



High Speed Rail (Crewe – Manchester)

Environmental Statement

Competency statement



Department for Transport

High Speed Two (HS2) Limited has been tasked by the Department for Transport (DfT) with managing the delivery of a new national high speed rail network. It is a non-departmental public body wholly owned by the DfT.

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Competency statement: High Speed Rail (Crewe – Manchester) Environmental Statement

1 Overview of the Environmental Statement delivery structure

- 1.1.1 The High Speed Rail (Crewe – Manchester) Environmental Statement ('the ES') submitted to Parliament in support of the High Speed Rail (Crewe – Manchester) Bill in 2022, has been prepared by a team of competent experts.
- 1.1.2 The team comprised HS2 Ltd technical specialists together with experts drawn from leading consultancies who have extensive experience in the production of Environmental Impact Assessments (EIAs) for a range of major infrastructure developments including high speed railways. The individual experts can demonstrate their competence through degree level qualifications, membership of relevant professional institutes and practical experience in undertaking EIAs.
- 1.1.3 The consultancy support to carry out and report the EIA was structured into two teams, an 'Environmental Overview Consultant' (EOC) team and a 'Civils Design and Environmental Services (CDES) team.
- 1.1.4 The EOC team was responsible for setting out the scope and methodology of the assessment, the technical guidance to ensure a consistent assessment, the form of reporting, the collation and assurance of the ES and the assessment of topics which have route-wide effects such as climate change and waste material and resources. The EOC was managed by the Arup+ consortium.
- 1.1.5 The CDES team was responsible for the assessment of effects on a geographic basis.
- 1.1.6 The assessment of the western leg was managed by the MWJV consortium and covered the following community areas:
 - MA01 Hough to Walley's Green;
 - MA02 Wimboldsley to Lostock Gralam;
 - MA03 Pickmere to Agden and Hulseheath;
 - MA04 Broomedge to Glazebrook;
 - MA05 Risley to Bamfurlong;
 - MA06 Hulseheath to Manchester Airport;
 - MA07 Davenport Green to Ardwick; and
 - MA08 Manchester Piccadilly Station.

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1.1.7 The following sections outline the consultancy teams, their qualifications and membership of relevant professional institutes.

2 Environmental Overview Consultancy team

2.1.1 The EOC team included an EIA management team, technical lead authors/managers for each Volume of the ES, technical lead authors for each environmental topic which the EIA addresses and a panel of reviewers. Table 1 outlines the team, their qualifications and membership of relevant professional institutes.

Table 1: Qualifications and professional memberships of the EOC team

Discipline	Discipline Lead's Qualifications and Membership of Professional Institute
EIA management	
EOC Project Director	BA (hons), MSc, MIEMA, Chartered Environmentalist, Registered IEMA Environmental Auditor
EOC Technical and Strategic Advisor	MA (Hons) Town Planning, Heriot-Watt University and Edinburgh College of Art. Fellow of the Institute of Environmental Management and Assessment (FIEMA). IEMA Principal Environmental Impact Assessment Practitioner. IEMA Associate Environmental Auditor. Member of the Institution of Environmental Sciences (MIEnvSc). Chartered Town Planner. Member of the Royal Town Planning Institute (MRTPI). Chartered Environmentalist (CEnv).
EOC EIA Manager	BSc (Hons), Transport Management & Planning. MSc (Distinction) Environmental Assessment and Management. Member of the International Association of Impact Assessment.
Lead author (Non-technical summary)	BSc (Hons) Biological Sciences, The University of Edinburgh. MSc Environmental Consultancy, Newcastle University. Chartered Environmentalist (CEnv). Member of the Institute of Environmental Management and Assessment (MIEMA).
Lead author (Volume 1)	BSc (Hons) Tropical Environmental Science, University of Aberdeen. MSc Environmental Technology, Napier University. Fellow of the Institute of Environmental Management and Assessment (FIEMA). Chartered Environmentalist (CEnv).
Lead manager (Volume 2)	BEng (First Class Hons.) Engineering Acoustics and Vibration, University of Southampton. MSc Transport Planning, Oxford Brookes University. Practitioner member of the Institute of Environmental Management and Assessment (IEMA).
Lead author (Volume 3)	BSc (Hons) Biological Sciences, The University of Edinburgh. MSc Environmental Consultancy, Newcastle University. Chartered Environmentalist (CEnv). Member of the Institute of Environmental Management and Assessment (MIEMA).
Lead author (Volume 4)	BA Honours in Planning Studies, Oxford Brookes University.

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Discipline	Discipline Lead's Qualifications and Membership of Professional Institute
	<p>Post graduate diploma in Town and country planning (EIA), Oxford Brookes University.</p> <p>Chartered Town Planner.</p> <p>Member of the Royal Town Planning Institute (MRTPI)</p>
Lead manager (Volume 5 and background information and data)	<p>MA (Hons) Town Planning, Heriot Watt University, Edinburgh.</p> <p>MSc Environmental Assessment and Management, Oxford Brookes University, Oxford.</p> <p>Chartered Member of the Royal Town Planning Institute (MRTPI).</p> <p>Practitioner Member of the Institute of Environmental Management and Assessment (PIEMA).</p>
Technical author	
Agriculture, forestry and soils	<p>BSc (Hons) Geography, Aberystwyth.</p> <p>PgCE Education, Cambridge.</p> <p>Fellow of the British Institute of Agricultural Consultants.</p> <p>Chartered Environmentalist.</p> <p>Member of the Institution of Agricultural Engineers.</p> <p>Practitioner Member of the Institute of Environmental Management and Assessment.</p> <p>Associate of the Institute of Environmental Management and Assessment.</p> <p>Member of the Institute for Apprenticeship's Agriculture, Environment and Animal Care Route Panel.</p>
Air quality	<p>BSc (Hons) Chemical Engineering, University of Exeter.</p> <p>DIC. Public Health Engineering, Imperial College.</p> <p>PhD Public Health Engineering, Imperial College.</p> <p>Fellow of the Institute of Air Quality Management.</p> <p>Member of the Institute of Environmental Sciences.</p> <p>Member of the Institution of Chemical Engineers.</p> <p>Chartered Engineer.</p> <p>Chartered Scientist.</p> <p>Chartered Environmentalist.</p>
Greenhouse gases	<p>Chartered Environmentalist (CEnv).</p> <p>Associate Member of the Institute of Environmental Management Assessment (IEMA).</p> <p>BSc (Hons) in Environmental Science.</p> <p>MSc Environmental Management and Technology.</p> <p>Life Cycle Assessment Practitioner.</p>
Climate change (adaptation and resilience)	<p>MSc Environmental Management, University of Nottingham.</p> <p>BSc (Hons) Geography, University of Bristol.</p> <p>Certificate in Strategic Environmental Assessment, Oxford Brookes University.</p> <p>Member of the Chartered Institution of Water and Environmental Management (MCIWEM).</p> <p>Chartered Water and Environmental Manager (C.WEM).</p> <p>Chartered Environmentalist (CEnv).</p>
Community	<p>BSc (Hons) Regional Science (Economics and Human Geography).</p>

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Discipline	Discipline Lead's Qualifications and Membership of Professional Institute
	<p>Postgraduate Diploma in Town and Regional Planning and Master of Civic Design.</p> <p>Member of the Royal Town Planning Institute.</p> <p>Professional Certificate in Management.</p>
Ecology and biodiversity	<p>BSc (Hons) Biological Sciences.</p> <p>Master of Philosophy (MPhil), Houbara Bustard in Fuereventura, Canary Islands.</p> <p>Chartered Environmentalist.</p> <p>Full member of the Chartered Institute of Ecology and Environmental Management (CIEEM).</p> <p>Chartered Environmentalist.</p>
Electromagnetic interference	<p>BSc Electronic and Electrical Engineering.</p> <p>Chartered Engineer.</p> <p>Member of the Institution of Engineering and Technology.</p>
Health	<p>BSc (Hons) Environmental Conservation and Management.</p> <p>PG Dip Environmental Monitoring and Assessment.</p> <p>Chartered Environmentalist (CEnv).</p> <p>Full Member of Institute of Environmental Management and Assessment (IEMA).</p>
Historic environment	<p>Full Member Chartered Institute for Archaeologists.</p> <p>BSc (Hons) Heritage Conservation.</p>
Land quality	<p>BSc (Hons) Geology, Cardiff University.</p> <p>MSc Geochemistry, University of Leeds.</p> <p>Fellow the British Geological Society.</p> <p>Member of the Institution of Environmental Sciences.</p> <p>Associate Member of the Institution of Environmental Management and Assessment (IEMA), accredited auditor.</p> <p>Chartered Geologist.</p> <p>Chartership Scrutineer for the Geological Society.</p>
Landscape and visual	<p>Bachelor of Landscape Architecture (2002).</p> <p>BA (Hons) Landscape Architecture (2000)</p> <p>Chartered Member of the Landscape Institute (CMLI).</p>
Major accidents and disasters	<p>Meng Civil Engineering (2.i), Imperial College.</p> <p>PhD in Earthquake Hazard and Risk, Imperial College.</p> <p>Chartered Engineer (CEng).</p>
Planning	<p>BA (Hons) Urban Studies and Planning, University of Sheffield.</p> <p>Postgraduate Diploma in Town and Regional Planning, University of Sheffield.</p> <p>Cities Masters 'Urban Power and Influence' Boston University.</p> <p>Chartered Town Planner.</p> <p>Member of the Royal Town Planning Institute (MRTPI).</p>
Socio-economics	<p>Diploma in Transport.</p> <p>BSc (Hons) Economics.</p> <p>MSc Economics.</p> <p>Chartered Member of the Institute of Logistics and Transport.</p>

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Discipline	Discipline Lead's Qualifications and Membership of Professional Institute
	Member of the Institute of Economic Development. Member Regional Studies Association.
Sound, noise and vibration	BEng (Hons) Engineering Acoustics and Vibration. Chartered Engineer (CEng). Member of the Institute of Acoustics (MIOA).
Traffic and transport	BA (Hons), Geography 2:1, University of Sheffield. Chartered Member of the Institute of Logistics and Transport. Member of the Chartered Institute of Highways and Transportation. Member of the Transport Planning Society.
Waste and material resources	Dipl.-Ing. (FH) in Environmental Technology (Waste Management & Recycling Technology). Mechanical Engineer/Fitter. Chartered Engineer (CEng). Chartered Waste Manager. Chartered Water & Environmental Manager (CWEM).
Water resources and flood risk	BSc (Hons) Earth Science. MSc Hydrogeology - Groundwater resources, pollution and management. Fellow of the Geological Society of London. Chartered Geologist (C.Geol). European Geologist (Eur.Geol). Member International Association of Hydrogeologists (IAH).
EIA lead reviewers	
Lead reviewer 1	BSc (Hons) Botany, University of Hull. PhD Applied Ecology, University of Liverpool. Fellow of the Institution of Environmental Sciences (FIEnvSc). Fellow of the Royal Society of Biology (FSB). Member of the Royal Town Planning Institute (MRTPI). Chartered Scientist (CSci). Chartered Environmentalist (CEnv). Chartered Biologist (CBiol).
Lead reviewer 2	Bachelor of Engineering (BEng Hons). Chartered Environmentalist (CEnv). Member of the Institution of Environmental Sciences (MIEnvSci).
Lead reviewer 3	BSc (Hons), University of Aberdeen. MSc, Napier University. Fellow of the Institute of Environmental Management and Assessment (FIEMA). Chartered Environmentalist (CEnv).
Lead reviewer 4	M.A. Geography/B.Phil. Landscape Design/Chartered Member of Landscape Institute.
Lead reviewer 5	BSc (Hons) Environmental Biology. MSc Environmental Pollution Science. Chartered Environmentalist (CEnv). Chartered Scientist (CSci). Chartered Biologist (CBiol).

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Discipline	Discipline Lead's Qualifications and Membership of Professional Institute
	Chartered Wastes Manager. Member of the Institution of Environmental Science (MIEnvSci). Member of the Royal Society of Biology (MRSB). Member of the Institute of Wastes Management (MCIWM).
Lead reviewer 6	BSc Environmental Science, University of Nottingham. MSc Environmental Assessment and Management, Oxford Brookes University. Member of the Institute of Environmental Management and Assessment (IEMA). Chartered Environmentalist (CEnv).
Lead reviewer 7	BA Honours in Planning Studies, Oxford Brookes University. Post graduate diploma in Town and country planning (EIA), Oxford Brookes University. Chartered Town Planner and Member of the Royal Town Planning Institute (MRTPI).

3 Civils Design and Environmental Services Consultancy team

3.1.1 The CDES team that prepared the documents was led by an EIA management team and technical authors. Table 2 outlines the team, their qualifications and membership of relevant professional institutes.

Table 2: Qualifications and professional memberships of the MWJV CDES team

Discipline	Discipline Lead's Qualifications and Membership of Professional Institute
EIA management	
Technical Manager	BSc (Hons) Rural Environmental Studies, University of London. Chartered Member Landscape Institute. Principal EIA Assessor IEMA.
EIA Manager	BSc (Hons) Environmental Science, University of East Anglia. MSc Environmental Impact Assessment, Auditing and Management Systems, University of East Anglia.
ES Lead Author	BSc Transport Management and Planning, Loughborough University of Science and Technology. Chartered Member of the Royal Town Planning Institute.
Technical author	
Agriculture, forestry and soils	BSc (Hons) Combined Sciences (Biology and Geography), Brighton Polytechnic. MSc Landscape Ecology, Design and Management, University of London. Fellow of the British Society of Soil Science (F.I.SoilSci). Chartered Scientist (CSci).
Farm Holdings	BSc (Hons) Agriculture, University of Reading. Fellow of the British Institute of Agricultural Consultant (FBIAC)
Air quality	BSc (Hons) Environmental Science, University of Leeds. Member of the Institution of Environmental Sciences. Member of Institute of Air Quality Management.
Climate change (adaptation and resilience)	BSc Physics with Astrophysics, University of Leeds. MSc Sustainable Energy Futures, Imperial College London. CIWEM Climate Change Network Panellist. Certified CEEQUAL Assessor.
Community	BSc (Hons) Geography, University of Sussex. MSc Environmental Assessment, University of Brighton. Associate Member of Institute of Environmental Management and Assessment (IEMA).
Ecology and biodiversity	BSc (Hons) Ecology, University of Stirling. Postgraduate Certificate in Environmental Technology, University of Leicester. PhD (Ecology), University of Sheffield.
Electromagnetic interference	BEng (Hons) Electrical Engineering, University of Liverpool.

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Discipline	Discipline Lead's Qualifications and Membership of Professional Institute
	<p>MSc (Eng) (by research), "Optical Fibre Acoustic Monitoring of Partial Discharges in Gas Insulated Substations", University of Liverpool.</p> <p>PhD "Acousto-optic Monitoring of Electrical Power Equipment Using Chromatic Signal Processing", University of Liverpool.</p> <p>Chartered Engineer (CEng).</p> <p>Member of the Institution of Engineering Technology.</p>
Health	<p>BSc (Hons) Geography, University of Sussex.</p> <p>MSc Environmental Assessment, University of Brighton.</p> <p>Associate Member of Institute of Environmental Management and Assessment (IEMA).</p>
Historic environment	<p>BA Ancient History and Archaeology, University of Birmingham.</p> <p>MA Practical Archaeology, University of Birmingham.</p> <p>MCIFA Member Chartered Institute for Archaeologists.</p>
Land quality (MA01, 02, 03 and 06)	<p>BSc Physical Geography, Cheltenham & Gloucestershire College.</p> <p>MSc Engineering Geology, University of Portsmouth.</p> <p>Fellow of the Geological Society of London (FGS).</p> <p>Member of the Institution of Environmental Sciences (MIEnvSc).</p> <p>Chartered Environmentalist (CEnv).</p> <p>Specialist in Land Condition (SiLC).</p> <p>National Quality Mark Scheme for Land Contamination Management, Suitably Qualified Person (SQP).</p>
Land quality (MA04, 02, 05, 07 and 08)	<p>BSc (Hons) Applied Geophysics and Engineering Geology, University of Exeter.</p> <p>MSc Water Pollution Control Technology, Cranfield Institute of Technology (now Cranfield University).</p> <p>Member of the Chartered Institution of Water and Environmental Management (CIWEM).</p> <p>Chartered Engineer (CEng).</p> <p>Chartered Environmentalist (CEnv).</p> <p>Qualified Person (CL:AIRE Code of Practice).</p>
Landscape and visual	<p>BSc Landscape design and plant sciences, Sheffield University (1986).</p> <p>MA Landscape design, Sheffield University.</p> <p>PgDip Environmental Management, University of London.</p> <p>Chartered Member of the Landscape Institute.</p>
Major accidents and disasters	<p>BSC (Hons) Environmental Science, The University of Birmingham.</p> <p>MSc Environmental Management, The University of Nottingham.</p> <p>NEBOSH National General Certificate in Occupational Health and Safety.</p> <p>Full Member of the Institute of Environmental Management and Assessment (MIEMA).</p> <p>Chartered Environmentalist (CEnv).</p> <p>Technical Member of the Institute of Occupational Safety and Health (Tech IOSH).</p>
Planning	<p>MA (Hons) in Town Planning, Edinburgh College of Art/Heriot-Watt University.</p> <p>MSc Urban Design, Edinburgh College of Art/Heriot-Watt University.</p> <p>Project Management Qualification, Association of Project Management.</p>

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Discipline	Discipline Lead's Qualifications and Membership of Professional Institute
	Recognised Practitioner in Urban Design, Urban Design Group. Chartered Member of the Royal Town Planning Institute. Member of the Association of Project Management. Member of the Urban Design Group.
Socio-economics	BSc Geography, Loughborough University. MSc Environmental Monitoring for Management, Loughborough University. Practitioner Member of Institute of Environmental Management and Assessment (PIEMA). Chartered Geographer (CGeog) and Fellow of the Royal Geographical Society (FRGS).
Sound, noise and vibration	BA Hons Degree, Environmental Management (BA Hons). Post Graduate Diploma, Acoustics and Noise Control (PG Dip) Chartered Scientist (CSci). Member of the Institute of Acoustics (MIOA). Member of the Institute of Environmental Sciences (MIEnvSci).
Sound, noise and vibration	BSc (Hons) Physics, Imperial College London. MSc in Acoustics, University of Surrey. Member of the Institute of Acoustics (MIOA).
Traffic and transport	Meng (Hons) Civil Engineering, Imperial College, University of London. Member of the Chartered Institute of Highways and Transportation.
Waste and material resources	Meng – Civil and Environmental Engineering. MCIWM – Chartered Waste Manager. CEnv – Chartered Environmentalist.
Water resources and flood risk	MEng (Hons) Chemical Engineering. MSc Hydrogeology. Member of the Chartered Institution of Water and Environmental Management (CIWEM). Chartered Water and Environment Manager (C.WEM). Chartered Environmentalist (C.Env). Member of the International Association of Hydrogeologists (IAH).

3.1.2 This information is provided in support of the statements set out in Volume 1 of the ES.