout this document 'project' will refer to projects, programmes and portfolios.

The requirements of this standard apply to all areas impacted by project activities, including the primary development site(s) and, without limitation, any associated temporary work sites, compounds, haul roads, access routes.

Where a joint venture or alliance is established, this standard applies as a minimum when defining contract requirements for those organisations accountable for design or construction within the alliance.

Where agreed by a Network Rail Sustainability Professional, the sustainability deliverables outlined in this standard may be delivered at a programme level rather than at an individual project level.

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3 Definitions

Term	Definition
As low as reasonably practicable (ALARP)	Reasonably practicable involves weighing the risk/benefit against the effort, time and money needed to control it. Any requirements within this standard should be applied to ALARP using a whole-life cost approach for their consideration.
Asset	Any item, entity, or property owned by Network Rail and regarded as having actual or potential value or function to the operation of the rail network, to other Network Rail business activities, or to other stakeholders.
Adaptation Pathway	An adaptation pathway is a long-term planning approach that considers multiple climate futures, mapping out potential routes to resilience.
British Agrochemicals Standards Inspection Scheme (BASIS)	BASIS is the British Agrochemicals Standards Inspection Scheme, a UK professional certification and regulatory body that sets training and competency standards for people involved in the sale, supply, and advice of pesticides, herbicides, fertilisers, and related agricultural products.
Biodiversity	The variety and variability among all forms of life. NOTE 1: This includes terrestrial, marine, and other aquatic ecosystems and the ecological complexes of which they are part.
Biodiversity Net Gain (BNG)	An approach to works that leaves biodiversity in better state than before. NOTE 2: In Wales, this approach is referred to as 'Net Benefit for Biodiversity.' In Scotland, the term applied is 'positive impact on biodiversity.'
Best Practicable Means (BPM)	BPM is defined in Section 72 of the Control of Pollution Act as 'reasonably practicable for the local conditions and circumstances, using measures including good design, good practice installation, maintenance, manner and periods of operation of plant and machinery, acoustic structures and the financial implications of each.'
Building Research Establishment Environmental Assessment Method (BREEAM)	An international scheme that provides third-party certification for the assessment of sustainability performance for projects, infrastructure and buildings.
Capital Carbon	The greenhouse gas emissions associated with the creation, refurbishment and end of life treatment of an asset. NOTE 4: The term capital carbon has emerged because all these activities are typically funded through capital expenditure (CAPEX). NOTE 5: The related term 'embodied carbon' is part of capital carbon but only applies to the carbon dioxide and other greenhouse gas emissions during the manufacture of specific materials and products.
Circular Economy	A circular economy is a system where materials never become waste and a circular flow of resources is maintained by recovering, reusing, repairing, regenerating and maintaining to keep existing resources in use for as long as possible. This approach extracts the maximum environmental, social and financial value and reduces embodied carbon, water and social impacts whilst supporting nature regeneration.
Contaminated Land: Applications in Real Environments (CL: AIRE)	CL: AIRE is a UK not-for-profit organisation that helps the construction industry manage and reuse land in a safe and sustainable way. It provides practical guidance, training, and tools - such as the Definition of Waste Code of Practice (DoWCoP) - to support the responsible reuse of excavated materials and the remediation of contaminated sites, in line with environmental regulations.
Competent Person	An individual with the defined standards of knowledge, skills and behaviours required to successfully undertake a specific task. To attain a competency the holder has to be assessed against these standards. NOTE 6: The individual should be able to demonstrate these capabilities before being deemed competent for the required work.

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Construction	Construction refers to any building or engineering work involving the creation, alteration, maintenance, or removal of structures. This includes site preparation, assembly or disassembly of prefabricated elements, installation of fixed services, and cleaning using high-pressure or hazardous methods. Activities related to mineral exploration or extraction are excluded. For the full definition of construction work please refer to the Construction (Design and Management) Regulations 2015.
Contaminated Land	Land that has legally been defined as 'contaminated land' where substances are causing or has the potential to cause significant harm to people, property or protected species, significant pollution of surface waters (e.g. lakes and rivers) or groundwater, air pollution, and/or harm to people as a result of radioactivity. Land can become contaminated with: - hazardous and/or non-hazardous materials from human activity (e.g. previous land uses, fuel spillages, fly tipping); - invasive non-native species; and/or - naturally occurring hazardous substances like radon gas.
Contractor	Any person or organisation (including a non-domestic client) who, carries out, manages or controls construction work. NOTE 7: This can include a Network Rail business function that is contracted to complete work on behalf of another Network Rail business function.
Design	Design includes any production of drawings, design details, specifications and bills of quantities (including specification of articles or substances) relating to a structure, and calculations prepared for the purpose of design.
Designer	Any person or organisation, including a client, contractor or other person, who: - prepares or modifies a design - arranges for, or instructs, any person under their control to do so, relating to a structure, or a product or mechanical or electrical system intended for a particular structure. A person is deemed to prepare a design where a design is prepared by a person under their control. NOTE 8: This can include a Network Rail business function that is contracted to complete work on behalf of another Network Rail business function.
Emergency Works	Under the Environmental Permitting Regulations, an emergency works is when there is: - serious risk of flooding - serious detrimental impact on drainage; and/or - serious harm to the environment. The activity can not be a pre-planned activity. NOTE 9: Emergency works as defined under the Railway Act does not align with the emergency works as defined by environmental regulators.
Employer's Representative	Any role within Network Rail responsible for managing and delivering the contracted project or works activity at a given stage in the project/works life cycle e.g. Contract Manager, Development Manager, Project Manager, or Asset Manager.
Enhancement Project	Schemes to change network outputs, usually involving construction, that improves network capacity or capability (e.g. enabling higher speeds, allowing heavier loads) relative to the level of network outputs funded at the last relevant periodic review. Usually, outputs are required at specific times (in contrast to most renewals). Definition from Office of Road & Rail (ORR) NOTE 10: Enhancement projects include: - Projects in the Rail Network Enhancement Pipeline (RNEP). - Projects listed in the Network Rail Enhancements Delivery Plan (EDP) which is updated quarterly. - Projects funded by third parties (not DfT or Transport Scotland) but delivered by a Network Rail enhancements team. - Any additional transport construction or engineering enhancement projects/programmes which require submission of formal business cases to

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	<i>national government agencies to secure funding approval before the project/programme is authorised to proceed.</i>
Environment and Social Appraisal (ESA) tool	Network Rail PACE product. The ESA is a Network Rail tool owned by the Employer's Representative that enables Network Rail to collate pre-construction information on sustainability risks and opportunities.
Environment and Social Management Plan (ESMP)	The Environment and Social Management Plan provides Network Rail teams and suppliers with a formal plan to address Environment and Social Performance themes following use of the ESA. ESMPs can be presented as Design ESMPs (DESMPs) and Construction ESMPs (CESMPs).
Environmental Product Declaration (EPD)	An independently verified and registered document that communicates transparent and comparable information about the life-cycle environmental impact of products. NOTE 11: <i>The International EPD System is a global programme for environmental declarations based on ISO 14025:2006 and EN 15804:2012.</i>
Forest Products	Any material derived from forestry, including timber, composite timber products, paper, card, etc.
Greenhouse gases (GHG)	A group of gases, both natural and anthropogenic (human-created), that when released into the atmosphere will absorb and emit radiation at specific wavelengths within the spectrum of infrared radiation emitted by the Earth's surface, the atmosphere and clouds. They have the consequential effect of warming the atmosphere.
Greener Railway Hub	Greener Railway Hub is a Network Rail managed website designed as a central resource for colleagues and supply chain partners. It provides easy access to key information, answers to frequently asked questions, and contact details for further support. NOTE 12: <i>All sustainability guidance notes, and technical manuals can be found on the Hub. Please refer to the site first for any queries or further information.</i>
Health & Safety File (HSF)	A file prepared to satisfy regulation 12(5) of the Construction (Design and Management) Regulations 2015. The purpose of the HSF is to confirm that, at the end of a project, the client has information that anyone carrying out subsequent construction work on the same site or structure would need to be aware of in order to plan and carry out work safely and without risk to health.
Indicators	Indications of performance and/or the likelihood of meeting targets. The most significant of these, for a business, are key performance indicators.
Maintenance	Activities that allow us to keep an asset in use, or restore it, so it can keep performing its required function.
Non-construction works	Works outside the scope of construction works might include non-intrusive surveys and inspections carried out as part of the pre-construction phase, vegetation clearance that is not associated with the construction phase, and structures examinations.
Project Acceleration in a Controlled Environment (PACE_	Project Acceleration in a Controlled Environment (PACE) describes how Network Rail manages and controls investment projects on the rail network. Network Rail has developed this approach to managing projects in order to minimise and mitigate the risks associated with project development and delivery.
Pollution pathways	A pollution pathway is the route by which a contaminant (pollutant) travels from a source to a receptor, such as humans, watercourses, or wildlife. It includes all environmental media or mechanisms (e.g. air, soil, water, groundwater) through which the pollutant can move. Pollution pathways are a key component in assessing environmental risk and are sometimes also referred to as pollution linkages.
Potable Water	Water that is safe to drink.
Preliminary Ecological Appraisal (PEA)	A rapid assessment of the habitats and ecological features, present or potentially present, within a site and within the wider zone of influence of a project or work site. A PEA normally comprises a desktop study and a site walkover survey such as an Extended Phase 1 Habitat Survey. The PEA will determine the need for further Phase 2 surveys. PEAs need to be conducted

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	in accordance with the most current edition of Chartered Institute of Ecology and Environmental Management (CIEEM) Guidelines for Preliminary Ecological Appraisal.
Preliminary Risk Assessment (Contaminated Land)	The Preliminary Risk Assessment (Phase 1 desktop study) is the first stage of the contaminated land assessment process. This involves analysing historical and environmental information for the site and within a 250m radius around the site as detailed in the Environment Agency's Land Contamination Risk Management (LCRM) guidance. A risk assessment report with conceptual site modelling will be undertaken. If this demonstrates no risk from contamination, the planning will be released, subject to local authority agreement.
Polychlorinated biphenyls (PCBs)	PCBs are a group of man-made, toxic chemicals with a range of physical properties, including oily liquids or waxy solids, which were widely used in industrial and commercial applications. They are known for their non-flammability, chemical stability, and good insulating properties, making them useful in electrical equipment and other applications.
PCB Containing Equipment	Group term for equipment with a fluid (oil) containing total mixture of PCBs > 50ppm and a total fluid (oil) volume ≤ 5 litres. NOTE 13: Total mixture means the total amount of all types of PCB structures that might be present in the oil.
PCB Contaminated Equipment	Equipment with a fluid (oil) contaminated with <u>total</u> mixture of PCBs > 50ppm and a total fluid (oil) volume > 5 liters, or Equipment manufactured prior to 1987 containing or assumed to be containing a fluid (oil) volume > 5 liters with unconfirmed PCB content. NOTE 14: Total mixture means the total amount of all types of PCB structures that might be present in the oil. NOTE 15: PCB Contaminated Equipment is required to be registered with the relevant Environmental Regulator.
RACI Matrix	A RACI matrix is a chart that shows who is Responsible, Accountable, Consulted, and Informed for each task in a project.
Renewals	Major capital works or replacement of the network in order to maintain its required capability. These may be required at specific times but are more often carried out according to Network Rail's own timetable. Definition from Office of Road & Rail (ORR)
Reuse	Reuse will apply if: • it is used for the same purpose for which it was designed – the use can not be subordinate or incidental to the original use • the previous holder intended for it to be reused • no repair, or no more than minor repair, is required to it when it is transferred from the previous holder to the new holder, and the previous holder knows this • any necessary repair is going to be done • its use is lawful • it is not managed in a way that indicates that it is waste, for example it is not transported or stored in a way that could cause it to be damaged NOTE 16: This criterion applies to both materials which become waste, and those which have not become waste. If a material becomes waste before it is reused, you will have to apply the end of waste test to it.
SKA Rating	SKA rating is an environmental assessment method, benchmark and standard for non-domestic fitouts, led and owned by the Royal Institute of Chartered Surveyors (RICS).
Social Sustainability	Social sustainability focuses on how businesses impact people - positively and negatively. It involves proactively addressing impacts and relationships with stakeholders such as employees, supply chain, customers, and local communities.

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Social Performance	The extent to which Network Rail's operations, activities and decisions impact people- including passengers, employees, suppliers, communities or other groups affected by Network Rail's physical and socio-economic presence.
Social Value	Defined by The Institute for Social Value as "the quantification of the relative importance that people place on the changes they experience in their lives. Some, but not all of this value is captured in market prices." NOTE 17: The term 'social value' is used sometimes interchangeably with the term 'social performance.'
Structure	a) Any building, timber, masonry, metal or reinforced concrete structure, railway line or siding, tramway line, dock, harbour, inland navigation, tunnel, shaft, bridge, viaduct, waterworks, reservoir, pipe or pipeline, cable, aqueduct, sewer, sewage works, gasholder, road, airfield, sea defence works, river works, drainage works, earthworks, lagoon, dam, wall, caisson, mast, tower, pylon, underground tank, earth retaining structure or structure designed to preserve or alter any natural feature, and fixed plant; or similar, b) Any formwork, falsework, scaffold or other structure designed or used to provide support or means of access during construction work.
Supplier	The term used within Network Rail contracting to refer to a Designer and/or Contractor.
Sustainability	Meeting the needs of the present without compromising the ability of future generations to meet their own needs. For this standard, the term sustainability covers traditional environmental management, social sustainability and wider topics such as low emissions, biodiversity, circular economy and weather resilience and climate change adaptation.
SurPlus	A UK-based mobile app that connects consumers with local stores offering surplus, imperfect, or overstocked goods at discounted prices, promoting sustainability and reducing waste.
Traction Energy	The energy used to move trains.
Urgent Reactive works/non-emergency unplanned works	Works that were not planned but have to be undertaken urgently when a rail asset has failed due to a sudden and unforeseen event, fault or defect. There is not involvement from emergency services, but the work is deemed urgent in order to restore the rail network to a safe operating condition.
Weather Resilience and Climate Change Adaptation	Weather resilience is the ability of assets, networks and systems to anticipate, absorb, adapt to, and/or recover from disruptive weather events. Climate change adaptation is action taken to improve the resilience of assets, networks and systems to future weather conditions, avoiding, minimising or mitigating the impact of more severe or frequent adverse and extreme weather events and gradual or erratic changes in weather patterns due to climate change.
Whole-life carbon	The sum of all asset-related carbon and other GHG emissions and removals over the life cycle of an asset, including its design, construction, operation, maintenance/repair and disposal.
The Waste and Resources Action Programme (WRAP)	WRAP is a UK-based registered charity that works with governments, businesses, and communities to accelerate the transition to a circular economy. Its mission is to reduce waste, promote sustainable product design, and improve resource efficiency across sectors including food, textiles, and plastics.

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4 Emergency works and urgent reactive works

During emergency and urgent reactive works, the contractor shall implement measures to minimise sustainability risks.

When works are being carried out as emergency or urgent reactive works, the responsible manager shall provide the environmental regulator with notice in writing as soon as practicable, where such works would ordinarily have required regulatory approval.

This shall include information about the activity and the circumstance in which it was undertaken.

When emergency and urgent reactive works have been completed, standard Network Rail and legal requirements shall continue to be adhered to.

5 Incident management

5.1 Incident response

5.1.1 Incident Response Plan (IRP)

All Contractors shall produce an IRP within the Environment and Social Management Plan (ESMP).

The IRP shall include:

- a) operational control procedures to reduce the risk of potential incidents identified in the Environment and Social Appraisal (ESA) and ESMP;
- b) procedures to be followed in the event of an incident, including control and mitigation measures, reporting lines, investigation and closeout;
- c) procedures to be followed in the event of unexpected finds such as protected or invasive species, contaminated land, pests and diseases of trees, fly-tipping or archaeological finds;
- d) the responsibilities in the event of an incident;
- e) the people to contact in the event of an incident including:
 - 1) a list of competent lead investigators and Designated Competent Persons (DCPs);
 - 2) the Contractor's nominated responsible person;
 - 3) relevant incident reporting procedure(s);
 - 4) regulatory bodies including the Environment Agency and/or Scottish Environment Protection Agency, Natural Resources Wales, Natural England, NatureScot, Marine Management Organisation, Marine Scotland and/or Local Authority;
 - 5) the Employer's Representative; and
 - 6) landowner's contact details, where appropriate.

The IRP shall provide for a rapid response to any incident arising from the works in accordance with relevant legislation.

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The IRP shall be briefed, communicated, tested and made available to site personnel. It shall also be available to additional personnel and organisations upon request.

NOTE 1: Control measures shall be communicated through processes such as inductions, the work package plan process/method statements, task briefing sheets, and toolbox talks.

Reporting of environment incidents shall be carried out in line with NR/L3/INV/3001/902, NR/L3/OPS/045/4.14 and any applicable local processes.

The Employer's Representative shall be notified at the earliest opportunity after the occurrence and confirm the reporting in writing with preliminary findings within:

- 1) 12 hours for Category 1 or Category 2 incidents;
- 2) 48 hours for Category 3 and 4 incidents.

NOTE 2: For Category 1 and 2 incidents, earliest opportunity would include contacting the Employer's Representative out of normal working hours. For Category 3 and 4 incidents, earliest opportunity would be during normal working hours.

NOTE 3: Further information can be found in NR/GN/ES/034 Environmental Incidents & Close Calls.

5.1.2 External reporting

Reporting of environment incidents to the regulator shall be in line with NR/L3/OPS/045/4.14.

External contractors shall liaise with the Employer's Representative to agree communications with the relevant regulator.

Any incident reference numbers provided by the regulator shall be recorded and notified to the Employer's Representative.

5.2 Incident investigation

The Designer/Contractor shall:

- a) investigate environment incidents in line with NR/L3/INV/3001/900 and local processes, to identify root cause(s) and specify actions to prevent recurrence;
- b) co-operate with any Network Rail or third-party investigation process and assist in the investigation, giving full access to all materials and information;
- c) provide the Employer's Representative with a copy of the investigation; and
- d) support Network Rail in establishing the costs of the incident including, without limitation:
 - 1) direct costs; and
 - 2) indirect costs.

6 Environment and Social Management Processes

6.1 Environment and Social Appraisal (ESA)

The Employer's Representative shall interrogate internal and external sustainability data sources from the start of the project to identify records of sustainability risks, opportunities, features or surveys that might inform and/or constrain the project/works. External data sources and previous records shall be verified for validity.

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The ESA shall be completed in Phase 1 of a project and is a mandatory PACE product. The ESA is a live document and shall be updated at each PACE milestone, when significant changes to the project occur or when a project is restarted after a pause.

The ESA can be carried out by a competent Employer's Representative (with access to the relevant information sources) on behalf of the Project Manager.

The Employer's Representative shall confirm the Designer/Contractor has access to the most up-to-date project-specific ESA to understand the sustainability impacts associated with the project.

The ESA shall be reviewed and approved by the Network Rail Project Manager or an equivalent Employer's Representative who shall confirm the ESA is complete and accurate.

NOTE 1: The National Hazard Directory can be used to inform the ESA. The National Hazard Directory is a database for hazards on Network Rail's controlled infrastructure which can also record information on sustainability risks and/or features that might impact future works.

NOTE 2: The absence of previous sustainability records for the work site(s) does not mean that sustainability risks and constraints are not present.

6.2 Environment and Social Management Plans (ESMP)

The Designer/Contractor shall produce an ESMP. The ESMP shall address all sustainability risks and opportunities, applicable to the design and/or construction of the project, plus any other risks and opportunities identified by the Designer/Contractor.

The Network Rail ESMP template shall be used for all works and shall include the documented requirements of this standard.

Works on-site shall not commence until the ESMP has been formally accepted in writing. This shall be accepted through the EN3 Review and Acceptance form by a Network Rail Employer's Representative.

In emergency situations or where urgent and reactive works are required, work may proceed without a formally accepted ESMP, provided that reasonable efforts have been made to consult with a Sustainability Representative beforehand. In such cases, an ESMP shall be prepared and submitted retrospectively, as soon as practicable, following commencement of the works.

NOTE 3: All sustainability PACE products, including ESMP template, and guidance can be found on the Greener Railway Hub.

NOTE 4: Alliance and contracts for repeating design and works (e.g. track and signalling) may develop overarching ESMPs containing generic environmental management processes that comply with this standard. Project specific risks and opportunities can be addressed in shorter site specific ESMPs.

The ESMP shall include a sustainability risk assessment. The risk assessment shall identify the specific risks and opportunities associated with the project using data from the ESA, populated at the start of the project and updated as required.

The sustainability risk assessment could also include operational risks associated with the project.

For works where the contract mobilisation period is less than 28 days, the Designer/Contractor shall submit the ESMP documentation to the Employer's

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Representative 14 days before on-site works commence or at a date agreed with the Employer's Representative.

Design ESMPs shall be submitted at a date agreed with the Employer's Representative.

For all other works, the ESMP shall be submitted in writing to the Employer's Representative at least 28 days before on-site works commence. If the ESMP is not accepted by the Employer's Representative, the Designer/Contractor shall resubmit an updated ESMP within 10 days of receiving comments.

The ESMP shall be resubmitted until accepted by the Employer's Representative. The ESMP shall be completed and accepted prior to the commencement of onsite works.

7 General Requirements – all projects/works

7.1 Network Rail policies and strategies

The Designer/Contractor shall comply with all Network Rail policies, strategies and standards.

7.2 Roles and responsibilities

The -Project Manager shall allocate accountabilities and responsibilities for sustainability to named persons within the project team.

The Designer/Contractor shall notify and agree with the Employer's Representative any intended changes in personnel with responsibilities for sustainability at least 28 days before they occur.

7.3 Competence

The Principal Contractor shall have appropriate sustainability resources to satisfy the requirements set out in Appendix F of NR/L2/OHS/CP0070 and provide evidence, if requested, that the criteria have been met by those persons working on the project.

7.4 Sub-contracting

Compliance with this standard shall be a requirement at tender stage and throughout the procurement and management of any sub-contractors.

Sub-contracting shall not absolve the Designer/Contractor from their accountability to Network Rail to meet the requirements of this standard.

7.5 Permits, Licences and Consents (PLCs)

The Designer/Contractor shall establish and/or maintain a Permits, Licences and Consents (PLCs) register. The register shall contain details of:

- a) all environmental PLCs required by the design or construction phase of the project, as appropriate, along with conditions;
- b) all operational PLCs that will be transferred to Network Rail after project completion; and
- c) allocated responsibility and accountability for managing the PLCs.

As a minimum, the following details of a PLC shall be included in the register:

- a) location details;

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- b) authorising regulatory body;
- c) PLC reference number;
- d) PLC issue/expiry dates; and
- e) contact for further information.

The Designer/Contractor shall provide the Employer's Representative with the project's PLCs register. This shall include any PLC application documentation and shall be submitted to the Employer's Representative as soon as a PLC has been granted.

The Designer/Contractor shall comply with all PLCs as required.

The Designer/Contractor shall maintain a time-bound programme for applying for new or modified PLCs in line with the works programme and provide copies of any new or modified PLCs to the Employer's Representative within 7 days of receipt.

When instructed by the Employer's Representative, the Designer/Contractor shall become holder of any PLCs for the duration of the contract.

When instructed by the Employer's Representative, the Designer/Contractor shall transfer PLCs to Network Rail, or any agreed nominated person(s). Network Rail employees receiving the PLC(s) shall have appropriate delegated authority.

NOTE 1: Each project develops a Land and Consents Strategy and Land and Consents Commitment Register to identify potential consents requirements. These documents can be made available on request to assist with identifying PLCs required

NOTE 2: Further guidance on the delegation of authority can be found on NR/GN/ES044 which is located on the Greener Railway Hub.

7.6 Objectives, targets and performance indicators

The Designer/Contractor shall make any sustainability documentation agreed within the procurement and contracting process, including any framework level targets, available to the Employer's Representative. This shall be reported in accordance with the timescales outlined in the contract and using the reporting platform approved by the contracting Network Rail business unit.

If not already agreed prior to contract award the Designer/Contractor shall agree with the Employer's Representative, within 28 days of contract award, any project-specific sustainability objectives, targets and key performance indicators (KPIs). Targets shall meet the Employer's targets as a minimum where they have been set.

The Designer/Contractor shall incorporate all targets into the ESMP.

7.7 Life Cycle Costing (LCC) and Option Selection

Where life cycle costing (LCC) is required, the following sustainability impacts shall be considered:

- a) the effects of climate change and making assets more resilient to future weather events;
- b) nature-based solutions;
- c) circularity of materials;

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- d) impact on protected characteristics (as defined in the Equality Act 2010);
- e) energy efficiency of asset in use; and
- f) opportunities for asset whole life carbon reduction (clause 8.3.2)

NOTE 2: The LCC user guide provides guidance on how life cycle costing is applied within Network Rail. This is available on the Life Cycle Costing SharePoint site.

NOTE 3: Option selection carbon assessments should use industry benchmarks and identify carbon 'hotspots' to compare alternatives, prioritising those with lower whole-life emissions.

The Designer/Contractor shall include the sustainability opportunities associated with design options along with their recommendations, in the Option Selection Report.

Option selection principles shall also be applied by the Contractor during the delivery phase when selecting products, materials and construction methodologies.

NOTE 4: Environmental Life Cycle Appraisal methodologies include Life Cycle Assessment (LCA), Environmental Product Declaration (EPD) and Best Practicable Environmental Option (BPEO).

7.8 Records, documents and knowledge transfer

The Designer/Contractor shall notify the Employers Representative at the earliest opportunity of any ongoing surveys, site constraints, or hazards identified during the course of works. This requirement applies throughout the lifecycle of the works and shall be documented within the ESMP and communicated via appropriate channels such as work package plans, task briefings, and site inductions.

Where duties transfer from one Designer/Contractor to another during the project life cycle, the Designer/Contractor who is handing over shall, before completion of their contract, provide the Employer's Representative with an up-to-date ESMP. The Employer's Representative shall pass this on to the succeeding Designer/Contractor.

For each sustainability heading that the ESA confirmed as being applicable to the project the Designer/Contractor shall, before completion of their contract, provide the Employer's Representative with:

- a) final copies of surveys;
- b) risk assessments;
- c) reports;
- d) ESMPs;
- e) records - including PLCs, permissions, and monitoring records;
- f) best practice controls and mitigation measures;
- g) a summary of environmental incidents, responses and lessons learnt; and
- h) other relevant information for inclusion in the Health and Safety File/Operation and Maintenance (O&M) manuals.

The Project Manager or a delegated representative shall confirm that information is submitted in accordance with NR/L2/MTC/089 and complete NR/L2/MTC/089 Asset Management Plan Forms at project hand-over.

NOTE 5: NR/L2/MTC/089 should be used to detail any ongoing environmental management activities that are needed to transfer into operation, monitoring and maintenance.

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Before completion of works, the Designer/Contractor shall submit to the Employer's Representative information that would be needed to manage sustainability risks and opportunities during future work on the same site or structure.

This shall include:

- a) biodiversity net gain calculations and site Habitat Management Plans (HMPs);
- b) contaminated land details and any remediation work undertaken;
- c) any information about decommissioned equipment containing polychlorinated biphenyls (PCBs) or PCB contaminated equipment;
- d) any active operational PLCs to be transferred and/or any PLCs required during the project;
- e) an as-built carbon assessment;
- f) a completed testing and commissioning form where appropriate (NR/L2/ELP/27314/Form05); and
- g) flood risk assessment.

NOTE 6: For the commissioning form, specific requirements for installed renewable power technology and unique metering details should also be included.

Before completion of the contract, the Designer/Contractor shall input sustainability risks, features or survey data into the Network Rail National Hazard Directory in accordance with NR/L2/MTC/006.

7.9 Monitoring and assurance

The Project Manager or an equivalent Employer's Representative and the Designer/Contractor shall design and implement a risk-based schedule of internal sustainability inspections and document this within the ESMP.

NOTE 7: This should include assuring that new utility services are operating in line with NR/L3/ENV/305. Additionally, assurance activities should align with the requirements set out in NR/L2/ASR/016.

The Designer/Contractor shall provide copies of inspections and audits, findings and action plans to the Employer's Representative at progress meetings, or when requested by the Employer's Representative.

7.10 Communication

7.10.1 Stakeholder Management Plan

The project's Network Rail Stakeholder Management Plan shall be used to complete the ESMP.

NOTE 8: The list of stakeholders should include, but is not limited to, lineside neighbours, local authorities, parish councils, schools, local businesses and passengers.

7.10.2 Internal communication

The Designer/Contractor shall communicate the project specific controls within the ESMP to directly employed and subcontracted personnel.

The Designer/Contractor shall provide additional ongoing briefings and communication of specific sustainability requirements to direct and subcontracted employees, according to their roles and responsibilities.

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The Designer/Contractor shall maintain records of all briefings and communication activities.

The Designer/Contractor shall incorporate sustainability risks and opportunities and controls into instructional documents/ operational control procedures and document these within the ESMP.

NOTE 9: This includes but is not limited to, site inductions, the safe work pack (SWP) process, method statements, toolbox talks and task briefing documents.

The Designer/Contractor shall nominate a person with responsibility for maintaining internal communication and for communicating any changes in policy, procedure or legislation, including changes to communication materials on display.

7.10.3 External communication

The Designer/Contractor shall follow NR/L2/CSG/10070 when communicating with the public. The Designer/Contractor shall nominate a person with responsibility for community relations on site for:

- a) briefing all staff about acceptable conduct;
- b) overseeing the delivery of notification letters; and
- c) providing the Network Rail community relations representatives any information they require in relation to the works.

The Designer/Contractor shall inform Network Rail local community relations representative(s) where work is within 200 metres of residential properties, schools, hospitals or business premises and might cause disruption or disturbance and/or impact Network Rail's reputation or may impact passenger or freight services. Communications shall address the potential significant sustainability impacts on stakeholders as identified within the relevant risk assessments.

This distance shall be increased to 500m if determined by the *output of the Noise and Vibration Risk Assessment (NVRA)*.

NOTE 10: Typical noisy works might include but not be limited to piling, demolition works and tamping.

The Designer/Contractor shall maintain a record of discussions held with statutory authorities.

In the event of an unplanned approach from a statutory authority, the Designer/Contractor shall inform the Employer's Representative and supply a record of the discussion.

The Designer/Contractor shall provide technical support to the Employer's Representative during engagement with environmental regulators and/or local authorities.

The Designer/Contractor shall comply with NR/L3/MTC/MG0194. The Designer/Contractor shall resolve enquiries and complaints from the general public on site where possible. All other enquires and complaints will be directed to Network Rail's 24-hour helpline service (03457 11 41 41).

The Designer/Contractor shall participate in any stakeholder consultation organised by the Employer's Representative.

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If requiring access to third party land, the Designer/Contractor shall contact the Network Rail Property Services team to confirm that either:

- a) rights of access already exist to allow legal access to or occupation of third-party land; and/or
- b) arrange for negotiations to take place with the landowner for access/occupation requirements.

Where access is required to third party land, the Designer/Contractor shall approach Property Services prior to requiring use of third-party land.

The Designer/Contractor shall not enter into any financial agreements or compensation without first agreeing these arrangements with Network Rail Property Services team.

7.10.4 Communication between Network Rail and suppliers

The Designer/Contractor shall organise a progress meeting with the Employer's Representative every 28 days, or at an interval otherwise agreed. The meeting shall include:

- a) updates on the risk and opportunities assessment (including controls);
- b) delivery of opportunities;
- c) IRP issues;
- d) progress against targets and KPIs; and
- e) audit/assurance monitoring findings.

NOTE 11 This could be included in the Project and Progress Review meetings, or any other meetings where appropriate.

8 Sustainability Requirements

8.1 Biodiversity

All works shall follow the process outlined in NR/L2/ENV/122/01 and additionally:

- a) the Designer/Contractor shall require a Preliminary Ecological Appraisal (PEA) and/or other surveys to provide information to complete the biodiversity section of the ESMP;
- b) for any works with a construction value over £20,000 or a footprint greater than 1500m² which will impact biodiversity, the Designer/Contractor shall undertake biodiversity metric calculations. This shall include baseline units and units delivered;
- c) where biodiversity net gain is required - whether by legislation, planning conditions, project objectives, or regional targets - the Designer/Contractor shall calculate biodiversity units using the statutory biodiversity metric.

NOTE 1: Point C applies to sites in England where on-site gain is achieved and may be subject to specific rules. Sites in Scotland and Wales may need to demonstrate habitats are maintained if gains are to be reported.

The Designer/Contractor shall identify and promote biodiversity enhancement opportunities to the Employers' Representative, with decision outcomes documented in the biodiversity section of the ESMP.

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The Designer/Contractor shall provide biodiversity metric outputs, ecological advice, survey data, asset management/maintenance hand back arrangements, protected species licences, assents, and other relevant consents to Network Rail in the requested format within 7 days of receipt.

Where HMPs are in place, they will be used to assess the potential impacts of works on biodiversity and to inform the appropriate methods, timing, and frequency of activities.

In the absence of an HMP, or where it is not feasible to apply one, the Employer's Representative shall consult with an Ecologist to agree suitable habitat management approaches.

8.2 Pollution to land, air and water

8.2.1 Contaminated land

The Designer/Contractor shall complete an Initial Hazard Review (IHR) to determine whether the site could contain contamination from current and/or previous activities on site and in the local vicinity. The Initial Hazard Review shall determine whether a Preliminary Risk Assessment (PRA) is required.

NOTE 2: *Dependant on the information already known about the site, it may be deemed appropriate to move straight to conducting a PRA.*

NOTE 3: *Further information on how to undertake an IHR and PRA can be found in NR/TM/ESD/001 which is available on the Greener Railway Hub. Guidance on how to undertake contaminated land assessments, including a flowchart outlining the required assessments following an IHR, can be found in NR/GN/ESD037 – Contaminated Land Guidance Note, available on the Greener Railway Hub.*

Where the IHR cannot rule out potential contamination, the Designer/Contractor shall conduct a PRA including a conceptual site model and evaluate the risks associated with the pollution linkages. This shall be carried out by a Competent Person ahead of intrusive activities such as ground investigation.

NOTE 4: *NR/TM/ESD/001 has more detailed information on competent persons.*

Where the PRA identifies potential unacceptable risks to receptors, the Designer/Contractor shall conduct a Generic Quantitative Risk Assessment (GQRA).

If significant risks have been identified, the Designer/Contractor shall conduct an Options Appraisal and undertake remediation and verification to prevent, minimise, remedy or mitigate the effects of the unacceptable risk.

The Designer/Contractor shall use the information from the relevant assessments to complete the Contaminated Land section of the ESMP. The Designer/Contractor shall collate and provide information on contaminated land management to the Asset Manager on completion of the works and include in the Health and Safety File.

For projects affecting the track bed, the Designer/Contractor shall comply with NR/L3/ENV/044.

8.2.2 Pollution to water

Where surface water and/or foul discharges are regulated by environmental permits, the design of interception and/or attenuation features shall meet the water quality and flow rate requirements set out in the relevant permit issued by the environmental regulator or statutory undertaker.

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The Designer/Contractor shall assess risks and pollution pathways for harmful materials that will be stored, handled, or used during construction or transportation, and shall put in place measures to reduce those risks to as low as reasonably practicable (ALARP). The information from this risk assessment shall be used to influence design decisions and complete the Pollution of Land and Water section of the ESMP.

NOTE 5: Environmental permits may be required for discharges to local water courses, abstraction or impoundment licenses, or permits to discharge liquid effluent to foul drains (see clause 7.5)

NOTE 6: Further information for prevention of pollution can be found in NR/L2/ENV/123.

8.2.3 Emissions to air

During both the construction and operation phases of the asset, the Designer/Contractor shall complete the Emissions to Air section of the ESMP. This shall include:

- a) potential sources of harmful or nuisance pollutants (including dust) that may arise
- b) opportunities to reduce emissions to air to ALARP; and
- c) consideration of emissions from construction plant and Non-Road Mobile Machinery (NRMM).

On the completion of the works, the Designer/Contractor shall:

- a) provide information on operational emissions to air to the Asset Manager; and
- b) include this information in the Health & Safety File.

8.2.4 Herbicides

Herbicides shall only be applied in accordance with the product label and shall take into account the requirements of the Herbicide Agreement on the Greener Railway Hub.

A competent person with BASIS certification shall:

- a) specify the method of application of the chosen herbicide for the type of vegetation to be treated;
- b) select the herbicide and dosage rates before work commences.

NOTE 7: Prior to selecting a chemical application, alternative non-chemical management methods should be considered.

NOTE 8: Competency is satisfied by holding NPTC PA1 'Safe use of pesticides' and NPTC PA6 'Handheld Application.'

The extent of the areas to be sprayed and any restrictions on use shall be provided to the operator in advance of the works with consideration given to potential watercourses and protected and/or designated sites.

NOTE 9: Prior to using herbicides on Invasive Non-Native Species (INNS) consult NR/GN/OTK/6201 How to manage Invasive, non-native and harmful plants guidance note.

The Designer/Contractor shall complete NR/L3/TRK/003/TEF3069 when applying chemicals.

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8.3 Energy and carbon

8.3.1 Managing carbon in all construction and engineering projects

The Designer/Contractor shall comply with NR/L2/ENV/125, Carbon Management for Projects and Engineering Works.

As a minimum the Designer/Contractor shall:

- a) apply carbon management principles aligned to PAS 2080:2023 throughout the project lifecycle, including planning, design and construction, with the objective of reducing whole life carbon emissions;
- b) use Network Rail-approved carbon assessment tools to quantify carbon emissions;
- c) align quantified carbon assessments with relevant life cycle emission modules from BS EN 17472:2022;
- d) identify and prioritise carbon reduction opportunities in carbon reduction opportunities register, which shall be maintained in the project's document management system and referenced in the ESMP;
- e) promote low-carbon solutions for the identified opportunities to the Employers' Representative, with decision outcomes documented in the Energy and Carbon section of the ESMP;
- f) provide quantified carbon assessments and performance reports at relevant PACE milestones, including documentary evidence showing how carbon reduction opportunities were identified, prioritised, and used to inform gateway decisions on low-carbon design, materials, construction methods and logistics.

NOTE 10: The principle of whole life carbon management applies to all enhancement projects, regardless of size, complexity, or type.

NOTE 11: Carbon reduction opportunities, solutions and assessments may reference and directly reuse material from previous comparable projects to repeat proven solutions, build on previously identified opportunities, identify new ones, and maximise carbon management information, data and documentation reuse.

NOTE 12: Guidance on approved carbon tools is available on the Greener Railway Hub.

8.3.2 Whole life carbon management for enhancement projects

In addition to the requirements set out in 8.3.1, for enhancement projects the Designer/Contractor shall:

- a) complete and maintain a carbon management RACI matrix to define roles and responsibilities within the project team, including duties assigned to supply chain partners;
- b) aim to achieve the carbon reduction target(s) set by the Employer's Representative and deliver the whole life carbon outcome specified in the Client Requirements and Sponsor's Instruction. Evidence of actions to achieve the target(s) shall be submitted to the Employer's Representative;
- c) conduct whole life carbon assessments and produce Carbon Management Plans (CMPs) using the Department for Transport (DfT) CMP template to support business case submissions. The CMP shall be submitted to the Employer's Representative and referenced in the ESMP;

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- d) conduct an updated whole life carbon assessment and produce an as-built carbon performance report at Practical Completion (PACE EMR6).

NOTE 13: Further details of managing whole life carbon for enhancement projects can be found in NR/L2/ENV125.

8.3.3 Whole life carbon management for renewal projects

In addition to the requirements set out in 8.3.1, for renewals projects or works with an Anticipated Final Cost (AFC) greater than £1 million, the Designer/Contractor shall conduct two quantified carbon assessments:

- 1) a baseline assessment estimating emissions based on conventional design and delivery methods; and
- 2) an actual as-built assessment reflecting emissions after implementing viable carbon reduction measures.

NOTE 14: The scope of these assessments should align to lifecycle module B4 in accordance with BS EN 17472:2022. Further details of managing whole life carbon for renewals projects can be found in NR/L2/ENV/125.

8.3.4 Designing for operational energy efficiency in buildings

The Designer/Contractor shall actively support the transition to net zero carbon emissions, in alignment with national targets for achieving net zero by 2045 in Scotland and by 2050 in England and Wales.

The Designer/Contractor shall identify regional or project specific net zero targets and adopt these as a minimum.

The Designer/Contractor shall generate estimates for in-use operational energy and associated carbon emissions, excluding traction energy within the Energy and Operational Carbon section of the ESMP. This shall be done using an industry approved energy assessment methodology such as the Chartered Institute of Building Services Engineers (CIBSE) TM54 (Evaluating operational energy use at the design stage).

NOTE 15: For further guidance on operational energy performance thresholds and optioneering methods, please use NR/GN/CIV/100/4 Climate Action Design for Buildings & Architecture Section 4.

The Designer shall, support the minimisation of electricity, gas and oil-powered operational utility services. The design of buildings shall, where appropriate, make use of:

- a) thermal storage;
- b) heat recovery;
- c) free cooling;
- d) renewable energy;
- e) natural lighting.

The Designer/Contractor shall identify and promote operational energy efficiency opportunities to the Employers' Representative, with decision outcomes documented in the Energy and Operational Carbon section of the ESMP.

The Designer/Contractor shall record the difference in estimated operational energy between a standard fit-out and the best practicable option. For refurbishments, this

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difference shall be compared against the original operational energy usage, and for new buildings it shall be compared against an appropriate industry benchmark. The basis of all these comparisons shall be agreed with the Employers Representative. The findings shall be reported in the Energy and Operational Carbon section of the ESMP.

The Designer/Contractor shall undertake energy performance certification requirements for leased buildings and meet at least an Energy Performance Certificate (EPC) rating of C for all new buildings and a minimum rating of E for modified buildings using industry approved assessment methods.

For publicly accessed buildings (e.g. Managed stations) a Display Energy Certificate shall be provided.

The Designer/Contractor shall only make temporary or permanent connections as outlined in NR/L3/ENV/305, with prior agreement in writing from the Employer's Representative. Each connection (including renewable power assets such as solar-photo-voltaics) shall be sub-metered.

8.3.5 Sustainable travel

Where the development involves provision of public parking facilities, the Designer/Contractor shall consider the provision of facilities and infrastructure to support users of electric vehicles and other sustainable modes of transport such as bicycles.

Where the development involves design of new, extended or refurbished occupied buildings, the Designer/Contractor shall consider facilities to promote sustainable modes of travel for building occupants.

8.4 Circular Economy

The Designer/Contractor shall incorporate the principles of circular economy to extend the service and future reuse of natural resources.

NOTE 16: *This could include designing with core construction materials that contain high proportions of recycled constituents and/or designing structures or features that can themselves be readily re-purposed, re-used or recycled at the end of the asset service life.*

The Designer/Contractor shall conduct a Resource Efficiency Assessment/Workshop to identify opportunities for promoting resource efficiency, including designing out waste, reducing carbon emissions and water use.

The Resource Efficiency Assessment/Workshop shall be reviewed, documented, refined and implemented during design and shall include:

- a) optimising material use (including water) through engineering design including low carbon solutions;
- b) reuse of materials (waste, water and surplus materials and equipment), including assessing the opportunity to use mechanisms such as, but not limited to:
 - 1) CL: AIRE 'Definition of Waste: Development Industry' Code of Practice for excavated materials;
 - 2) WRAP quality protocol for aggregates from inert waste;

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- 3) Environment Agency, Scottish Environment Protection Agency and/or Natural Resources Wales registered waste exemptions;
 - 4) Consideration of opportunities to reuse materials via the Network Rail SurPlus app; and
 - 5) Following the requirements set out in NR/L2/SCO/306 and NR/L2/SIG/11201/Mod A2-23.
- c) specification of reused, recycled and recyclable materials; and
 - d) assessment of end-of-life options for materials and components to assist with deconstruction to minimise disposal and maximise reuse.

NOTE 17: The Resource Efficiency Assessment/ Workshop could be incorporated into other design reviews, meetings, assessments or workshops. Guidance for undertaking a Resource Efficiency Assessment/ Workshop is available on the Greener Railway Hub.

NOTE 18: SurPlus is available to download from the Network Rail App Catalogue by internal colleagues. Contractors can work with internal colleagues to check for available products/materials and upload any spare excess products/materials at the end of the project.

8.5 Responsible sourcing

The Designer/Contractor shall use materials with low sustainability impact where cost-effective and incorporate alternative materials used within the Materials section of the ESMP. This shall include use of carbon assessments and reports to identify products, materials or processes that will reduce renewal emissions and/or provide long-term life-cycle carbon benefits.

NOTE 19: EPDs and/or Safety Data Sheets can be used in the assessment of products/materials. This includes assessing for harmful constituents such as the content of Volatile Organic Compounds (VOCs) in paints, adhesives, resin-bond panel products, or the global warming potential of refrigerants in building heating, ventilation and air conditioning (HVAC) services.

NOTE 20: Network Rail Supply Chain Operations (SCO) sells most common types of recycled aggregate products that come directly from spent railway ballast. For internal customers this can be ordered via the NROL procurement system. External customers can also order recycled aggregate by making an enquiry via the Network Rail Railway Recycling website (www.railwayrecycling.co.uk) or by directly contacting recycledaggregatesquiries@networkrail.co.uk.

All timber and timber derived products sourced by Network Rail and its Suppliers/Contractors shall be from legal and sustainable sources which are credibly certified by a third party and hold full documented chain of custody. The Responsibly Sourced Timber section of the ESMP should outline the process for assuring that Network Rail's certification and chain of custody requirements are being met.

Timber species listed in Appendix I of the Convention on International Trade in Endangered Species shall not be specified or supplied. In addition, any species listed as endangered or critically endangered under the International Union for Conservation of Nature (IUCN) Red List shall not be specified or supplied.

NOTE 21: Chain of custody is demonstrated when delivery notes and invoices clearly state which consignment items are covered by the timber merchant's certification licence code(s).

8.6 Waste Management

The Designer/Contractor shall comply with NR/L2/ENV/120.

The Designer/Contractor shall prepare a Site Waste Management Plan (SWMP). This shall include as a minimum:

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- a) Waste types (with EWC code);
- b) Quantities of waste expected to be generated (in tonnes); and
- c) Quantities of waste expected to be reduced, reused, recycled, recovered, or disposed of.

A final version shall be provided with the project actual waste data including quantities, types and the chosen waste management option.

For the design of stations, occupied buildings or depots, the Designer/Contractor shall assess the waste types and estimated quantities expected monthly during the operation. This shall be included in the SWMP.

Depots and buildings shall be designed with space for the safe movement, segregation and storage of operational wastes awaiting removal or re-use. The design shall also provide arrangements for cleaning waste storage areas and incorporate pollution controls.

The Contractor shall leave all work sites clear of waste on completion of the project.

NOTE 22: NR/L2/SCO/306 and NR/L2/SIG/11201/Mod A2-23 provide further information on redundant assets.

NOTE 23: NR/L3/ENV/044 provides further information on planning and handling track excavation waste at the pre-works design stage and through delivery stages.

8.7 Polychlorinated biphenyls (PCBs)

The Designer/Contractor shall comply with NR/L2/ELP/23101 when decommissioning, decontaminating, removing or disposing of PCB containing and PCB contaminated equipment.

The Employer's Representative shall identify known and potential PCB containing and PCB contaminated equipment and components.

The Designer/Contractor shall notify the Employer's Representative of any PCB containing and PCB contaminated equipment that have been identified and as a minimum provide details of the location and asset, equipment or material type.

Equipment and assets within the scope of the project suspected to be PCB containing or PCB contaminated equipment shall be

- a) laboratory tested, or
- b) If they cannot be tested and are not excepted transformers (i.e. containing less than 50ml) or relevant equipment, they shall be removed and disposed of as PCB hazardous waste.

Any PCB-containing or PCB contaminated assets within the scope of the project shall be decontaminated or decommissioned, removed and disposed of.

NOTE 24: Network Rail maintains a National PCB Register containing details of known PCB contaminated equipment. NR/L2/ENV/123 provides further information on the management of PCBs and NR/L2/ ENV/120 for the disposal of hazardous waste.

NOTE 25: A guidance note on PCBs is available on the Greener Railway Hub.

8.8 Noise, vibration, odour and lighting

The Designer/Contractor shall comply with NR/L2/ENV/121.

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The Designer/Contractor shall conduct a Noise and Vibration Risk Assessment (NVRA) and document this within the ESMP.

NOTE 26: Further information on the Noise and Vibration process and a NVRA template is available within NR/L2/ENV/121.

The Designer/Contractor shall design and implement measures to control noise, vibration, intrusive lighting and odour emissions using Best Practicable Means (BPM) to levels ALARP. This shall be documented within the ESMP. This shall include potential disturbance of sensitive ecological receptors.

The Contractor shall agree an appropriate noise and vibration monitoring programme with the Employer's Representative and, where appropriate, the relevant Local Authority.

The Contractor shall seek Local Authority consent under Section 61 of the Control of Pollution Act before commencing works, unless agreement from the Employer's Representative confirms that construction noise will be managed without need of consent.

8.9 Water

The Designer/Contractor shall not rely on any permanent connections to existing water supply or drainage infrastructure without agreement in writing from the Employer's Representative and the relevant regulator/statutory undertaker.

The Designer/Contractor shall identify water reduction initiatives and reduce construction and operational water consumption to ALARP, including specifying water efficient plant and equipment. This shall include reducing dependence on potable water for low grade non-potable uses, including any substantial water consuming processes.

[England and Wales only] The Designer shall comply with HM Government Building Regulations Approved Document G and T for the design of water services in buildings.

NOTE 27: Consideration should be given to rainwater harvesting and greywater recycling.

Where the design proposes abstraction of ground water as a supplementary operational water source, the Designer shall assess the impact on any existing abstraction or impoundment licenses or requirements for new licences. The Designer shall coordinate the time, information and resources to successfully complete applications for new or modified abstraction licenses.

The Contractor shall procure and install fixed water/drainage services in accordance with the design specification and provide the Employer's Representative with a commissioning plan to verify that key services are operating within permitted performance limits.

8.10 Weather Resilience and Climate Change Adaptation (WRCCA)

Prior to PACE 1, the Asset Manager and/or Sponsor producing the Project remit shall identify if the project is located within an area covered by an Adaptation Pathway.

NOTE 28: Guidance on Adaptation Pathways can be found on the Greener Railway Hub NR/GN/ESD41 Climate Change Adaptation Pathways.

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Where an Adaptation Pathway has been identified for a project, the Asset Manager and/or Sponsor shall align the remit of works with the strategic aims of the Adaptation Pathway.

Projects with a Project Complexity Assessment (PCA) rating between 1 (Highly Complex Project) and 3 (Standard Project) shall undertake a Weather and Climate Change Impact Assessment.

NOTE 29: *The Network Rail Weather Service provides forecasts of adverse and extreme weather conditions. These forecasts should be used in the Weather and Climate Change Impact Assessment, together with the Climate Projections Guidance Note. For region-specific information on weather and climate resilience, contact the relevant Regional Weather Resilience and Climate Change Adaptation Team.*

The Designer shall produce the Weather and Climate Change Impact Assessment during PACE 1 as part of the design development process. The assessment shall include:

- a) The potential for weather events to impact project assets including direct and indirect impacts on rail infrastructure, neighbouring communities and the local environment;

NOTE 30: *This should include but not be limited to; flooding (river, coastal, surface and groundwater), high and low temperatures, wind, lightning, railhead adhesion, landslip/subsidence risk, and precipitation patterns (rain/snow/hail). This should also include a high-level review of historic weather events that impacted the railway and/or are adjacent to the project area.*

- b) an evaluation of how future climate change may influence the severity, frequency or nature of the identified weather-related risks
- c) identification of mitigation measures that the project can implement to improve the resilience of associated assets (e.g. drainage systems, earthworks, structures) to both current and future weather events.

NOTE 31: *A basic introduction to the impacts of weather on the railway and on general trends projected due to climate change can be found on Safety Central (Weather Resilience and Climate Change Adaptation - Safety Central).*

- d) Any supporting cost benefit analysis to assess identified mitigations to account for:

- 1) the operational, safety and asset degradation impacts of current and future weather for the design life of the asset; and
- 2) the benefits of avoided costs realised through proposed resilience intervention(s) when assessing and selecting solutions.

NOTE 32: *Consideration should be given to the use of collaborative solutions with external parties (e.g. adjacent landowners, Flood Risk Management Authorities) and more sustainable solutions such as nature-based solutions.*

NOTE 33: *Guidance on how to undertake a Weather Resilience and Climate Change Impact Assessment (NR/GN/ESD11) and on Climate Change Projections (NR/GN/ESD23) can be found on the Greener Railway Hub.*

The Weather and Climate Change Impact Assessment shall be approved by the Project Manager prior to the completion of PACE 1, with any agreed mitigations incorporated into the Project scope for PACE 2 onwards.

Projects which require an Environmental Permit under the Environmental Permitting Regulations (England and Wales) 2016 (as amended) shall carry out a Weather and Climate Change Impact Assessment as part of their site environmental management system

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The assessments shall cover all design and operation aspects of the permitted activity and shall be used to inform; asset and process design, operational plans and emergency planning and response plans.

Conclusions of the assessment and records of the actions taken shall be included in the site Environmental Management System submitted with the permit application. The Environmental Management System and permit shall also be included in the project handover documents.

During PACE 2 – 4, the Designer shall be responsible for notifying the Designated Project Engineer (DPE) of any significant design modifications or new information arises that may materially affect the agreed Climate Impact Assessment outcomes. Where the DPE determines that an uplift to the Climate Impact Assessment is required, the Designer shall obtain formal guidance to determine whether the Assessment requires revision and reapproval by the Project Manager.

Changes to the Weather and Climate Change Impact Assessment shall be recorded in the Designers Risk Assessment and managed within the ESMP (or as specified in the Projects' Engineering Management Plan).

8.11 Respecting Cultural Heritage and Rail History

The Designer/Contractor shall complete a heritage assessment as part of the Respecting Cultural Heritage and Rail History section of the ESMP, prepared in consultation with local and statutory authorities.

NOTE 34: *Guidance on Heritage Significance can be found in NR/GN/COV/100/05 (Heritage: Care and Development).*

The Contractor shall carry out works so that there is no disturbance to:

- a) scheduled monuments;
- b) archaeological sites and deposits; and
- c) buildings of historical and architectural interest (both statutorily listed buildings and important non-listed above ground features and structural elements).

NOTE 35: *Unauthorised works could result in criminal prosecution of the contractor.*

The Contractor shall allow the Local Planning Authority and any nominated employee and/or archaeologist appointed by the Employer's Representative access to the site to monitor the archaeological evaluation and mitigation work as required.

In the event of unexpected archaeological finds such as remains or artefacts, the Contractor shall immediately suspend work (if and when safe to do so) until further instruction and inform the Employer's Representative.

For architecturally significant schemes that require planning consent/ listed building consent or are within a conservation area, the Designer shall request architectural layout acceptance by submitting NR/L2/CIV/003/FormD.

NOTE 36: *Further guidance on can be found in NR/L2/CIV/003.*

NOTE 37: *Network Rail has established an independent Design Advisory Panel (DAP) to review schemes with a heritage impact. Further guidance can be found in Design Advice Panel (DAP) Project Guidance NR/GN/CIV/100/01.*

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8.12 Creating an inclusive and accessible railway

The Employer's Representative or the Designer/Contractor shall complete a Diversity Impact Assessment (DIA) in line with NR/L2/OHS/00135.

The Designer/Contractor shall collaborate with the Employer's Representative to inform the DIA.

NOTE 38: DIA templates (including those for temporary works) are available on the Access and Inclusion SharePoint site.

The Designer/Contractor shall address in their DIA(s) the impact of design and/or works on all protected characteristics. The Designer/Contractor shall use the DIA to influence design decisions towards achieving accessible and inclusive travel for all and complete the Making Travel Accessible section of the ESMP.

The Designer/Contractor shall confirm that any alternative routes put in place for construction activities do not negatively impact accessibility or use of the infrastructure for the duration of the work.

The Designer/Contractor shall engage with Network Rail's Built Environment Advisory Panel (BEAP) or any other inclusive design and construction initiative if requested by the Employer's Representative.

The Designer/Contractor shall participate in any equity, diversity and inclusion training if requested by the Employer's Representative.

8.13 Supporting local economies

The Designer/Contractor shall demonstrate how as an organisation they are managing risk of modern slavery in the Creating Engaged Employees and Positive Industry Partnerships section of the ESMP. The Designer/Contractor shall complete training in how to manage or mitigate modern slavery risk if requested by the Employer's Representative.

NOTE 39: Network Rail's Anti-Slavery and Human Trafficking Policy can be made available on request.

The Designer/Contractor shall promote workforce equity, diversity and inclusion, and address discrimination, in a manner aligned with Network Rail's "Everyone Belongs" diversity and inclusion strategy.

The Designer/Contractor shall support the physical and mental health and wellbeing of their workers e.g. through fatigue management. Details of these arrangements can be recorded within the ESMP.

The Designer/Contractor shall utilise procurement processes that enable qualified and experienced suppliers or sub-contractors from these business groups to compete freely and fairly for contracts:

- a) Small and Medium Enterprises (SMEs);
- b) local businesses; and
- c) voluntary, community and social enterprises (VCSEs) and mutuals.

NOTE 40: 'Local' in this context means suppliers that will serve contract delivery from an operational base up to 25 miles from the works.

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Where possible, the Designer/Contractor should provide at least two of the above business groups with opportunities to compete for any available contracts, throughout the duration of the project and record this in the ESMP.

Where possible, the Designer/Contractor should advertise job opportunities locally (in the same local authority area as the works) for example through Job Centres and local employment support and brokerage services. These should be reported directly, or through manual upload, into the Rail Social Value Tool (RSVT).

The Designer/Contractor should, where possible, pay workers at least the relevant Real Living Wage (as defined by the Living Wage Foundation) when they are delivering Network Rail contracts and record this in the ESMP.

NOTE 41: Network Rail is an accredited Living Wage employer.

The Designer/Contractor shall conduct an Employment and Skills Assessment to identify the opportunities for school engagement, entry-level employment and skill training programmes as part of the works. The assessment shall review opportunities for:

- a) early engagement (e.g. school/college visits);
- b) work experience;
- c) work placements;
- d) traineeships;
- e) mentorships
- f) returnships;
- g) level 2, 3 and 4 apprenticeships and other entry-level roles;
- h) graduate recruitment; and
- i) development of skills of current workers.

The Designer/Contractor shall use the information from the Employment and Skills Assessment to complete the Inspiring Tomorrow's Workforce section of the ESMP. These shall be reported directly, or through manual upload, into the Rail Social Value Tool (RSVT).

The Designer/Contractor shall comply with any Section 106 requirements set by the planning authority.

NOTE 42: An Employment and Skills Assessment template is available on the Greener Railway Hub.

8.14 Improving the wellbeing of communities

The Designer/Contractor shall manage the project, and their workers, so that risk of disruption and disturbance to passengers, lineside neighbours and local communities is managed or mitigated to ALARP.

Consideration shall be given to worker behaviour, and the Contractor shall participate in any worker behaviour training if requested by the Employer's Representative.

The Designer shall assess the social impact of visually prominent structures and agree appropriate design responses, including when trees and/or other vegetation will be replaced. This shall take into account the safety implications of removing lineside

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vegetation. The Designer shall agree design responses with the Employer's Representative. Any changes to design responses shall be included within the Connecting Communities with the Environment section of the ESMP.

The Designer/Contractor shall complete a local needs analysis to understand the requirements of the local area and target relevant social impact activities.

The Designer/Contractor shall engage with Community Rail Partnerships (CRPs) to identify opportunities that helps communities get the most from their local railway.

This could be through volunteering, in-kind donations, school outreach, supporting wider community events organised by the CRPs.

The Designer/Contractor shall engage with Network Rail's charitable theme for the control period to identify opportunities for volunteering.

Before starting work, the Suicide Prevention team should be contacted (SuicidePrevention@raildeliverygroup.com) to understand if it is an area of concern.

If there are areas of concern, the Suicide Prevention team shall refer the project to the route lead for suicide prevention to enable the project to support any prevention activities being undertaken in the area. For areas of concern, staff shall complete the Learning Tool (via <https://railsuicideprevention.co.uk>) on making interventions.

NOTE 43: To access the Learning Tool videos and suicide prevention materials, register for a free account on the RSP website using an industry email address (www.railsuicideprevention.co.uk).

The Designer/Contractor shall identify opportunities to support the delivery of Safety Talks in schools.

8.15 External benchmarking

The Designer/Contractor shall complete an environmental performance assessment (design stage pre assessment) prior to the selection of a single option for new construction and major refurbishment and renewals projects.

For new-build projects, a minimum of an 'Excellent' rating shall be achieved of Building Research Estate Environmental Assessment Method (BREEAM) standard (or equivalent).

For major refurbishments, a minimum of a 'Very Good' shall be achieved of BREEAM standard (or equivalent).

NOTE 44: It is anticipated that the expected environmental performance is remitted by sponsors at the outset of a project so opportunities to embed measures to mitigate negative environmental impacts are realised. Any additional external benchmarking specified to clause 10.1 is at the project's discretion. This could include SKA rating and Considerate Construction Practices rating.

NOTE 45: Major refurbishments are defined as where the area of the building fabric being refurbished is greater than 50% of the surface of the individual element or 25% of the total building element.

Standard and control document briefing note

Ref: NR/L2/ENV/015		Issue: 10
Title: Sustainability Minimum Requirements for Projects – Design and Construction		
Publication date: 06 December 2025		Compliance Date: 07 March 2026
Standard/Control Document Owner: Chief Environment & Sustainability Officer		
Standard change lead/contact for briefings: Noami Sandford-de Quincey, Principal Planning & Integration Manager (E&S), Technical Authority		Tel: +447701064887
Purpose: This standard sets out Network Rail’s minimum requirements for the management of sustainability risks and opportunities during design and/or construction activities. The implementation of this standard delivers a range of benefits to Network Rail including: a) improved business cost-efficiency from sustainable practices, such as designing for whole-life energy efficiency, transitioning to a circular economy, and capital carbon value engineering; b) increased social value created by maximising opportunities for inclusive design, improving the wellbeing of communities, and supporting local economies; c) reduced risk of legal and regulatory non-compliance and negative reputational exposure by delivering Network Rail’s sustainability compliance obligations; and d) alignment with Network Rail’s Greener Railway Strategy.		Scope: This standard is mandatory for all internal and external construction and design services and works carried out by Network Rail and its contractors. This standard applies to but is not limited to: a) Projects requiring Investment Authority as defined in IR01 Investment Regulations and that enhance or renew the operational railway and therefore, follow PACE as defined under NR/L2/P3M/201; b) Network Rail business units where they act as a design or contractor entity according to Construction (Design and Management) Regulations definitions, e.g. Network Rail Engineering Services Design Delivery and Works Delivery engaged in construction and design works; and c) any non-construction works that comply with NR/L2/OHS/0044 – Planning & Managing Construction work. This standard excludes any works that meet the definition of maintenance in BS EN 13306:2017 (see clause 3 ‘definitions’). Throughout this document ‘project’ will refer to projects, programmes and portfolios. The requirements of this standard apply to all areas impacted by project activities, including the primary development site(s) and, without limitation, any associated temporary work sites, compounds, haul roads, access routes. Where a joint venture or alliance is established, this standard applies as a minimum when defining contract requirements for those organisations accountable for design or construction within the alliance. Where agreed by a Network Rail Sustainability Professional, the sustainability deliverables outlined in this standard may be delivered at a programme level rather than at an individual project level.
Overview and reasons of the change: This standard has been updated following a review of compliance obligations to align with new regulatory, legislative, and strategic requirements that apply to Network Rail and its supply chain on projects. A high-level summary of these obligations is provided below: o Strategic language alignment– Issue 10 aims to align with the language and terminology used in the new Greener Railway Strategy which was launched in May 2025: https://www.networkrail.co.uk/wp-content/uploads/2020/09/Greener-Railway-Strategy_May-2025.pdf . o The standard also references the new Greener Railway Hub which goes live later this year. o Integration of new Network Rail standards – ▪ Managing customer contact, complaints, advance notification of railway work and community engagement; ▪ Competence Management; ▪ Carbon Management for Projects and Engineering Works; and ▪ Management of Polychlorinated Biphenyls (PCBs) in Electrical Power Assets. o Alignment to legislation – references to Environmental Permitting Regulations, Simpler Recycling waste separation guidance and regulatory guidance from the Environment Agency on PCB management. o Compliance with new carbon management duties- to adhere to Department for Transport (DfT) requirement to produce Carbon Management Plans (CMPs) for transport business cases. o Clarification of accountabilities – the language, requirements and roles responsible for specific activities have been further defined to align with the intended outcomes.		

This standard will be published with a supporting RACI matrix to clarify roles and responsibilities and a 'Key Changes' document which outlines the changes per clause.

Affected documents

<u>Reference</u>	<u>Issue</u>	<u>Impact</u>	<u>Document type</u>
NR/L2/ENV/015	9	Superseded	Standard

Briefing requirements:

Briefings are given to those who have specific responsibilities within, or are directly affected by, this standard/control document. A copy of briefings may be available from the Standards & Controls site. Requirements to cascade briefings are described within any implementation plans.

Briefing (T-Technical/ A-Awareness)	Post	Function(s)	Responsible for cascade briefing? Y/N
D	Chief Environment and Sustainability Officer	Technical Authority	N
D	Head of Environment & Sustainability	Route Services, Regions	N
D	Regional Head of Sustainable Growth	Regions	N
D	Head of Consents & Environment Planning	Regions	N
D	Head of Safety & Sustainable Development	Route Services	N
D	Health Safety & Environment Director, Eastern	Regions	Y
D	Health Safety & Environment Director, North West & Central	Regions	Y
D	Health Safety & Environment Director, Scotland	Regions	Y
D	Health Safety & Environment Director, Southern	Regions	Y
D	Health Safety & Environment Director, Wales & Western	Regions	Y
D	Head of Workforce Health, Safety & Environment	Regions	Y
D	Health Safety & Environment Director, Route Services	Route Services	Y
D	Head of Safety & Sustainable Development	Regions	N
D	Head of Safety, Health & Environment	Regions	Y
D	Route Health & Safety Manager	Regions	Y
D	Principal Planning & Integration Manager (E&S)	Technical Authority	N
D	Planning & Integration Manager (E&S)	Technical Authority	N
D	Principal Systems & Capability Manager (E&SD)	Technical Authority	N
D	Sustainability Manager (Systems & Capability)	Technical Authority	N
D	Environment Manager	Route Services	N
D	Environment Manager	Technical Authority	N
D	Environment Manager	Regions	N
D	Environment Specialist	Route Services,	N
D	Environment Specialist	Technical Authority	N
D	Environment Specialist	Regions	N
D	Principal Environment & Social Value Manager	Regions	N
D	Social Value Manager	Regions	N
D	Biodiversity Strategy Manager	Technical Authority	N
D	Consents Manager	Regions	N
D	Ecologist	Regions	N
D	Head of Climate Change Resilience	System Operator	N
D	Adaptation & Climate Change Adaptation Manager	System Operator	N
D	Energy & Carbon Strategy Manager	Technical Authority	N
D	Senior Engineer (QHSE) [Energy and Carbon]	Technical Authority	N
D	Senior Analyst (QHSE)	Technical Authority	N
D	Assistant Engineer (QHSE) [Energy and Carbon]	Technical Authority	N

OFFICIAL

D	Circular Economy Strategy Manager	Technical Authority	N
D	Circular Economy Manager	Technical Authority	N
O	HSEA Specialist	Regions	N
O	Workforce Health, Safety & Environment Manager	Regions	N
O	Workforce Health, Safety and Environment Manager (HO and WD)	Regions	N
O	Infrastructure Maintenance Workforce HSE Advisor	Regions	N
D	Safety Health & Environment Specialist (Assurance]	Route Services	N
D	Safety Health & Environment Specialist [Risk & Assurance]	Route Services	N
D	Safety Health & Environment Specialist [Risk Improvement]	Route Services	N
D	Scheme Project Manager	Route Services, Regions	N
D	Project Management Assistant	Route Services, Regions	N
D	Project Manager	Route Services, Regions	N
Briefing (D-Detailed/ O-Overview)	Role	Function	
O	Various (*to include as a minimum the below roles)	Determined by Regions	
O	Programme Manager	Regions	
O	Health and Safety Manager – Capital Delivery	Regions	
O	Project Planner	Route Services, Regions	
O	Project Engineer	Route Services, Regions	
O	Project Development Manager	Route Services, Regions	
O	Community Relations Manager & Community Relations Executive	Route Services, Regions, Technical Authority	
O	Commercial and Procurement Managers	Regions	
D	Sponsor	Regions	
D	Regional Engineer [Discipline]	Regions	
D	Senior Development Manager and Lead Development Manager	Regions	
D	Works Delivery	Route Services, Regions	
D	Infrastructure Directors	Route Services, Regions	
O	Offtrack teams	Route Services, Regions	
O	Drainage Engineers	Route Services, Regions	

NOTE: Contractors are responsible for arranging and undertaking their own Technical and Awareness Briefings in accordance with their own processes and procedures.

Summary of key changes to NR/L2/ENV/015 Environment and Social Minimum Requirements for Projects – Design and Construction

Purpose of this document:

This document has been prepared to assist stakeholders and users of NR/L2/ENV/015 understand the key changes made to the standard as part of the Post-Implementation Review (December 2025 - Issue 10). This document summarises the key changes that have been made in simple terms. It is not intended to be read in isolation, and the reader should refer to the standard to understand all the changes in further detail and within context.

General document information: -

- **Amended:** Issue number changed from 9 to 10.
- **Amended:** Compliance date amended: 07th March 2026
- **Amended:** Technical lead and approval signatures updated.

Reference Documentation:

- **Added:** the following documents have been added to the reference documentation list:
 - NR/L2/OHS/00135: Diversity Impact Assessments
 - NR/L2/OHS/0044: Planning and Managing Construction Work
 - NR/L2/CSG/10070: Principal Contractor Licensing Assurance
 - NR/GN/CIV/100/01: Design Advice Panel (DAP) Project Guidance
 - NR/GN/CIV/100/04: Climate Action for Buildings and Architecture
 - NR/GN/CIV/100/05: Heritage Care and Development
 - NR/GN/CIV/400/05: Office Workplace DNA
 - NR/GN/ESD07: Managing Whole Life Carbon in Infrastructure
 - NR/GN/ESD11: Weather Resilience and Climate Change Impact Assessment
 - NR/GN/ESD23: Climate Change Projections
 - NR/GN/ESD34: Environmental Incidents & Close Calls
 - NR/TM/ESD/001: Contaminated Land
 - NR/L2/CTM/201: Competence management
 - NR/L2/ELP23101: Management of Polychlorinated Biphenyls (PCBs) in Electrical Power Assets
 - NR/L3/INV/3001/900: Leading an Investigation
 - NR/L3/INV/3001/902: Reporting of Accidents, Incidents and Occupational Health
 - NR/L2/OHS/CP0070: Managing customer contact, complaints, advance notification of railway work and community engagement
 - NR/L2/CIV/003/FormD: Architectural and Layout Acceptance form
 - NR/L2/ENV/125: Carbon Management for Projects and Engineering Works
 - Network Rail document - Buildings and Architecture Strategy
 - Network Rail document - Railway Sustainability Design Guide
 - Network Rail document - Herbicide Agreement
 - Network Rail document - Greener Railway Strategy
 - Network Rail document - Everyone Belongs
 - External document - Appendix I of the Convention on International Trade in Endangered Species
 - External document - BES 6001 Framework Standard for Responsible Sourcing
 - External document - CIBSE TM54 Evaluating operational energy use at the design stage
 - External document - CL: AIRE Definition of Waste: Code of Practice
 - External document - Control of Pollution Act
 - External document - EN 15804:2012 Sustainability of construction works. Environmental product declarations. Core rules for the product category of construction products

- External document - Guidelines for Preliminary Ecological Appraisal
- External document - HM Government Building Regulations Approved Document G
- External document - International Handbook of Suicide Prevention, 2nd Edition
- External document - ISO 14025:2006 Environmental labels and declarations
- External document - Land Contamination Risk Management
- External document - PAS 2080:2023 Carbon Management in Buildings and Infrastructure
- **Removed:** Standards that have been withdrawn/ superseded have been removed: NR/L2/TRK/5201, NR/L3/OPS/045/4.04, NR/L3/OPS/045/5.10, NR/L3/OPS/045/5.04, NR/L3/OHS/0046, NR/L2/OPS/250, NR/L2/INI/P3M/10, NR/L2/P3M/201, NR/L1/ELP/27000, NR/L3/INV/3001, NR/L2/INI/CP0070, NR/L2/CIV/003/F004

Legislation

- **Amended:** Shortened, now only stating that 'Compliance with this standard/control document does not, on its own, provide compliance with the legislation listed.'
- **Removed:** Standard/control document has been reviewed to confirm it complies with relevant environmental and social legislation at the time of publication.
- **Removed:** Details of relevant legislation are available on Network Rail's Legal Register.

Contents:

- **Amended:** Re-structured order of contents; 1 Purpose, 2 Scope, 3 Definitions, 4 Emergency works and urgent reactive works, 5 Incident management, 6 Environment and Social Management Processes, 7 General Requirements – all projects/works, 8 Environment Requirements.
- **Removed:** Social Performance Requirements, and external benchmarking no longer have a dedicated section.

1 Purpose:

- **Added:** Alignment with Network Rail's Greener Railway Strategy.
- **Amended:** Revised wording reflects a broader more community focused approach to social values, 'improving the wellbeing of communities' and 'supporting local economies.'
- **Amended:** 'Good practice standards' replaced with 'sustainability compliance obligations.'
- **Removed:** Alignment with the Network Rail Environmental Sustainability Strategy.

2 Scope:

- **Added:** The scope has shifted from a role-based definition (designers/contractors) to a project-based definition.
- **Added:** New wording ties applicability to: Investment Authority under IR01, Operational railway enhancement or renewal, and PACE governance (NR/L2/P3M/201).
- **Added:** Definition of a 'project' now explicitly refers to projects, programmes, and portfolios.
- **Added:** With a Network Rail Sustainability professional agreement, standard can be applied at programme level.
- **Amended:** Naming change from "Network Rail Design Delivery" to "Network Rail Engineering Services Design Delivery."
- **Amended:** The update introduces a clearer and more formal definition of what constitutes "maintenance". The latest version aligns with the definition in BS EN 13306:2017.
- **Amended:** Land areas now defined as Areas.
- **Amended:** For Joint ventures and Alliances, the standard is no longer recommended it is 'Required as a minimum.'

3 Definitions:

- **Amended:** Definitions have been removed that are not referenced in the text (e.g. Civil Engineering Environmental Quality Assessment & Awards Scheme (CEEQUAL)), and other definitions have been added that are referenced in the text (e.g. Biodiversity Net Gain (BNG), Greener Railway Hub).

4 Emergency Works and Urgent Reactive Works

- **Added:** The responsible manager must notify the environmental regulator in writing.
- **Added:** This applies where emergency or urgent reactive works would normally require regulatory approval. This must include details of the activity and circumstances.
- **Amended:** 'Environmental and social risks' have been replaced with 'Sustainability Risks.'
- **Amended:** The contractor specifically 'Shall' implement measures.

5 Incident management

5.1 Incident response

5.1.1 Incident Response Plan (IRP)

- **Added:** List of competent lead investigators and designated. competent persons DCPs, and Landowner added to list of people to contact in event of incident.
- **Amended:** Relevant incident reporting procedure(S).
- **Amended:** Updated reporting to be conducted in line with: NR/L3/INV/3001/902, NR/L3/OPS/045/4.14 and any applicable local processes.
- **Amended:** Language tightened: "Earliest reasonable opportunity" simplified to "earliest opportunity," and "confirm the report" changed to "confirm the reporting."
- **Amended:** Reference to NR/GN/ES/034: A new guidance document is cited for further information on environmental incidents and close calls.
- **Removed:** Direction to safety central.

5.1.2 External reporting

- **Added:** Reporting will be in line with NR/L3/OPS/045/4.14.
- **Amended:** Reporting is now explicitly aligned with NR/L3/OPS/045/4.14, ensuring consistency with Network Rail's broader incident management procedures.
- **Removed:** List of regulators: The explicit mention of Environment Agency, SEPA, NRW, Natural England, Nature Scot, and Local Authorities has been removed.
- **Removed:** Direction to Safety Central.

5.2: Incident investigation

- **Added:** The Designer/Contractor must provide the Employer's Representative with a copy of the investigation.
- **Added:** Investigations must now also follow local procedures.
- **Amended:** NR/L3/INV/3001 updated to NR/L3/INV/3001/900.
- **Amended:** "Environment and social incidents" changed to "environment incidents."
- **Removed:** NR/L3/OHS/0046 has been removed from the investigation references.
- **Removed:** Social incidents: No longer explicitly mentioned.

6 Environment and social Management Processes

- **Amended:** Environmental and social risks replaced with "sustainability" risks in all following subsections.
- **Amended:** Environmental and social now referred to as sustainability.

6.1: Environment and Social Appraisal (ESA)

- **Added:** A network rail project manager or equivalent Employers Representative shall review the ESA to confirm it is accurate and complete, where previously it has not been required.
- **Added:** Note directing to the National hazard directory and its use to inform the ESA.

- **Added:** Second Note emphasises the absence of previous records does not mean the risks and constraints are not present.
- **Added:** Green Guidance added, The ESA can be conducted by a competent Employer's Representative on behalf of project manager.
- **Amended:** Updated to Red Requirement: Specifies the Environment and Social Appraisal (ESA) will be completed at phase one instead 'of the start of project.'
- **Amended:** Updated to Red Requirement: Updates to the ESA will also occur if there is a pause or restart to the project not just at every PACE milestone.
- **Amended:** Those who can complete the ESA is now a competent employee's representative, instead of any competent party.
- **Removed:** It is not appropriate for construction Designer/Contractor to complete the ESA.

6.2 Environment and Social Management Plans (ESMP)

- **Added:** Direction to all PACE products including the ESMP template can now be found on the Greener Railway Hub, not Safety central.
- **Added:** Guidelines procedure for emergency situations or for urgent and reactive works.
- **Added:** Green guidance, updates could include operational risks.
- **Added:** The ESMP shall be completed and accepted prior to the commencement of onsite works.
- **Amended:** While it is still mandatory for all works to follow ESMP and formally accepted in writing. This is now specified through the EN3 review undertaken by employer's representative.
- **Amended:** ESMP shall include a sustainability risk assessment (wording amended from environment and social risk assessment).
- **Removed:** Notes explaining; Formal acceptance of the ESMP and EN3 Review and Acceptance form.

7 General Requirements – all projects/works

7.1 Network Rail policies and strategies

- No changes

7.2 Roles and responsibilities

- No changes

7.3 Competence

- **Amended:** Specific framework now specified. The principal contractor shall have appropriate sustainability resources to satisfy the requirements set out in appendix F of NR/L2/OHS/CP0070 and provide evidence if requested.
- **Removed:** Direction to Appendix E of NR/L2/INI/CP0070.

7.4 Sub-contracting

- No changes

7.5 Permits, Licences, and consents (PLCs)

- **Added:** New Red Requirement: when instructed by the employer's representative, the designer/contractor shall transfer PLCs to Network Rail or any agreed Nominated person(s). Network rails employees receiving the PLC(s) shall have appropriate delegates authority.
- **Added:** Note, direction to the greener railway hub for more information on the delegation of authority.
- **Amended:** Details of all operational PLCs will be transferred to network rail after the project completion and allocated responsibility and accountability for managing the PLCs.
- **Amended:** A list of the minimum required details of a PLC has been added and is be included in the register. The designer/contractor should then provide the employee representative with said register.
- **Amended:** This shall be submitted as soon as the PLC has been granted.

7.6 Objectives, targets, and performance indicators

- **Amended:** Environment and/or social objectives and targets” have been replaced with “sustainability objectives and targets.” Designer/contractor now required to provide all documentation to the employer’s representative in line with contract timescales, using the approved reporting platform.
- **Removed:** Direction to safety central.
- **Removed:** KPI specific list.

7.7 Life cycle costing (LCC) and option selection

- **Amended:** LCC is Now require where applicable, NOT regardless.
- **Amended:** Sustainability Impacts Specified – Clause 8.3.2 now outlines key considerations for decision-making: climate change effects and asset resilience, nature-based solutions, material circularity, impacts on protected characteristics (Equality Act 2010), energy efficiency in use, and whole life carbon reduction opportunities.
- **Amended:** The option selection list has been removed, with direction to it added as a note.
- **Amended:** LCC is now found on SharePoint.
- **Amended:** LCC and Option select list merged.
- **Removed:** Requirement for Sponsor involvement.
- **Removed:** Original list of factors to be considered during option selection has been removed.
- **Removed:** Specific requirement for the Designer’s assessment has been removed.
- **Removed:** Requirement for a workshop or review.

7.8 Records, documents, and knowledge transfer

- **Added:** The Designer/Contractor shall notify the Employers Representative at the earliest opportunity of any ongoing surveys, site constraints, or hazards identified during works communicated via appropriate channels.
- **Added:** Pre-Completion Sustainability Info Requirement Added
- **Added:** Designers/contractors must now submit key sustainability-related documentation to the employer’s representative before works completion.
- **Added:** Note, for the commissioning form, specific requirements for installed renewable power and unique metering details should also be included.

7.9 Monitoring and assurance

- **Added:** Note, this shall include assuring that the new utility services are operating in line with NR/L2/ENV/305.
- **Added:** Assurance activities should align with the requirements set out in NR/L2/ASR/016.
- **Amended:** The Network Rail project manager will now collaborate with the designer/ contractor, to design and implement a risk-based schedule of internal sustainability inspections and record it within the ESMP.
- **Removed:** Requirement to create checklists.
- **Removed:** The specific 28-day timeframe has been removed.

7.10.1 Stakeholders management plan

- **Amended:** Designer/contractor, shall now follow the projects Network Rail management plan to complete the ESMP.
- **Removed:**
- **Removed:** The Designer/Contractor shall identify a list of stakeholders and appropriate methods of engagement and communication.
- **Removed:** The instruction to record stakeholder engagement plans in the ESMP has been removed.
- **Removed:** This specific reference to the Stakeholder & Customer Management Plan has been removed.

7.10.2 Internal communication

- **Amended:** The designer/contractor shall now refer to sustainability risks instead of environment and social risk.
- **Removed:** Designer/Contractor shall make available to interested parties the Environment and Social Performance Policies and project-specific environment or social performance data.

7.10.3 External communication

- **Added:** The designer/contractor shall comply with NR/L3/MTC/MG0194.
- **Added:** The Designer/contractor shall now provide technical support to the employer's representative during engagement with local environmental regulators and/or local authorities.
- **Added:** The Designer/Contractor shall Now resolve enquiries and complaints from the public on site where possible.
- **Added:** The Designer/Contractor shall participate in any stakeholder consultation organised by the Employer's Representative.
- **Added:** If requiring access to third party land, the Designer/Contractor shall contact the Network Rail Property Services team to confirm access rights.
- **Added:** Where access is required to third party land, the Designer/Contractor shall approach Property Services prior to requiring use of third-party land.
- **Added:** The Designer/Contractor shall not enter into any financial agreements or compensation without first agreeing these arrangements with Network Rail Property Services team.
- **Amended:** The designer/contractor shall now follow NR/L2/CSG/10070 when communicating with the public.
- **Amended:** Updated to orange requirement, Noisier works will be defined as the output of the NVRA.
- **Removed:** Reference to NR/L3/MTC/PL0215.
- **Removed:** Removed note Key stakeholders are identified in the Stakeholder Management Plan.

7.10.4 Communication between network rail and suppliers

- **Amended:** Progress meeting list requirements List has been condensed.

8 Sustainability Requirements

- **Amended:** Section renamed from environmental to sustainability requirements.

8.1 Biodiversity

- **Added:** Where biodiversity net gain is required the Designer/Contractor shall calculate biodiversity units using the statutory biodiversity metric.
- **Added:** The Designer/Contractor shall identify and promote biodiversity enhancement opportunities to the Employers' Representative, with decision outcomes documented in the biodiversity section of the ESMP.
- **Added:** Note, Point C applies to sites in England where on-site gain is achieved and may be subject to specific rules. Sites in Scotland and Wales may need to demonstrate habitats are maintained if gains are to be reported.
- **Added:** Where HMPs are in place, they will be used to assess the potential impacts of works on biodiversity.
- **Added:** In the absence of an HMP Employer's Representative shall consult with an Ecologist to agree suitable approaches.
- **Amended:** The designer/contractor shall now require a Preliminary ecological appraisal (PEA) or equivalent to provide information to complete the biodiversity section of the ESMP.
- **Amended:** Additional documents to be provided by the designer/contractor as followed; ecological advice and asset hand back arrangements.
- **Amended:** Reference to safety central replaced with NR/TM/ESD/001.

8.2 Pollution to land, air, and water

8.2.1 Contaminated land

- **Added:** Guidance on how to undertake contaminated land assessments can be found in NR/GN/ESD037. Land Guidance Note, available on the Greener Railway Hub.
- **Amended:** Note amended supplying Further information on how to undertake an IHR and PRA can be found in NR/TM/ESD/001 which is available on the Greener Railway Hub.
- **Amended:** Note amended directing to NR/TM/ESD/001 has more detailed information on competent persons.

8.2.2 Pollution to water

- **Added:** 8.2.2 is a new sub-section.
- **Added:** New Red Requirements: Interception and attenuation features for surface water and/or foul discharges must now meet the water quality and flow rate conditions set by the relevant environmental regulator or statutory undertaker.
- **Added:** Designers/contractors must now assess risks and pollution pathways for harmful materials used during construction or transport. Mitigation measures must reduce risks to ALARP. Findings must inform design decisions and be recorded in the Pollution of Land and Water section of the ESMP.
- **Added:** Note: Environmental permits may be required for discharges to local water courses, abstraction, or impoundment licenses, or permits to discharge liquid effluent to foul drains (see clause 7.5).
- **Added:** Note: Further information for prevention of pollution can be found in NR/L2/ENV/123.

8.2.3 Emissions to air

- **Amended:** Updated requirements for both construction and operation phases: Designers/contractors must complete the *Emissions to Air* section of the ESMP.
- **Amended:** Upon completion of works, Designers/Contractors must provide information on operational emissions to air to the Asset Manager and include it in the Health & Safety File.

8.2.4 Herbicides

- **Added:** Note, Prior to using herbicides on Invasive Non-Native Species (INNS) consult the NR/GN/OTK/6201 How to manage Invasive, non-native, and harmful plants guidance note.
- **Amended:** Herbicide Agreement Requirements now on Greener Railway Hub.

8.3 Energy and carbon

8.3.1 Managing carbon in all construction and engineering projects

- **Added:** Note specifying the principle of whole life carbon management applies to all enhancement projects, regardless of size, complexity, or type.
- **Added:** Note, Carbon reduction opportunities may reference previous comparable projects to repeat proven solutions.
- **Amended:** Title updated to, Managing carbon in all Construction and engineering projects.
- **Amended:** The Designer/Contractor shall comply with NR/L2/ENV/125 Carbon Management for Projects, and Engineering Works. And align with PAS2080:2023.
- **Amended:** Restructure to the minimum requirement list
- **Amended:** Note directing to: Guidance on approved carbon tools is available on the Greener Railway Hub.

8.3.2 Whole life carbon for enhancement projects

- **Added:** 8.3.2 is a new Sub-section.

- **Added:** Expanded Responsibilities for Whole Life Carbon Management – Enhancement projects now include a detailed set of additional duties for Designers/Contractors, covering planning, assessment, reporting, and accountability across the project lifecycle.
- **Added:** Note with Further details of managing whole life carbon for enhancement projects can be found in NR/L2/ENV/125.

8.3.3 Whole life carbon management for renewal projects

- **Added:** For renewals projects or works with an Anticipated Final Cost (AFC) over £1 million, the Designer/Contractor must conduct two quantified carbon assessments:
 - o A baseline assessment
 - o An as-built assessment
- **Added:** Note, the scope of these assessments should align to lifecycle module B4 in accordance with BS EN 17472:2022.
- **Added:** Further details of managing whole life carbon for renewals projects can be found in NR/L2/ENV/125.
- **Amended:** Renamed to Whole life carbon management for renewal projects (from Whole life carbon).
- **Removed:** Mention of carbon tool, replaced with carbon assessments.
- **Removed:** Avoid fossil fuels.

8.3.4 Designing for operational energy in building

- **Added:** Specifically supports, the transition to net zero. The designer/contractor shall identify regional or project specific targets and adopt these as a minimum.
- **Added:** Must compare standard fit-out vs best practicable option; refurbishments vs original; new builds vs industry benchmark.
- **Added:** For publicly accessed buildings (e.g. Managed stations) a Display Energy Certificate shall be provided.
- **Added:** The Designer/Contractor shall identify and promote operational energy efficiency opportunities to the Employers' Representative.
- **Amended:** Renamed to 'designing for operational energy in building' (from Energy and operational carbon).
- **Amended:** CIBSE and TM54 is now specifically required in the design stage.
- **Amended:** The Designer shall, support the minimisation of electricity, gas, and oil-powered operational utility services.
- **Amended:** List of energy-efficient and sustainable design strategies designer shall support where possible.
- **Amended:** specified that each connection shall be sub-metred.

8.3.5 Sustainable travel

- **Amended:** Specifies support and consideration for support users of electric vehicles and other sustainable modes of transport such as bicycles.
- **Amended:** Reworded low carbon modes of transport to sustainable modes of transport.
- **Removed:** Reference to Sustainable Travel Hierarchy.

8.4 Circular Economy

- **Amended:** Reuse of materials shall follow the requirements set out in NR/L2/SCO/306 and NR/L2/SIG/11201/Mod A2-23.
- **Amended:** Guidance for undertaking a Resource Efficiency Assessment/ Workshop is available on the Greener Railway Hub.

8.5 Responsible Sourcing

- **Amended:** Sub-section re-structured to encompass multiple old subsections.

- **Amended:** Reworded and re-specified designer/contractor shall use materialise with Low sustainability impact where cost effective and incorporate alternative materials used within the materials section of the ESMP.
- **Removed:** Titles for: Low environmental impact products, responsibly sourced timber and, concrete and aggregates.

8.6 Waste Management

- **Amended:** Minimum requirements list for SWMP.
- **Amended:** Sub-section condensed, refer to SWMP for more information.

8.7 Polychlorinated biphenyls (PCBs)

- **Added:** Section expanded.
- **Added:** New Red requirement: procedure for equipment and assets within the scope of the project suspected to be PCB containing or PCB.
- **Added:** contaminated equipment shall be laboratory tested.
- **Added:** NR/L2/ENV/123 provides further information on the management of PCBs and NR/L2/ENV/120 for the disposal of hazardous waste.
- **Amended:** Expanded specifics for the process for Identifying and handling PCBs. The Designer/Contractor shall comply with NR/L2/ELP/23101 when decommissioning, decontaminating, removing, or disposing of PCB containing and PCB contaminated equipment.
- **Amended:** Network Rail maintains a National PCB Register containing details of known PCB contaminated equipment.
- **Amended:** PCB guidance notes now on Greener Railway hub.

8.8 Noise, vibration, odour, and lighting

- **Added:** BPM shall now include potential disturbance of sensitive ecological receptors.
- **Amended:** Combined from 6.6 Noise and vibration and 6.7 dust, odour and lighting all to be included in BPM to levels ALARP.

8.9 Water

- **Added:** Note, consideration should be given to rainwater harvesting and greywater recycling.
- **Amended:** Water reduction initiatives expanded.
- **Removed:** Scope and business case for reducing reliance on portable water for low grade non-portable uses.

8.10 Weather Resilience and Climate Change Adaptation (WRCCA)

- **Added:** Note, Guidance on Adaptation Pathways can be found on the Greener Railway Hub NR/GN/ESD41 Climate Change Adaptation Pathways.
- **Added:** Specification how to proceed once adaptation pathway has been identified.
- **Added:** Note, The Network Rail Weather Service provides forecasts of adverse and extreme weather conditions. These forecasts should be used in the Weather and Climate Change Impact Assessment.
- **Added:** Note, Consideration should be given to the use of collaborative solutions with external parties.
- **Added:** Guidance on how to undertake a Weather Resilience and Climate Change Impact Assessment.
- **Added:** New Red Requirement, Projects which require an Environmental Permit under the Environmental Permitting Regulations shall conduct a Weather and Climate Change Impact Assessment as part of their site environmental management system.
- **Added:** (NR/GN/ESD11) Climate Change Projections (NR/GN/ESD23) the Greener Railway Hub.
- **Amended:** Prior to PACE 1, the Asset Manager and/or sponsor producing the Project remit shall identify if the project is located within an area covered by an Adaptation Pathway.

- **Amended:** Weather and Climate Change Impact Assessment during PACE 1 as part of the design development process.
- **Amended:** The Weather and Climate Change Impact Assessment shall be approved by the Project Manager prior to the completion of PACE 1.
- **Amended:** Designer shall be responsible for notifying the Designated Project Engineer of any significant design modifications or new information arises that may materially affect the agreed Climate Impact Assessment outcomes.
- **Amended:** Changes to the Weather and Climate Change Impact Assessment must be recorded in the Designers Risk Assessment and managed within the ESMP.
- **Amended:** Note, addressing potential for weather to impact should include high-level reviews of historic events, which impacted the railway and/ or are adjacent to the project area.

8.11 Respecting cultural Heritage and rail history

- **Added:** Note, Guidance on Heritage Significance can be found in NR/GN/COV/100/05.
- **Amended:** Update to guidance for listed buildings now to submit NR/L2/CIV/003/F004.
- **Removed:** Note updated: Further guidance on can be found in NR/L2/CIV/003.

Note: To align with the New Greener Railway Strategy the previous Social Performance requirements have been combined into three new sections in Issue 10. Now structured as following

8.12 Creating an inclusive and accessible railway

- **Amended:** DIA can now be undertaken by the Employers Representative or the Designer/contractor in line with NR/L2/OHS/00135.
- **Removed:** DIAs shall be reviewed at each PACE milestone.

8.13 Supporting local economies

- **Added:** The Designer/Contractor shall demonstrate how as an organisation they are managing risk of modern slavery in the Creating Engaged Employees and Positive Industry Partnerships section of the ESMP.
- **Added:** The Designer/Contractor shall promote workforce equity, diversity and inclusion, and address discrimination.
- **Added:** Directions to Network Rail's Anti-Slavery and Human Trafficking Policy that can be made available on request.
- **Amended:** Designer/contractor shall keep record of evidence supporting the physical and mental health and wellbeing of their workers.
- **Amended:** Advertising local jobs should now be reported directly, or through manual upload, into the (RSVT).
- **Amended:** Completing the information for 'inspiring tomorrows workforce' this shall be reported directly, or through manual upload, into the (RSVT).
- **Amended:** Note, An Employment and Skills Assessment template is NOW available on the Greener Railway Hub.

8.14 Improving the Wellbeing of communities

- **Added:** Contractor shall participate in any worker behaviour training if requested by the Employer's Representative.
- **Added:** The Designer/Contractor shall complete a local needs analysis
- **Added:** Designer/Contractor shall engage with Community Rail Partnerships (CRPs).
- **Added:** The Designer/Contractor shall engage with Network Rail's charitable theme for the control period.
- **Added:** The Designer/Contractor shall identify opportunities to support the delivery of Safety Talks in schools.
- **Amended:** Some guidelines updated to green as covered in separate standard.

8.15 External benchmarking

- **Amended:** Sub-section has been shortened.
- **Amended:** Reworded: to now include renewals projects.
- **Amended:** The attainment of BREEAM (or equivalent) is now required, updated to Orange Requirement.
- **Amended:** Any additional external benchmarking specified to clause 10.1 is at the project's discretion.