



South East Strategic Reservoir Option
Preliminary Environmental Information Report

Appendix 4.2 - Competent expert evidence

Date: October 2025

Contents

1	Environmental Impact Assessment: Competent expert evidence.....	1
1.1	Introduction	1
1.2	Environmental Lead – reviewer of overall PEI Report	1
1.3	EIA Lead	2
1.4	EIA Coordinator and lead author for Chapter 3: Consideration of alternatives and draft Code of Construction Practice.....	2
1.5	EIA Coordinator and lead author for Chapter 1: Introduction and Chapter 4: Approach to the environmental assessment	2
1.6	Aspect Lead – Chapter 5: Water environment	3
1.7	Aspect Lead – Chapter 6: Aquatic ecology.....	3
1.8	Aspect Lead – Chapter 7: Terrestrial ecology	3
1.9	Aspect Lead – Chapter 8: Historic environment.....	4
1.10	Aspect Lead – Chapter 9: Landscape and visual	4
1.11	Arboriculturist – Appendix 9.7: Arboricultural Impact Assessment	4
1.12	Aspect Lead – Chapter 10: Geology and soils	5
1.13	Aspect Lead – Chapter 11: Materials and waste.....	5
1.14	Aspect Lead – Chapter 12: Traffic and transport	6
1.15	Aspect Lead – Chapter 13: Air quality	6
1.16	Aspect Lead – Chapter 14: Noise and vibration.....	6
1.17	Aspect Lead – Chapter 15: Socio-economics and communities	7
1.18	Aspect Lead – Chapter 16: Human health	7
1.19	Aspect Lead – Chapter 17: Greenhouse gases	7
1.20	Aspect Lead – Chapter 18: Climate resilience	8
1.21	Aspect Lead – Chapter 19: Major accidents and disasters and lead author for Chapter 2: Project description	8
1.22	Aspect Lead – Chapter 20: Cumulative effects	9

1 Environmental Impact Assessment: Competent expert evidence

1.1 Introduction

- 1.1.1 Regulation 14(4) of the Infrastructure Planning (Environmental Impact Assessment) Regulations 2017 requires that an Environmental Impact Assessment (EIA) is prepared by competent experts and is accompanied by a statement from the applicant outlining the relevant expertise or qualifications of such experts. This statement outlines the relevant expertise and qualifications of key experts with responsibility for undertaking the EIA for the SESRO Project.
- 1.1.2 Arup and Binnies (as part of the Arup Binnies Joint Venture) are independently registrants to the EIA Quality Mark scheme of the Institute of Sustainability and Environmental Professionals (ISEP), formerly known as the Institute of Environmental Management and Assessment. Both companies have made a commitment to excellence in their EIA activities, undertaking EIA in line with the EIA Quality Mark Commitments.
- 1.1.3 The EIA Quality Mark is a voluntary scheme through which EIA activity is independently reviewed on an annual basis, to ensure it delivers excellence in: EIA management, EIA team capabilities, EIA regulatory compliance, EIA context and influence, EIA content, EIA presentation, and improving EIA practice.

1.2 Environmental Lead – reviewer of overall PEI Report

- 1.2.1 The Environmental Lead (BA, CMLI) is a Chartered Member of the Landscape Institute (CMLI) with over 20 years of experience in leading environmental design and assessment for Development Consent Orders (DCOs) and hybrid Bills. They are currently the Environmental Lead for the SESRO project, responsible for delivering an environmentally led design approach aligned with Thames Water's Sustainability Vision and the Strategic Resource Options (SRO) Sustainability Strategy.
- 1.2.2 They have extensive experience in coordinating EIA for major infrastructure projects, having led and supported 14 DCOs and four hybrid Bills over the past 15 years. They have played a key role in defining assessment strategies, coordinating responses to statutory consultation, and overseeing the preparation of Environmental Statements to secure development consent for major projects.
- 1.2.3 Major project roles include serving as Environmental Design Lead for the Thames Tideway Tunnel (TTT) DCO, a 25km combined sewer tunnel and the largest DCO planning application in UK history. They oversaw the integrated public realm and LVIA from route selection through to consent and construction. Also, they have contributed to the environmental coordination of nationally significant projects such as HS2, East West Rail and the North London Heat and Power Project. This experience demonstrates a proven capability in providing environmental leadership on complex infrastructure projects, embedding environmental considerations into project design, and delivering robust, defensible assessments that support successful consenting.

1.3 EIA Lead

- 1.3.1 The EIA Lead (MSc, MCIWEM, C.WEM, CEnv, PISEP) is an Environmental Scientist and Chartered Environmentalist with 19 years of experience. They have worked on many projects as environmental lead or reviewer for both public and private sector clients, including HS2, BAA, Thames Water, South East Water, Southern Water, Bristol Water, the Environment Agency, and Local Authorities.

They have extensive experience in leading and coordinating Environmental Impact Assessments (EIA), Habitats Regulations Assessments (HRA), and baseline data collection such as ecological surveys and environmental monitoring. They were also the EIA Lead for the River Thames Scheme, the UK's largest fluvial flood defence project, which includes new flood channels, weir structures, and habitat creation. This role covered a wide range of environmental tasks, including EIA Scoping, PEI Report, Environmental Statement, Digital EIA, HRA, Water Framework Directive (WFD) compliance assessment, landscape and visual impact assessment, and Biodiversity Net Gain.

1.4 EIA Coordinator and lead author for Chapter 3: Consideration of alternatives and draft Code of Construction Practice

- 1.4.1 The EIA Coordinator and lead author for Chapter 3: Consideration of alternatives and CoCP (MSc, CEnv, MEnvSc), is a Chartered Environmentalist with 19 years of experience in both consultancy and construction environment. They worked across sectors including roads, rail, water, and energy, delivering environmental input from early feasibility through to construction and maintenance. They regularly take on lead roles and are responsible for final technical reviews and approvals, and are experienced in DCO processes, including EIA Scoping, PEI Report, Environmental Statements, and post-DCO activities such as design changes and Statements of Common Ground.

- 1.4.2 They have also held the position of Environmental Project Director/ Lead Verifier for EIA projects such as the Watlington Relief Road Project and A40 Access to Witney Project. In this capacity, responsibilities include providing expert witness support for the public inquiry, overseeing all environmental inputs across the programme, including design, optioneering, construction, and maintenance, providing advice on the key environmental impacts to be addressed.

1.5 EIA Coordinator and lead author for Chapter 1: Introduction and Chapter 4: Approach to the environmental assessment

- 1.5.1 EIA Coordinator, lead author for Chapter 1: Introduction and Chapter 4: Approach to the environmental assessment (MSc, CEnv, MCIWEM, MISEP), is a Chartered Environmentalist and Principal EIA Practitioner with 23 years of experience in environmental consultancy. They have worked across a wide range of sectors including water resources, energy, transport and flood risk management, both in the UK and internationally, and expertise spans EIA, SEA, sustainability appraisal, and environmental and social due diligence.

- 1.5.2 They have played a key role in the delivery of major infrastructure projects, offering strategic advice and technical leadership throughout the project lifecycle, from early feasibility and optioneering through to planning, design, and delivery. Responsibilities

includes environmental consenting, stakeholder engagement, and assessments under the Habitats Regulations and WFD.

1.6 Aspect Lead – Chapter 5: Water environment

- 1.6.1 The aspect lead for Chapter 5: Water environment (BSc, MSc) is a Chartered Water and Environment Specialist with 11 years of experience in hydrology, geomorphology and water environment assessments. They have worked on major UK infrastructure projects, including highways, wind farms, substations, and cable routes, expertise includes EIA, WFD and Flood Risk Assessments (FRA) assessments, private water supply studies, peatland geomorphology, and environmental permitting.
- 1.6.2 They were the road drainage and water environment aspect lead for the A66 Northern Trans-Pennine DCO application, delivering the EIA chapter, PEI Report and technical appendices, led stakeholder engagement with the Environment Agency and Natural England, and acted as expert witness during the DCO examination.

1.7 Aspect Lead – Chapter 6: Aquatic ecology

- 1.7.1 The aspect lead for Chapter 6: Aquatic ecology (BSc, MSc, CBiol, MCIEEM) is a Chartered Principal Aquatic Ecologist with over 15 years of experience in ecological consultancy and environmental regulation. They have led aquatic ecology services for a wide range of infrastructure projects, including Nationally Significant Infrastructure Projects (NSIPs) for the road, rail, airport, and water sectors. They possess extensive experience in the preparation of biodiversity and water chapters for Environmental Statements, with strong knowledge of WFD, Ecological Impact Assessment (EclA), and HRA requirements.
- 1.7.2 Previous roles include aquatic ecology lead for the Heathrow Expansion Project, East West Rail, and Drought Management Plan and Water Resource Management Plans, providing technical oversight, stakeholder engagement, and mitigation design. They have also led ecological input for flood and wetland schemes such as Brighouse Flood Alleviation, Great North Fen, and the Shang Qin Huai Eco-Wetland Development in China.

1.8 Aspect Lead – Chapter 7: Terrestrial ecology

- 1.8.1 The aspect lead for Chapter 7: Terrestrial ecology
- 1.8.2 (BSc, MSc, ECOL, CENV, MCIEEM, AISEP) is a Chartered Ecologist and Chartered Environmentalist with 17 years of experience in ecological consultancy. They adept at providing strategic ecological advice to clients, working collaboratively within multi-disciplinary teams to get an in-depth understanding of specific design considerations and/or constraints, and takes a pragmatic approach to problem-solving. They have extensive experience in the on-site delivery of major infrastructure projects, ensuring that ecological mitigation is proportionate, and its implementation is appropriately timed to avoid programme delays.
- 1.8.3 In terms of technical skills, they have extensive experience in protected species survey and mitigation in relation to development. They are the named ecologist on European Protected Species (EPS) development licences for bats, great crested newt and hazel dormouse and

on development licences for badgers. They have devised and implemented complex mitigation solutions for a wide range of protected species, specialising in bats.

1.9 Aspect Lead – Chapter 8: Historic environment

- 1.9.1 The aspect lead for Chapter 8: Historic environment (BSc, CEnv) is a Chartered Environmentalist and Heritage Specialist with over 25 years of experience in archaeological and heritage fieldwork and consultancy, including leading Heritage Environmental Impact Assessments and advising on NSIPs. They have worked on a wide range of major infrastructure projects, including roads, rail, energy, and nuclear developments, providing expert advice on EIA, DCO applications, and archaeological mitigation strategies.
- 1.9.2 They have led the historic environment input for several NSIPs, including the Lion Link, A417 Missing Link, A358 Taunton to Southfields, A30 Chiverton to Carland Cross, and HS2 Phase 2B. They have also acted as expert witness at DCO examinations and advised design teams and local authorities on heritage issues, where responsibilities include stakeholder engagement, monitoring archaeological evaluations and producing cultural heritage ES chapters.

1.10 Aspect Lead – Chapter 9: Landscape and visual

- 1.10.1 The aspect lead for Chapter 9: Landscape and visual (BA, MA, CMLI) is a Chartered Landscape Architect with over 20 years of experience in landscape, environmental design, assessment and management. Their work spans across large scale infrastructure projects, with a focus on delivering robust Landscape and Visual Impact Assessment (LVIA) as part of the EIA process, balancing engineering needs with environmental and community benefits, aiming for practical and sustainable outcomes.
- 1.10.2 They acted as landscape technical reviewer for The River Thames Scheme, one of the Environment Agency's largest inland flood risk management schemes, where they provided technical assurance on LVIA and coordinated the development of the first digital EIA summary for the project. They were also landscape and environmental lead for the Llyn Tegid Reservoir Safety Project in Snowdonia National Park, where they guided the landscape and environmental inputs through options appraisal, outline design, and detailed design stages within an internationally protected site (SAC/RAMSAR/SSSI). This work supported planning and consents, helping deliver environmental, social, and economic benefits in line with the Sustainable Management of Natural Resources (SMNR). Additional experience includes acting as landscape lead for Scottish Water's Black Esk Nature-Based Solutions Pilot Project, coordinating LVIA and environmental proposals to deliver biodiversity and carbon benefits.

1.11 Arboriculturist – Appendix 9.7: Arboricultural Impact Assessment

- 1.11.1 The aspect lead for Appendix 9.7: Arboricultural impact assessment is a principal arboricultural consultant who is a Professional Member of the Arboricultural Association, a Professional Member of the Consulting Arborist Society and holds the Higher National Diploma in Arboriculture. They have 23 years of experience within the arboricultural industry, both in the Public Sector as a Tree Officer and in the Private Sector as an Arboricultural Consultant.

- 1.11.2 They have provided arboricultural advice for a wide number of clients across multiple sectors. Notable projects include providing arboricultural support in the form of arboriculture impact advice and evidence on the status of veteran trees with the purpose of informing the DCO process for the A47 Tuddenham, undertaking BS5837:2012 surveys of areas of recorded as Ancient Woodland, including identification and assessment of potential ancient and veteran trees, adjacent a proposed access road to inform mitigation proposals and provide an evidence baseline for a DEPA Public Local Inquiry for a scheme at Earraghail, undertaking an assessment of an area of woodland to determine the presence of any ancient or veteran trees and to determine if the woodland was Ancient Semi Natural Woodland at Oxley Wood, Wolverhampton and undertaking surveys of a 34km OHL replacement project to advise on tree retention, removal and protection required for large scale permitted development works between Elstree and Sundon.

1.12 Aspect Lead – Chapter 10: Geology and soils

- 1.12.1 The aspect lead – Chapter 10: Geology and soils (SiLC, CSci, MCIWM, MEnvSc, MRSC) is a Chartered Scientist and Chartered Waste Manager Member, and technical expert in ground contamination, land quality, soils reuse and waste, with 34 years' experience in contaminated land and land quality, ground investigation, assessment and remediation, waste and excavated soils classification and management, asbestos, environmental permitting, environmental impact assessment and due diligence. They have led assessments, permitting, and remediation strategies for major infrastructure projects including HS2, Crossrail, Lower Thames Crossing, and Silvertown Tunnel. They have also been contributed to national policy and British Standards and sits on the British Standards committee on soil quality.
- 1.12.2 As the technical lead on land quality, contamination and excavated material and waste soils for HS2 Phase 1, they directed a team delivering a wide range of services related to investigations, contaminated land assessments, waste and excavated materials management, groundwater risk assessments and reuse of soils across the route from Euston to Ruislip, including permitting and design of new waste landfills for surplus excavated soils around Ruislip and materials management plans (MMP) for millions of cubic metres of soils. This has included detailed geoenvironmental assessments of over 20 sites, various Materials Management Plans (MMPs) and detailed quantitative risk assessments.

1.13 Aspect Lead – Chapter 11: Materials and waste

- 1.13.1 The aspect lead for Chapter 11: Materials and waste (CEng, CWEM, CRWM) is a Chartered Engineer and Chartered Resources and Waste Manager with 28 years of experience in environmental engineering. Expertise includes waste policy and strategy, circular economy, infrastructure procurement, and environmental impact assessment, with a strong focus on sustainable development and resource efficiency.
- 1.13.2 They have held key technical leadership roles on major UK infrastructure projects, including HS2 Phases 1, 2a, and 2b, where they led waste and material resources assessments, materials management plans, and waste reduction strategies. They also contributed to the North London Heat and Power Project, developing a carbon management and carbon capture usage and storage (CCUS) strategy, and supported

DEFRA as Purchaser's Engineer for hazardous waste incinerator upgrades. Their work with Old Oak and Park Royal Development Corporation includes advising on waste safeguarding and circular economy planning for the Old Oak and Park Royal development.

1.14 Aspect Lead – Chapter 12: Traffic and transport

- 1.14.1 The aspect lead for Chapter 12: Traffic and transport (MEng, CTPP) is a Chartered Transport Planning Professional with 34 years of experience in transport planning for major infrastructure and development projects. They have advised both public and private sector clients on transport strategy, environmental assessments, and sustainable transport planning. Their work includes extensive collaboration with local authorities, transport operators, and stakeholders, and they have presented expert evidence at Public Inquiries and Examinations.
- 1.14.2 They have also managed transport assessments for the Heathrow Expansion Project, North London Heat and Power Project, and the Tideway Project, where they provided expert evidence during the DCO Examination. They have also directed transport strategy and assessment work for large-scale masterplans which covers thousands of homes and significant commercial space, where responsibilities include integrating public transport and active travel into development proposals, securing planning permissions, and aligning transport assessments with wider infrastructure plans such as rail extensions and Transport and Works Act (TWA) applications.

1.15 Aspect Lead – Chapter 13: Air quality

- 1.15.1 The aspect lead for Chapter 13: Air quality (BSc, MSc, CEnv, CSci, MIAQM, MIES, PISEP) is a Chartered Environmentalist and Chartered Scientist with 15 years of experience in air quality, carbon, and odour assessments. They have led over 100 air quality assessments for planning applications across the UK and has acted as an expert witness at planning hearings and DCO examinations. Their work spans a wide range of sectors including transport, energy, waste, and mixed-use developments, and he is known for providing robust, best-practice assessments that support planning and policy decisions.
- 1.15.2 They have led air quality assessments for major infrastructure projects including the Gatwick Northern Runway DCO, Luton Airport Expansion DCO, HS2 project, and multiple road schemes. Expertise includes modelling emissions from road, rail, port, and aviation sources, and they have worked internationally on projects in Singapore and Canada. They have also supported clean air zone modelling for cities like Middlesbrough and Dubai, and developed tools to reduce PM2.5 and NOx emissions from construction equipment.

1.16 Aspect Lead – Chapter 14: Noise and vibration

- 1.16.1 The aspect lead for Chapter 14: Noise and vibration (BEng, CEng, CSCS, ANC) is a Chartered Engineer and experienced acoustician with 27 years of expertise in environmental noise and vibration. They have led the delivery of EIA for major infrastructure projects, specialising in airborne and ground-borne noise and vibration from construction, road, rail, and industrial sources. Their work includes mitigation design, stakeholder engagement, and expert witness roles at DCO hearings and public inquiries.

- 1.16.2 They held key roles on nationally significant projects including HS2 Phases 1, 2a, and 2b, where they led the noise and vibration assessments, providing guidance to the Parliamentary team, supporting the Select Committee process, and representing the scheme with key stakeholders, in support of the hybrid Bill submission. They also led assessments for the Thames Tideway Tunnel, A14 Cambridge to Huntingdon, Luton Airport Mass Passenger Transit (MPT), developing policies, design principles, and detailed mitigation. Their work on the Elizabeth Line, Thameslink Train Depots, and Channel Tunnel Rail Link involves complex assessments of construction and operational impacts in sensitive urban environments.

1.17 Aspect Lead – Chapter 15: Socio-economics and communities

- 1.17.1 The aspect lead for Chapter 15: Socio-economics and communities (LLB, MSc, MRTPI) is a Chartered Town Planner with 13 years of experience in development management and socio-economic assessment. Within EIA, they specialise in socio-economic, community, health, equality impact assessments, as well as the preparation of employment strategies. They work on major development schemes and nationally significant infrastructure projects, including DCOs and Hybrid Bills, and are experienced in managing complex, multi-disciplinary projects and analysing both qualitative and quantitative data to support planning and policy decisions.
- 1.17.2 Their work on the London Luton Airport Expansion DCO and East West Rail included community impact assessments, DCO strategy development, and stakeholder engagement.

1.18 Aspect Lead – Chapter 16: Human health

- 1.18.1 The aspect lead for Chapter 16: Human health (CEnv) is a Chartered Environmentalist with 25 years of experience in environmental consulting, specialising in health impact assessment (HIA) and EIA. They have led health assessments for major infrastructure and urban regeneration projects, including DCOs, hybrid Bills, and local planning applications. Expertise includes HIAs, strategic health assessments, and health inputs to business cases and urban planning. They are also experienced in stakeholder engagement, having led health aspect working groups and community workshops.
- 1.18.2 They have held key roles on nationally significant projects such as HS2 Phases 1, 2a, and 2b, where they led or supported the health assessments and contributed to ES and Additional Provisions. As the health aspect lead, responsibilities include developing the Population and Human Health Assessment Standard for Transport Infrastructure Ireland, this Standard is the first to provide a detailed process to embed health into a project from concept to delivery. They have also supported local authorities and developers on projects such as Hinkley Point C, Heathrow Third Runway, and the East London Line Extension, providing strategic advice, technical review, and negotiation support.

1.19 Aspect Lead – Chapter 17: Greenhouse gases

- 1.19.1 The aspect lead for Chapter 17: Greenhouse gases (MSC, BA, CENV, AISEP, IES) is a Chartered Environmentalist with 21 years of experience in carbon assessment, climate risk, and sustainability strategy. They have a strong technical background in carbon

lifecycle modelling and greenhouse gas (GHG) assessments, supporting major infrastructure projects in rail, aviation, and waste. They are also experienced in EIA and have contributed to national guidance on GHG emissions in EIA through their work with the ISEP (formerly the Institute of Environmental Management and Assessment, IEMA).

- 1.19.2 They have led or supported carbon and climate assessments for projects such as the Gatwick Airport Northern Runway DCO, North London Heat and Power Project, and South Molton Triangle. They also developed the Lumo carbon tool, advised on Direct Air Capture (DAC) lifecycle modelling, and supported Antalya Airport in Turkey with climate risk assessments aligned with international finance standards. Their work involves engaging with clients, legal teams, and stakeholders to develop defensible carbon strategies and integrate low-carbon thinking into project design and delivery. They have also worked with Network Rail and the Office of Rail and Road on sustainability performance reviews, and contributed to the ISEP GHG Emissions Assessment and Significance of Impact in EIA guidance. A collaborative approach, working across disciplines such as biodiversity, land use, and waste have been adopted, to deliver integrated sustainability solutions.

1.20 Aspect Lead – Chapter 18: Climate resilience

- 1.20.1 The aspect lead for Chapter 18: Climate resilience (MEng, PhD, CEng) is a Chartered Civil Engineer with 26 years of experience in infrastructure resilience, climate adaptation, and risk assessment. They have an in-depth understanding of infrastructure and specialises in assessing and enhancing the resilience of infrastructure systems, to climate change and other shocks and stresses in order to enhance the resilience of the cities and communities who depend on these systems.
- 1.20.2 They have led major projects such as Fens2100+ project, Whole System Energy Resilience, and climate risk assessments for National Grid in the UK and US. They were also the Project Director for the Resilience Assessment Framework for National Grid and has supported National Highways in integrating climate change into geotechnical asset management. Their work includes technical leadership for the Green Climate Fund, the World Bank, and the Government of Jamaica, promoting nature-based solutions and resilient infrastructure planning. From 2018 to 2022, they served as Director of The Resilience Shift, a global initiative supported by Lloyd's Register Foundation, where they led the creation of new guidance and tools to embed resilience across the infrastructure lifecycle.

1.21 Aspect Lead – Chapter 19: Major accidents and disasters and lead author for Chapter 2: Project description

- 1.21.1 The aspect lead for Chapter 19: Major accidents and disasters and lead author for Chapter 2: Project description (BA, MSc, CEnv, MISEP) is a Chartered Environmentalist with over 20 years of experience in environmental consultancy, specialising in EIA, Strategic Environmental Assessment and environmental management of projects during construction. . They have worked across sectors including energy, transport, flood risk, and marine infrastructure, and is experienced in managing complex, multi-disciplinary projects involving public and private sector clients.
- 1.21.2 They previously held a national technical leadership role, which included iMajor Accidents and Disasters (MA&D), responsible for driving quality and consistency in the assessment

approach across environmental assessment teams. A key focus has been the development and implementation of robust methodologies for the assessment of MA&D and health-related aspects. Additional experience includes project management for the ASEA Ecology Mitigation and Flood Defence Project, EIA coordination for the River Thames Scheme DCO, and contributions to the Office for Environmental Protection's environmental assessment review. They have also supported projects such as the Aquind Interconnector DCO, Airports National Policy Statement, and A30 Temple to Higher Carblake DCO, acting as EIA Project Director or technical lead, including during public examinations and judicial reviews.

1.22 Aspect Lead – Chapter 20: Cumulative effects

- 1.22.1 The aspect lead for Chapter 20: Cumulative effects (MSci, MISEP, CEnv) is a Chartered Environmentalist with 9 years of experience in environmental consultancy. They have worked across sectors including flood risk management, rail, coastal engineering, residential, energy, and highways. Expertise lies in EIA, with experience in DCOs and Transport and Works Act Orders.
- 1.22.2 They are highly experienced in the assessment of cumulative effects and have led environmental inputs for a wide range of projects, including flood defence schemes, river restoration, and infrastructure planning. Key responsibilities include coordination and integration of aspects assessments to identify and evaluate combined and cumulative effects for the Cardigan Tidal Flood Risk Management Scheme, Chapel Reen Outfall, and the Mwche Managed Realignment.



It's everyone's water