South East Strategic Reservoir Option

Statutory Consultation

Draft Design Principles

Date: October 2025

Contents

List of tables

List of Images

1 Introduction

1.1 Purpose of this document

1.1.1 This document has been created for the purposes of Thames Water's South East Strategic Reservoir Option (SESRO) project ('the Project') statutory consultation. It sets out our Project Vision in Section 2 Project Vision and our draft Design Principles, including how they have been developed to date, and how we intend to take them forward.

1.1.2 During the statutory consultation, we are consulting on:

- the revised Overarching Design Principles
- the new Project-Wide Design Principles.

1.1.3 The feedback provided will help inform our Project's development and enable us to refine our Design Principles, in preparation for the Development Consent Order (DCO) application, which will contain the detailed Design Principles to be secured by the DCO.

1.2 Design and the Development Consent Order

1.2.1 The design of the Project will be secured in the DCO through requirements (which are similar to planning conditions) that include:

- limits of deviation, as set out in the draft DCO and as shown on the Works Plans [and by reference to the Engineering Drawings]
- compliance with the Design Principles, which are secured through a DCO requirement
- the Parameters Schedule in the DCO where maximum dimensions have been used and are secured by DCO requirement, and
- the implementation of controls incorporated in the Control Documents, which are secured via DCO requirement.

1.2.2 The combination of these will ensure effective mitigation and compliance with the preliminary design submitted with the DCO application.

1.2.3 Our DCO application submission will be based on a preliminary design with appropriate flexibility within the maximum parameters (these are set out in the Preliminary Environmental Information Report Chapter 2: Project Description). Flexibility will allow for the refinement of elements of the design of the Project as it progresses, for example, in consultation with our stakeholders, agreed through the discharge of DCO requirements, and in response to unforeseen design challenges or technological advancements which come to light during the detailed design stage.

1.2.4 The Design Principles apply within the context of the draft Order limits of the Project, unless explicitly stated otherwise.

2 Project Vision

2.1.1 Our Project Vision (Image 1) sets the strategic direction of our Project's development and captures the purpose of the Project to both functionally provide long-term water security for the South East of England and also create a shared asset which delivers meaningful value to local people and nature for generations to come. It captures our ambitions for the Project and creates a framework for our Design Principles.

Image 1 – Project Vision

Project Vision: we're building an essential new reservoir for the South East, helping to protect people and the environment from drought for the next 100 years and beyond. But the reservoir is more than a vital water resource for the region. We're creating a secure water supply for future generations, while offering spaces for nature and the community, delivering a lasting legacy for people and the environment.

More than a reservoir – Our aim is to create a strong sense of place, one that celebrates local character and is sympathetic to its surroundings while also embracing the reservoir's potential to be a regionally and nationally significant destination for visitors looking to spend time in the outdoors.

A Space for Nature – We're designing the space around the reservoir to provide recreational areas, new woodlands, walking trails and a blend of habitats for local wildlife. This ecological framework will help protect and enhance biodiversity, helping contribute to a thriving natural environment within and around the reservoir.

A Place for People - We're committed to working with local communities, businesses and environmental groups to shape a sustainable future – creating a shared asset that benefits everyone for generations to come. Our aim is to create new jobs through the construction of the reservoir, and once open, attract visitors and boost tourism, supporting the regional economy for the longer term. Whether you're into water sports, cycling, walking, or just soaking up the outdoors, this will be a safe, accessible and inclusive space that has something for everyone. Educational spaces will enable people to discover more about the environment and the reservoir will provide opportunities for people to unwind, explore and connect with nature - contributing to an improved quality of life.

3 Design Principles Guidance and Themes

3.1 National Infrastructure Commission guidance

3.1.1 In 2020 the National Infrastructure Commission (NIC) issued guidance on the use of design principles for National Infrastructure projects around the four themes of Climate, People, Places and Value. The guidance states that 'These principles should guide the projects which will upgrade and renew the UK's infrastructure system. They should be applied to all economic infrastructure: digital communications, energy, transport, flood management, water and waste'. The use of design principles such as these is supported by Section 3.6 of the National Policy Statement for Water Resources Infrastructure (the NPS), which states "*Design principles, such as those published by the National Infrastructure Commission, in the government's response and the National Planning Policy Framework should be established from the outset of the project to guide the development from conception to operation*."

3.2 All Company Working Group guidance

3.2.1 The All Company Working Group (ACWG) is a steering group for water companies and was set up to ensure that water companies with Strategic Resource Options (SROs) were adopting a consistent design approach where possible. In 2023, the ACWG issued guidance to water companies on how they expect design principles to be applied to SRO projects such as SESRO. The ACWG guidance builds on the NIC design principles and reinforce the importance of good design, and includes principles associated strongly with landscape and environmental value.

3.2.2 The full list of ACWG design principles was presented in the SESRO Draft Design Principles (June 2024), available on our website at www.thames-sro.co.uk/document-library.

3.3 Design Principle Themes

3.3.1 The ACWG guidance advises SRO projects to develop design principles around the following themes:

- *'Be Specific - Develop project-specific design vision and principles based on an understanding of the objectives of each location and the people and places it will affect'.*
- *'Safe and Well - Actively and collectively develop designs that can be built, used and maintained without unacceptable risks to the health and safety of workers - particularly during hazardous construction and operational activity. Manage risks to members of the public thoughtfully with an approach that balances maximising wellbeing benefits with protection from risks that could cause significant harm'.*
- *'Climate - Mitigate greenhouse gas emissions and adapt to climate change'.*
- *'People - Reflect what society wants and share benefits widely'.*
- *'Place - Provide a sense of identity and improve our environment'.*
- *'Value - Achieve multiple benefits and solve problems well'.*

4 Design Principles

4.1.1 The Project Vision guides our Design Principles and has helped us to maximise opportunities within site layout, landscaping, landform and the integration of biodiversity and conservation interests within the design whilst ensuring safety and function.

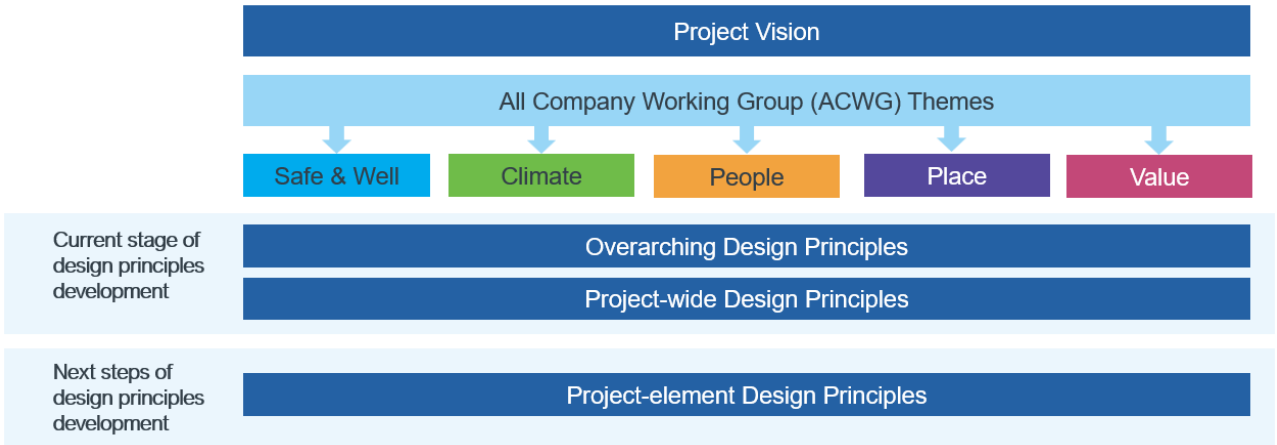
4.1.2 The Design Principles have also been aligned with the sustainability priorities and objectives in the "Delivering a sustainable legacy for people and nature" document which is included as part of the information presented at this Statutory Consultation and is one of the documents we are also seeking feedback on from those with an interest in the Project.

4.1.3 The Design Principles approach is considered an appropriate means to provide a proportionate degree of flexibility to ensure the Project can be delivered within fixed parameters, whilst ensuring that key elements of and approaches to the detailed design are articulated and secured. They give clarity to stakeholders on design intent and required outcomes, whilst still providing flexibility for the detailed design to be developed.

4.1.4 To assist with an understanding of the structure and development of the Design Principles, they have been split into three categories, as shown in Image 2.

- Overarching Project Design Principles
- Project-wide Design Principles
- Project-element Design Principles

Image 2 – Structure and development of the draft Design Principles to date and next steps



Overarching Design Principles

4.1.5 The Overarching Design Principles are a suite of guiding commitments that shape the Project's design and environmental approach. We have developed 19 draft Overarching Design Principles across the five ACWG themes: Safe and Well, Climate, People, Place and Value. These principles express our design ethos and sustainability priorities, and ensure that the formulation of the Project is informed by and aligned with these Overarching Design Principles.

Project-wide Design Principles

4.1.6 The Project-wide Design Principles underpin and expand upon the broader Overarching Design Principles. They have been mapped against the draft Overarching Design Principles and are structured under the ACWG themes, ensuring thematic consistency and traceability.

4.1.7 The Project-wide Design Principles cover environmental aspects (such as the water environment, landscape and visual, socio-economics and communities and the historic environment) in order to limit or minimise any environmental impacts as well as setting design considerations including materiality, sustainability, operational efficiency, accessibility and functionality.

4.1.8 Project-wide Design Principles are intended to set out a unified approach to design and capture the collective knowledge of the Project at the time of Statutory Consultation. The Project-wide Design Principles give clarity to stakeholders over the required design outcomes. They give more detail on design intent and objectives to be achieved but still provide some flexibility for the preliminary design to be developed.

Project-element Design Principles

4.1.9 Project-element Design Principles will serve as a detailed framework to guide the design and delivery of the individual components of the Project. These principles will ensure consistency, quality and alignment with the overall Project Vision, while allowing flexibility to respond to site-specific conditions.

4.1.10 The series of Project-element Design Principles will provide bespoke design requirements for the different components of the Project, responding to consultation feedback and informed by the environmental impact assessment.

4.1.11 The Project-element Design Principles will provide a comprehensive suite of design measures to be considered and reflected in the layout, siting, scale and external appearance of the detailed design of each part of the Project.

5 Development of the SESRO Design Principles

5.1 Public consultation (Summer 2024)

5.1.1 In summer 2024, we held a public consultation on our emerging design options and an interim master plan for the Project. We also sought feedback on the draft Design Principles, available on our website at www.thames-sro.co.uk/document-library

5.1.2 The Statement of Response (SoR) provides a summary of the feedback we received, with specific feedback and consideration of our draft Design Principles covered by Theme 6. You can view the SoR and read more about how matters raised during consultation have been considered by visiting the dedicated website at www.thames-sro.co.uk/sesro/statcon2025

5.1.3 A more detailed breakdown can be viewed in the Feedback Report. This is available on our website at www.thames-sro.co.uk/supportingdocuments.

5.2 Statutory Public consultation (2025)

5.2.1 The evolution of the Design Principles considered the issues raised during the public consultation (Summer 2024), with these concerns being additionally responded to through the design development of the Project.

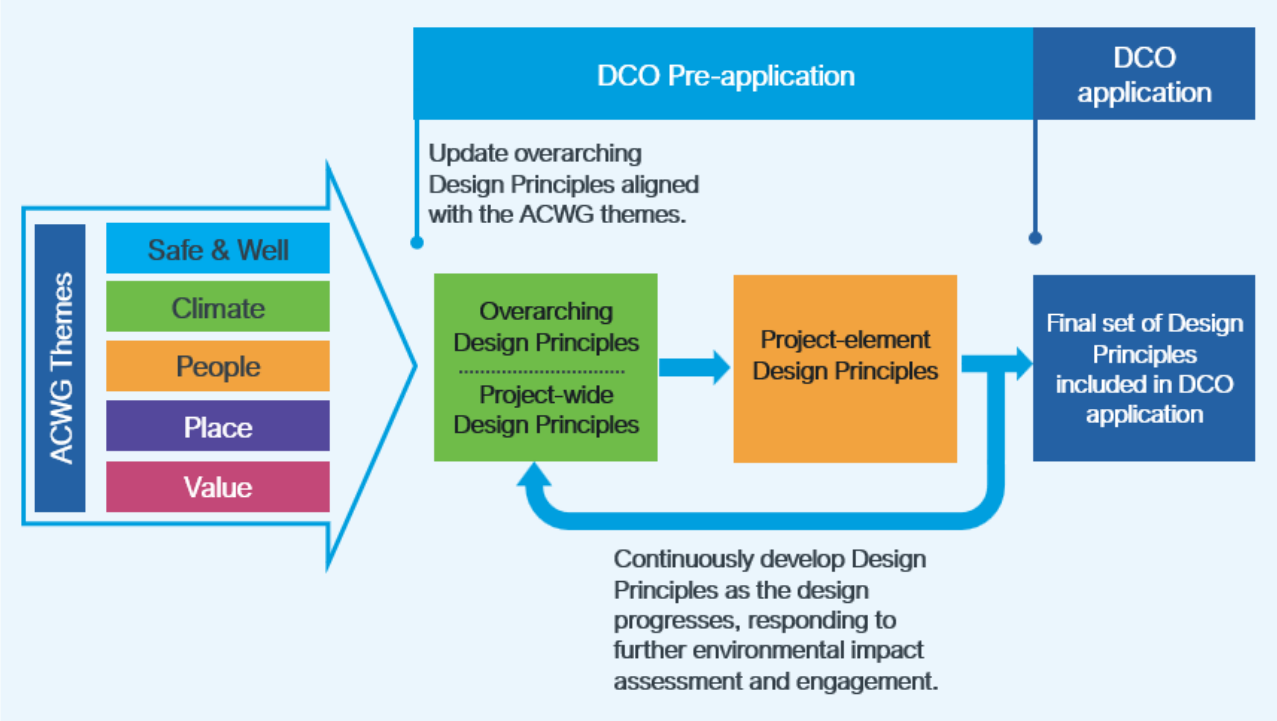
5.2.2 We have now developed a consolidated set of Overarching Design Principles. These preserve the core intent, utilising language from the draft Design Principles and merging overlapping principles into broader, more inclusive statements. They have been developed aligning with the five ACWG themes and will guide the design of the Project.

5.2.3 We have also developed the Project-wide Design Principles that underpin and expand upon the broader Overarching Design Principles. These apply to the whole Project.

5.2.4 The Overarching and Project-wide Design Principles will help us to develop Project-element Design Principles, which will be much more focussed, specific and measurable., and Project-element principles will be developed for the Project as shown in Image 3.

5.2.5 Our Overarching and Project-wide Design Principles will continue to be developed in response to further environmental impact assessment, design development and consultation feedback. As part of this process, additional Design Principles may be introduced as the design progresses to make sure all aspects of the design are comprehensively covered. Image 3 shows this iterative process.

Image 3 – Iterative process of Design Principles development



5.2.6 We have also appointed a Design Champion and an independent Design Panel to review our progress and ensure we maximise design opportunities as we progress towards our DCO application submission.

5.2.7 The design we are presenting at our statutory consultation embeds 'good design' principles and is in accordance with the ACWG publication on Design Principles. A multi-disciplinary approach has been adopted involving technical specialists from across the Project team.

6 Draft Overarching Design Principles

6.1.1 The Design Principles support the design of the Project and will ensure a good design outcome is achieved in the detailed design and ultimate construction of the project. They provide a structured framework for guiding the development of major infrastructure projects, ensuring that they are well planned, functional, safe, sustainable, resilient and cost-effective.

6.1.2 Whilst construction is referenced within the Overarching and Project-wide Design Principles for completeness, it is important to note that the Code of Construction Practice (CoCP) will set out the standards, procedures, and mitigation measures that must be followed during the construction phase. A CoCP will accompany the DCO application. A draft CoCP is included as part of the information presented at this Statutory Consultation and is one of the documents we are also seeking feedback on from those with an interest in the Project. You can find this document by accessing it on our dedicated consultation website: www.thames-sro.co.uk/sesro/statcon2025.

6.1.3 Each of our draft Overarching Design Principles includes a title, a summary headline and a description of the principle and its purpose. Our draft Overarching Design Principles apply to all development within the draft Order limits of the Project, unless explicitly stated otherwise. The 19 draft Overarching Design Principles are set out in Table 1 to Table 6.

6.1 Safe and well

6.1.1 Safety is at the heart of everything Thames Water does. These principles set out how we want the Project to be designed, delivered, operated and used to ensure people are kept safe.

Table 1 - Safe and well Overarching Design Principles

Ref.	Principle
SW1	**Put Safety First**: Prioritise safety in all construction and operational activities to protect workers, the public, and the environment.
SW2	**Safe Reservoir Operation**: Prioritise safety of reservoir infrastructure throughout its lifecycle — from design and construction to commissioning and operation.
SW3	**Maintain Reservoir Water Quality**: Design the reservoir to consistently maintain water quality during operation, ensuring it supports safe and sustainable drinking water supplies and protects the integrity of the catchment.
SW4	**Manage Flood Risk**: Prioritise no increased risk of fluvial, surface and groundwater flooding for the local area as a result of the Project while delivering ecological and community benefits.

6.2 Climate

6.2.1 The UK's climate is changing, bringing more frequent and severe droughts, hotter summers, wetter winters and more intense storms. These changes are driven by rising levels of carbon in the atmosphere and they are already affecting how we live. The projected impact of climate change in our region will add to a difficult situation where water resources are already stressed, and the population is increasing. We believe reducing our greenhouse gas (GHG) emissions and designing the project to be resilient to climate change is essential.

6.2.2 In delivering the Project, we want to ensure that we protect water resources, deliver a resilient project which is adaptable to climate change, support Thames Water's carbon commitments, use resources efficiently and minimise waste, and enhance the environment.

Table 2 - Climate Overarching Design Principles

Ref.	Principle
C1	**Manage Carbon**: Actively seek to avoid and minimise so far as practicable whole-life carbon emissions at every stage of the project and support Thames Water's net zero ambitions.
C2	**Optimise Resource Efficiency**: Optimise design to prioritise resource efficiency and seek opportunities to minimise waste across the entire project lifecycle.
C3	**Embed Climate Resilience**: Consider the comfort and safety of visitors during extreme weather events or long-term climate shifts and design all aspects of the project to be resilient to future changes in the climate.
C4	**Prioritise Nature-Based Solutions**: Favour nature-based interventions where feasible, that provide essential services and functions across the Project to reduce the need for traditional infrastructure. This could involve using natural processes, ecosystems or green infrastructure to address challenges traditionally solved with built or "grey" infrastructure.

6.3 People

6.3.1 Our ambition is that the Project will not only provide long term water security for the South-East, but it will also leave a lasting positive legacy for the communities in the area. We want to minimise the impact on people living nearby, provide benefits to the local and regional economy and design the reservoir to be an accessible and inclusive space for everyone to use for recreation and relaxation.

Table 3 - People Overarching Design Principles

Ref.	Principle
P1	**Seek Socio-Economic Opportunities**: Develop a project that actively engages local communities and organisations, fostering local inclusive economic growth, employment, education, training, and skills development throughout the entire project lifecycle.
P2	**Create Safe, Accessible and Inclusive Spaces**: Develop an inclusive, accessible and multifunctional recreational spaces for both local residents and visitors, offering opportunities for nature and recreation, contributing to an improved quality of life.
P3	**Connect Communities**: Design connected active travel and recreational routes and enable easy access to public transport as part of the long-term legacy.
P4	**Implement Considerate Construction and Operation**: Ensure construction and operational activities are considerate of the surrounding environment and communities.

6.4 Place

6.4.1 We want to design the reservoir to blend sensitively into the landscape, mindful of its rural context, proximity to local villages and the North Wessex Downs National Landscape. We want to create valuable new habitats for nature, and when buildings are required, construct them so that they enhance the landscape. Our vision is to create a high-quality space for nature and recreation, creating a lasting legacy for communities and the environment.

Table 4 - Place Overarching Design Principles

Ref.	Principle
PL1	**Integrate Local Landscape**: Design the project to be well integrated and sympathetic to the local landscape character, connecting buildings with a common architectural style, and incorporating planting to create a cohesive, functional, and visually appealing environment.
PL2	**Deliver Environmental Gains**: Develop a design that achieves environmental net gain, that leaves the natural environment in a better state than before the Project began.
PL3	**Prioritise Nature**: Create a blend of habitats that support the movement and conservation of species, fostering biodiversity and ecological resilience.
PL4	**Celebrate the Historic Environment**: Develop a design that promotes the interpretation and education of the local culture, art, history, and heritage assets, creating a sense of place and identity.

6.5 Value

6.5.1 Promoters of nationally significant infrastructure projects like ours are asked to look for opportunities to maximise the value of major infrastructure investment to wider society. This includes looking for opportunities to work together with other major projects to reduce overall impact and deliver a project that has lasting positive benefit to communities and the environment.

Table 5 - Value Overarching Design Principles

Ref.	Principle
V1	**Leverage Positive Outcomes**: Ensure the Project delivers multiple benefits, consider and where practicable meet stakeholder needs, and leverages the potential of the immediate area.
V2	**Be Collaborative**: Seek out partnerships and opportunities to integrate with other projects that are being developed in the local area and wider region.
V3	**Support Transparent Engagement**: Use digital tools to improve communication and collaboration with stakeholders throughout the development of the Project design, as well as drive efficiency in Project development and delivery.

7 Draft Project-wide Design Principles

7.1.1 The Project-wide Design Principles have been mapped against the draft Overarching Design Principles, structured under the ACWG themes. These principles, outlined in Tables 6 to Table 24, are applicable across all areas of the Project unless explicitly stated otherwise.

7.1.2 The Project-wide Design Principles respond to the site characteristics and its context to underpin the design of the Project to ensure its integration into its surrounding, informed by the Project's Vision. They provide high-level criteria and guidance.

7.1.3 Some of the Project-wide Design Principles reflect existing legal obligations — such as those relating to health and safety, water quality, and flood risk. We recognise that these issues are of particular importance to the public and local communities. By including them, we aim to demonstrate our commitment to meeting all relevant statutory requirements, and to provide clear and visible reassurance that these matters are being actively considered and addressed as part of the Project's design.

7.1.4 It is recognised that there are overlaps between some of the Project-wide Design Principles, particularly in relation to Carbon, Climate Resilience, Nature, Landscape, and People. Where such overlaps occur, each principle has been assigned to the most relevant primary Overarching Design Principle to maintain clarity and coherence in its application. This approach avoids duplication and ensures that each principle is applied in its most appropriate context. As a result, some Overarching Design Principles may have fewer associated Project-wide Design Principles.

7.1 Safe and well

7.1.1 There are three Project-wide Design Principles under the draft Overarching Design Principle SW1 - "Put Safety First: Prioritise safety in all construction and operational activities to protect workers, the public, and the environment." These are presented in Table 6.

Table 6 - Put Safety First project-wide Design Principles

Ref.	Principle
SW1-1	**Embedded Safety**: Safety will be embedded into every stage of the design process. The design of the Project will prioritise safety through a combination of engineering measures, environmental considerations and regulatory standards. Safety should not be treated as a standalone feature but as a core value influencing every design decision - from concept to construction and long-term operation.
SW1-2	**Safeguard the public**: The design will segregate operational areas from recreational areas open to the public to ensure safety and security, while recognising the need for both private and public spaces.
SW1-3	**Protect workers**: Robust health and safety protocols will be established alongside comprehensive training which will be given to all construction workers to equip all personnel with the knowledge and skills to work safely and respond effectively to risks.

7.1.2 There are two Project-wide Design Principles under the draft Overarching Design Principle SW2 - "Safe Reservoir Operation: Prioritise safety of reservoir infrastructure throughout its lifecycle — from design and construction to commissioning and operation." These are presented in Table 7.

Table 7 - Safe Reservoir Operation project-wide Design Principle

Ref.	Principle
SW2-1	**Embedded Reservoir Safety**: The safety of the reservoir will be embedded into the design, guided by best practice in UK and international dam engineering. This includes adherence to established standards for dam design, construction, and maintenance, ensuring long-term structural integrity, operational safety, and risk mitigation.
SW2-2	**Operational Safety and Compliance**: Reservoir safety during operation will be maintained through routine surveillance, instrumentation, and periodic inspections by Qualified Civil Engineers (Reservoir Engineers), in accordance with a Reservoir Safety Management Plan (RSMP). This will set out what surveillance, monitoring, and maintenance is required and how it will be operated. A structured maintenance schedule will be followed, and all activities will comply with relevant standards and legislation. Robust contingency plans will be in place to respond effectively to unexpected issues.

7.1.3 There are four Project-wide Design Principles under the draft Overarching Design Principle SW3 - "Maintain Reservoir Water Quality: Design the reservoir to consistently maintain water quality during operation, ensuring it supports safe and sustainable drinking water supplies and protects the integrity of the catchment." These are presented in Table 8.

Table 8 - Maintain Reservoir Water Quality project-wide Design Principles

Ref.	Principle
SW3-1	**Operational Controls**: Operational controls will be embedded in the reservoir's inlet structure design to ensure water quality in the reservoir is maintained and managed effectively. Abstraction, including the volume and timing of water drawn from the River Thames, will be managed at the inlet structure on the bank of the River Thames to ensure water quality and flow conditions are maintained effectively. Outgoing flows will also be carefully managed at the outfall structure to meet conditions for flow and water quality agreed with the regulator.
SW3-2	**Water Quality Monitoring**: Implement monitoring systems at the inlet structure to detect and respond to changes in water quality in the River Thames. This will be accompanied by routine sampling. For example, abstraction from the River Thames will be controlled when water quality does not meet the desired standards, as informed by monitoring at the abstraction point in the River Thames.
SW3-3	**Water Quality Controls**: Strategically design an air mixing system in the reservoir to destratify the water, enhance oxygen levels and support ecological balance within the reservoir.
SW3-4	**Pollution Prevention**: Activities and land use around the reservoir will be managed to seek to minimise the risk of pollutants entering the water.

7.1.4 There are five Project-wide Design Principles under the draft Overarching Design Principle SW4 - “Manage Flood Risk: Prioritise no increased risk of fluvial, surface and groundwater flooding for the local area as a result of the Project while delivering ecological and community benefits.” These are presented in Table 9.

Table 9 - Manage Flood Risk project-wide Design Principles

Ref.	Principle
SW4-1	Flood Risk: The Project will be informed by integrated flood risk assessments and will align with Environment Agency guidance and national flood risk policy to ensure robust protection for local communities. Where appropriate, opportunities to reduce flood risk to communities in the surrounding area will be considered, to deliver wider benefits.
SW4-2	New watercourse diversions: New watercourse diversions will be designed to reflect the natural meandering pattern of local watercourses. The channel design will seek to support increased biodiversity and hydrological balance. Ecological richness will be established through the incorporation of still water and wetland habitats. The design will include waterside woodland, tree belts, and riparian vegetation to provide shade, improve water quality, and support wildlife corridors. The new watercourses will contribute positively to the local landscape character and offer opportunities for education and recreation.
SW4-3	Manage Groundwater: Monitor and manage groundwater levels throughout the project lifecycle by embedding a groundwater drainage system within the design.
SW4-4	Incorporate Sustainable Drainage Systems (SuDS): Drainage systems should respond to local soil permeability and groundwater conditions, with solutions such as swales, infiltration basins, filter strips, and detention ponds. To reduce surface runoff, hardstanding areas should be avoided where practicable, and permeable paving, green infrastructure, and vegetated surfaces should be used to promote infiltration. Where impermeable surfaces are necessary, runoff will be managed through SuDS where feasible and appropriate.
SW4-5	Monitor and Maintain Drainage Infrastructure: Establish a long-term maintenance plan with clearly defined ownership for all drainage and flood mitigation features, to include inspection regimes that enable continued performance and early issue detection of blockages and unintended flow paths.

7.2 Climate

7.2.1 There are eight Project-wide Design Principles under the draft Overarching Design Principle C1 - “Manage Carbon: Actively seek to avoid and minimise so far as practicable whole-life carbon emissions at every stage of the project and support Thames Waters net zero ambitions.” These are presented in Table 10.

Table 10 - Manage Carbon project-wide Design Principles

Ref.	Principle
C1-1	**Minimise Embodied Carbon**: Seek opportunities to minimise embodied carbon following the carbon management hierarchy such as investing in low carbon materials/solutions or optimising design to reduce material quantities without compromising safety or performance, where feasible.
C1-2	**Low-Carbon Construction**: Seek to minimise carbon emissions during Project delivery by optimising the construction sequence, and transport logistics and careful plant selection and material processing. Where feasible, low-emission vehicles will be used and low-carbon transport methods—such as freight rail for material delivery - will be prioritised to reduce reliance on road haulage and lower overall emissions.
C1-3	**Efficient Earthworks Design**: Design reservoir earthworks to enable efficient earthworks management and optimal compaction, reducing energy use during construction. A balanced cut-and-fill strategy will be employed to minimise import and export of material and maximise resource efficiency where possible.
C1-4	**Sustainable Soil Management and Carbon Sequestration**: Topsoil disturbance, handling, and stockpiling will be minimised to preserve soil health and structure where possible. The design will seek to maximise opportunities for end re-use of soil on-site or off-site and prioritise practices that enhance soil carbon sequestration.
C1-5	**Operational Energy Efficiency**: Seek to minimise operational carbon by optimising energy efficiency across all systems and processes. Buildings and facilities will be designed to be energy efficient.
C1-6	**Dual Purpose Infrastructure** – Infrastructure should be multi-functional, where practicable, delivering added value beyond its primary purpose.
C1-7	**Support Renewable Energy**: Seek to maximise the amount of renewable energy to be generated by the Project through consideration of floating solar, solar generation on structures, ground-mounted solar and hydropower. Power ancillary plant and equipment (cranes, conveyor belts etc) using renewable technologies wherever feasible. Construction compounds should also consider the use of renewable and/or low carbon energy sources to reduce emissions and support sustainable site operations where possible.
C1-8	**Enabling Climate-Conscious Use**: Actively explore and implement opportunities to help customers and the wider public in reducing their climate impacts during the operation and use of the reservoir. This will include practical measures such as the provision of electric vehicle charging infrastructure at the visitor centre and main car parks.

7.2.2 There are three Project-wide Design Principles under the draft Overarching Design Principle C2 - “Optimise Resource Efficiency: Optimise design to prioritise resource efficiency and seek opportunities to minimise waste across the entire project lifecycle.” These are presented in Table 11.

Table 11 - Optimise Resource Efficiency project-wide Design Principles

Ref.	Principle
C2-1	**Reuse of Materials**: Adopt a circular economy approach to promote the continual use of resources and minimise waste. Wherever feasible, excavated and reclaimed materials will be reused on site for embankment construction, landscaping and habitat creation and other beneficial purposes.
C2-2	**Reduce Resources Use and Minimise Waste**: Seek to minimise the use of materials, water, and energy through efficient design and construction practices. Particular consideration given to high-carbon footprint materials such as concrete and steel. This includes prioritising low-impact materials and construction methods, designing for resource efficiency across the asset lifecycle, and reducing waste generation through application of the waste hierarchy. Specify sustainable, local and responsibly sourced materials where reasonably practicable and consider repurposing and re-use of temporary works.
C2-3	**Design for Longevity and Adaptability**: Infrastructure and buildings should be durable, flexible, and future proof. They should be easy to maintain and adaptable to future upgrades, enabling integration with other water supply projects, both directly and indirectly. This approach ensures long-term value, operational resilience, and the ability to respond to evolving needs and technologies.

7.2.3 There are three Project-wide Design Principles under the draft Overarching Design Principle C3 - "Embed Climate Resilience: Consider the comfort and safety of visitors during extreme weather events or long-term climate shifts and design all aspects of the project to be resilient to future changes in the climate." These are presented in Table 12.

Table 12 - Embed Climate Resilience project-wide Design Principles

Ref.	Principle
C3-1	**Climate Adaptation Measures**: Identify and manage climate change risks, incorporating adaptation measures to reduce the negative impacts of climate change - such as flooding, heatwaves, drought and other extreme weather events - informed by long-term projections of future climatic conditions, such as UK Climate Projections 2018 (UKCP18).
C3-2	**Climate-Resilient Spaces**: The Project will take into account projected climate in the design of public realm and recreational areas to improve the resilience of the assets and protection of their users to the impacts of climate change. This could be in the form of shelter from extreme weather including heatwaves (such as shaded refuges and access to free water) and flooding (for example permeable surfaces, and adaptive landscaping). A way of communicating real-time updates to inform visitors of weather warnings and any associated closures of part or all of the site will be considered. This will help ensure the long-term usability, safety, and comfort of users in the face of climate change.
C3-3	**Natural Landscape Resilience**: The landscape will be designed where practicable to adapt, survive, and thrive under current and future climatic conditions. Planting schemes will support species that are tolerant of heat and drought, capable of thriving in changing climates, and resilient to environmental shocks. This approach will support long-term ecological health and enhance the Project's ability to withstand and recover from stressors.

There are three Project-wide Design Principles under the draft Overarching Design Principle C4 - "Favour nature-based interventions where feasible, that provide essential services and functions across the Project to reduce the need for traditional infrastructure. This could involve using natural processes, ecosystems or green infrastructure to address challenges traditionally solved with built or "grey" infrastructure." These are presented in Table 13.

Table 13 - Prioritise Nature-Based Interventions project-wide Design Principles

Ref.	Principle
C4-1	Ecosystem Services Integration: Design solutions that harness natural processes - such as water filtration through wetlands, flood management via green infrastructure, and carbon sequestration through vegetation and soil health.
C4-2	Community and Environmental Value: Design public spaces, landscaping and environmental features to deliver long-term benefits for people and the natural environment.
C4-3	Nature-Based Solutions for Improved Environmental Outcomes: Reduce construction and operational impacts by replacing or complementing traditional engineered systems with nature-based alternatives where practicable.

7.3 People

7.3.1 There are four Project-wide Design Principles under the draft Overarching Design Principle P1 - "Seek Socio-Economic Opportunities: Develop a project that actively engages local communities and organisations, fostering local inclusive economic growth, employment, education, training, and skills development throughout the entire project lifecycle". These are presented in Table 14.

Table 14 - Seek Socio-Economic Opportunities project-wide Design Principles

Ref.	Principle
P1-1	Education: Provide educational spaces and materials that help visitors to gain valuable experience and learn new skills including through the proposed nature education centre, self-guided trails and educational signage.
P1-2	Work with local communities: Create social and economic opportunities and drive value by working together with local stakeholder groups to deliver initiatives with communities. Focus on initiatives which have the capacity to generate real value through delivery of common purpose and multidisciplinary outcomes. Realise, understand and make decisions on such opportunities from the perspective that 'value' must aim to reflect wants and needs of local communities.
P1-3	Local Employment: Seek to create jobs and opportunities for training and skills development for local people across the construction and operational phases, offering a range of roles and fair, inclusive employment.
P1-4	Support local businesses: Seek to support small, diverse and local companies to become part of the project's supply chain. Plan to do this through hosting workshops, making opportunities visible and accessible and providing support for local businesses.

7.3.2 There are four Project-wide Design Principles under the draft Overarching Design Principle P2 - “Create Safe, Accessible and Inclusive Spaces: Develop an inclusive, accessible, and multifunctional recreational spaces for both local residents and visitors, offering opportunities for nature and recreation, contributing to an improved quality of life” These are presented in Table 15.

Table 15 - Create Safe, Accessible and Inclusive Spaces project-wide Design Principles

Ref.	Principle
P2-1	**Recreational Spaces for All Visitors**: The Project will provide new green spaces including woodlands, scrub, grassland and seasonal wetlands where people can connect with nature, be active, and enjoy time outdoors. The project will have seating and gathering areas along new recreational routes within short walking distance of the visitor centre.
P2-2	**Inclusive Facilities**: Design the site and appropriate facilities for all ages and abilities and provide educational opportunities as part of the Project. Seek to provide amenities for children (e.g. play areas) and adults (e.g. seating, shaded rest areas and areas for use by local organisations and businesses).
P2-3	**Design for Wellbeing**: Deliver health benefits to local residents and visitors by embedding wellbeing as a core consideration throughout the design process. This could include the creation of quiet zones for reflection and mental respite, shaded rest areas to offer comfort and protection from the elements and social hubs that foster informal gatherings and community interaction.
P2-4	**Equitable Access**: Design the public realm and recreational areas to enable inclusive access to green and blue spaces, where safe and practicable and ensure public areas of the site are accessible for all in operation.

7.3.3 There are four Project-wide Design Principles under the draft Overarching Design Principle P3 - “Connect Communities: Design connected active travel and recreational routes and enable easy access to public transport as part of the long-term legacy” These are presented in Table 16.

Table 16 - Connect Communities project-wide Design Principles

Ref.	Principle
P3-1	**Active Travel Connectivity**: Create safe, accessible new pathways that connect residential areas, recreational spaces, and key destinations for users and, where possible preserve and improve existing public rights of way. New or replaced pathways will be design for inclusivity where practicable. Pathways should be clearly marked, use gentle gradients, accessible surfaces, and rest points where appropriate to ensure visitor safety, comfort, and enjoyment. Pathways will be designed as unbound and permeable surfaces where possible.
P3-2	**Seamless Public Transport Integration**: Design links to public transport hubs, such as bus stops and train stations where feasible, to reduce car dependency and promote sustainable travel.
P3-3	**Recreational Route Mapping**: Develop intuitive wayfinding systems and colour-coded mapping to encourage exploration and help people confidently navigate the recreational routes around the reservoir.

Ref.	Principle
P3-4	Safe Public Access: Facilitate safe, inclusive, and convenient access to active travel and recreational routes. Infrastructure will prioritise the safety of pedestrians, cyclists, and other non-motorised users through the provision of safe crossings and separation from vehicular traffic where feasible. Where it is safe and practical, active travel routes would remain open during construction.

7.3.4 There are four Project-wide Design Principles under the draft Overarching Design Principle P4 - "Implement Considerate Construction and Operation: Ensure construction and operational activities are considerate of the surrounding environment and communities." These are presented in Table 17.

Table 17 - Implement Considerate Construction and Operation project-wide Design Principles

Ref.	Principle
P4-1	Community Consideration: Engage widely and meaningfully with nearby residents and interested stakeholders with the aim of creating a Project that local people feel proud of, to develop our understanding of what is important to the local population and organisations. Integrate feedback into the design and operation of the Project to involve local voices and ensure regular, open communication to reflect community needs, values and aspirations. Ensure early and regular engagement, providing clear updates and accessible channels for feedback.
P4-2	Minimising Construction-Phase Disruption: Disruption to local communities, environments, and infrastructure will be minimised as far as practicable through careful planning, proactive communication, and responsible site management, as detailed in the draft CoCP. Standard good practice measures will be taken to reduce noise, dust, and traffic impacts, while protecting local habitats and preserving the character of the surrounding landscape.
P4-3	Fostering Long-Term Community Involvement: The project will foster a long-term sense of ownership among neighbouring communities to maintain positive relationships and safeguard environmental quality. This will be achieved through inclusive engagement, transparent communication, and opportunities for community involvement in the care and stewardship of public spaces. Building trust and shared responsibility will help ensure the project delivers lasting social and environmental value.
P4-4	Operational Responsibility: Adopt considerate practices during operation of the site, including maintenance and site management. A system to monitor and respond to community concerns throughout the operational phase should be implemented.

7.4 Place

7.4.1 There are five Project-wide Design Principles under the draft Overarching Design Principle PL1 - "Integrate Local Landscape: Design the project to be well integrated and sympathetic to the local landscape character, connecting buildings with a common architectural style, and incorporating planting to create a cohesive, functional, and visually appealing environment." These are presented in Table 18.

Table 18 - Integrate Local Landscape project-wide Design Principles

Ref.	Principle
PL1-1	Sensitive Landscape Integration: Sensitively integrate the Project into the landscape considering its impact on the character of the low lying Vale, floodplain and limestone ridge, and taking into account the sensitive setting of the North Wessex Downs National Landscape. Design and placement of earthworks, buildings, structures, and infrastructure to harmonise with the natural topography, landform, and visual qualities of the area, considering how their height, form and appearance will affect the panoramic and open views from the Downs Plain and Scarp. Materials, scale, and form should reflect local vernacular and landscape character, seeking to minimise visual intrusion where practicable to help to reinforce a sense of place. Where reasonably practicable, planting (including blocks of woodland and hedgerows), other habitats, and/or landform will be located and designed to reduce visual impacts of new infrastructure (including the reservoir embankments and towers, buildings, roads, other above ground structures and the potential ground mounted solar), reducing their visual prominence by controlling, limiting, softening and filtering views toward them.
PL1-2	Community Sensitivity: Develop a landscape design that considers the relationship between the site and all surrounding local communities, ensuring the project is visually and socially sensitive to its context, as far as reasonably practicable.
PL1-3	Visual Connection to Landscape and Nature: Consider views from the recreational facilities to create a connection with the landscape, wildlife and habitats within the surroundings. The design should be contextually sensitive, allowing visual connection to the natural surroundings.
PL1-4	Views and Vantage Points: Seek to conserve existing views where reasonably practicable and design new views and vantage points from the Project towards the scarp of the North Wessex Downs National Landscape to the south and towards the limestone ridge to the north. New views should be carefully curated through the strategic placement of paths, seating, and elevation changes, with planting schemes deliberately designed to frame key sightlines.
PL1-5	Protect Tranquillity and Dark Night Skies: Carefully manage lighting, noise, and traffic movement to protect the tranquillity and dark night skies of the North Wessex Downs, as well as the wider setting of the North Wessex Downs National Landscape as far as reasonably practicable.

7.4.2 There are three Project-wide Design Principles under the draft Overarching Design Principle PL2 - “Deliver Environmental Gains: Develop a design that achieves environmental net gain, that leaves the natural environment in a better state than before the Project began.” These are presented in Table 19.

Table 19 - Deliver Environmental Gains project-wide Design Principles

Ref.	Principle
PL2-1	**Biodiversity Net Gain** - Achieve a 10% minimum net gain, with potential for higher gains through habitat creation and enhancement.
PL2-2	**Value Natural Capital** - Recognise and understand nature as a set of assets - collectively known as natural capital - that provide essential benefits to people and society, to support better decision-making and give the best public value.
PL2-3	**On-Site Ecosystem Services** – Enhance on-site ecosystem services to contribute meaningfully to delivering Environmental Net Gain through establishing diverse habitats, aligning ecological enhancements with recreational, educational, and landscape objectives to secure public and environmental value.

7.4.3 There are seven Project-wide Design Principles under the draft Overarching Design Principle PL3 - "Prioritise Nature: Create a blend of habitats that support the movement and conservation of species, fostering biodiversity and ecological resilience" These are presented in Table 20.

Table 20 - Prioritise Nature project-wide Design Principles

Ref.	Principle
PL3-1	**Habitat Connectivity**: Develop new habitats that maintain and enhance ecological connectivity across the Project site, where reasonably practicable, to reduce habitat fragmentation and support the movement of species and increase ecosystem resilience. The design should seek to include corridors and linkages that allow species to move freely across the landscape.
PL3-2	**Balance Access to Nature**: The Project will seek to balance access to nature for people with the protection of sensitive habitats, ensuring that wildlife can thrive with minimal disturbance. A zoned design will seek to create designated areas for recreation and quiet, non-disturbed habitats for wildlife, with clear signage about the importance of habitat protection. Trails and viewing areas will allow people to experience nature without intruding on critical habitats or species.
PL3-3	**Support Local Nature Recovery**: Deliver Project Priority Areas of Biodiversity which align with the Local Nature Recovery Strategy (LNRS) to tie into priority locations for new and improved habitats of particular importance to biodiversity and in consideration with the species priorities list and priority habitats.
PL3-4	**Species Mitigation**: Implement species relocation strategies for protected and priority species that are ecologically sensitive, legally compliant, and aligned with good practice guidance. Relocation efforts should be supported by habitat creation or enhancement at receptor sites that are ecologically suitable, connected to wider habitat networks, and monitored to ensure long-term viability of relocated populations.
PL3-5	**Diverse Ecosystems**: Incorporate a variety of habitats - such as ponds, seasonal wetlands, woodlands, grasslands, and aquatic environments - to support a wide range of flora and fauna. This should enhance ecological resilience by providing varied niches and resources for different species.

Ref.	Principle
PL3-6	**Aquatic Habitat Enhancement**: Explore opportunities to integrate aquatic habitat enhancements in and around the reservoir, balancing engineering constraints with ecological benefits.
PL3-7	**Long-Term Stewardship**: Ensure habitats are maintained and monitored to support ongoing ecological health and public value.

7.4.4 There are four Project-wide Design Principles under the draft Overarching Design Principle PL4 - "Celebrate the Historic Environment: Develop a design that promotes the interpretation and education of the local culture, art, history, and heritage assets, creating a sense of place and identity." These are presented in Table 21.

Table 21 - Celebrate the Historic Environment project-wide Design Principles

Ref.	Principle
PL4-1	**Preservation of Heritage Assets**: Ensure the identification, protection, and meaningful integration of archaeological assets, built heritage features, and historic landscape elements within the project design. Where practical, archaeological discoveries made during construction will be showcased through education programs and exhibitions at the visitor centre.
PL4-2	**Historical Context**: The design of the Project should reflect historical context, using materials, forms, and layouts inspired by local architectural and cultural heritage.
PL4-3	**Interpretation and Awareness**: Provide interpretive materials such as boards and signage, that raise awareness of the heritage of the area and educate visitors about the significance of the North Wessex Downs National Landscape. Interpretation should be sensitively designed to complement the landscape and communicate the area's natural, cultural, and historical value. These materials should enhance visitor understanding and appreciation while preserving the tranquillity and visual quality of the setting.
PL4-4	**Integration of Local Art**: Seek to incorporate public art into the Project to celebrate and enhance the local, natural, and cultural history of the area. This could include integrating artistic elements into functional features such as benches, cycle racks, bins, paving, and walls. Collaborations with local artists and communities should be encouraged to ensure authenticity and help to foster a sense of place, identity, and pride.

7.5 Value

7.5.1 There are three Project-wide Design Principles under the draft Overarching Design Principle V1 - "Leverage Positive Outcomes: Ensure the Project delivers multiple benefits, consider and where practicable meet stakeholder needs, and leverages the potential of the area." These are presented in Table 22.

Table 22 - Leverage Positive Outcomes project-wide Design Principles

Ref.	Principle
V1-1	**Deliver Multi-Benefit Outcomes**: Seek to facilitate or deliver multi-sector or non-public water supply benefits. Create opportunities to deliver multiple benefits from the Project by actively engaging with stakeholders.
V1-2	**Collaborative Innovation**: Encourage cross-sector partnerships and multi-disciplinary input to unlock creative solutions. Use the supply chain's expertise to identify synergies and efficiencies.
V1-3	**Stakeholder-Centric Approach**: Engage with local communities and interest groups to understand and respond to their priorities wherever feasible.

7.5.2 There are four Project-wide Design Principles under the draft Overarching Design Principle V2 - "Be Collaborative: Seek out partnerships and opportunities to integrate with other projects that are being developed in the local area and wider region." These are presented in Table 23.

Table 23 - Be Collaborative project-wide Design Principles

Ref.	Principle
V2-1	**Proactively Identify Synergies**: Seek out synergies and opportunities to integrate with other infrastructure projects that have links to this Project that are being developed in the local area and wider region. Look for opportunities to share infrastructure, resources, or data to reduce duplication and enhance value. Identify dependencies and synergies between SESRO and other water resource and SRO schemes. Share data and insights to support evidence-based decision-making across projects. Wherever practicable to do so, look to synchronise construction schedules and logistics to endeavour to minimise disruption and maximise efficiency.
V2-2	**Engage Early with Potential Partners**: Initiate dialogue with local authorities, developers, utilities (water, gas, electricity and telecom), and community groups (such as walking, cycling and horse-riding groups) to seek to enhance the potential benefits of the Project, where feasible.
V2-3	**Maximise Shared Benefits**: Seek opportunities to co-deliver environmental, social, and economic outcomes. Seek to align with regional strategies such as transport, biodiversity, or climate resilience plans.
V2-4	**Design for Interoperability**: Seek to design infrastructure and systems with a view to being compatible with adjacent or future developments. Use standardised interfaces and flexible design approaches to support integration where practicable.

7.5.3 There are four Project-wide Design Principles under the draft Overarching Design Principle V3 - "Support Transparent Engagement: Use digital tools to improve communication and collaboration with stakeholders throughout the development of the Project design, as well as drive efficiency in Project development and delivery." These are presented in Table 24.

Table 24 - Support Transparent Engagement project-wide Design Principles

Ref.	Principle
V3-1	**Enhance Stakeholder Engagement**: Use digital platforms to share visualisations, simulations, and design updates with stakeholders, and maintain transparent communication channels throughout the project lifecycle.
V3-2	**Ensure Digital Inclusivity**: Make digital engagement tools accessible to all stakeholders, including those with limited digital literacy or connectivity. Provide alternative formats and support to ensure inclusive participation.
V3-3	**Improve Collaboration Across Teams**: Adopt cloud-based collaboration tools to enable access to project data and documents as appropriate. This could include as-built records for utility companies upon completion.
V3-4	**Drive Design and Delivery Efficiency**: Leverage Building Information Modelling (BIM) and other digital design tools to enhance efficiency throughout design and delivery. This includes optimising layouts for functionality and resource use, detecting clashes early to prevent costly rework, understanding constraints and impacts to inform design decisions, enabling evidence-based decision-making through accurate, real-time data.

8 Next steps:

8.1 Project-Element Design Principles

8.1.1 The Overarching Design Principles and Project-wide Design Principles will be used to guide the development of the Project-element Design Principles. All the Design Principles will form the commitments against which the final design will be developed.

8.1.2 The Project design will continue to evolve informed by the environmental impact assessment, through technical developments and in response to feedback received during the Statutory Consultation. As part of this process, we will develop a set of Project-element Design Principles. These principles will provide more detailed guidance on the various assets that will form the Project.

8.2 Design Principles document

8.2.1 The DCO application will include a Design Principles document that will be secured as a requirement of the DCO. The Design Principles document will incorporate all the Design Principles that will be adhered to in the final design of the Project. Any subsequent design development and detailed plans must be developed with due regard to the Design Principles and delivered by our appointed contractor.

8.2.2 We anticipate that the final set of Design Principles will serve a number of functions:

- They will embody the approach taken by the Project to incorporate into its design controls relevant criteria for good design set out in the following documents:
    i. National Infrastructure Commission (NIC) - Project Level Design Principles – Guidance from the National Infrastructure Commission Design Group was published in May 2024.
    ii. HM Treasury – UK Infrastructure: A 10 Year Strategy (June 2025).
    iii. Department for Environment, Food and Rural Affairs (Defra) – National Policy Statement (NPS) for Water Resources Infrastructure (July 2025)
    iv. All Company Working Group (ACWG) – Water Resources: Design Principles & User Guidance (March 2023).
    v. Guidance from the Ministry of Housing, Communities and Local Government - Planning Act 2008: Pre-application stage for Nationally Significant Infrastructure Projects (April 2024).
    vi. Planning Inspectorate – National Significant Infrastructure Projects: Advice on Good Design (October 2024)
    vii. Natural England is in the process of developing guidance on preparing design principles specifically for new reservoirs which we have taken into account through early engagement. The document will be referenced when formally published.
- They will reflect the feedback we have received and considered during engagement and consultation throughout the design development phase.
- They will demonstrate how sustainability objectives will be implemented in Project design.

9 Have your say

9.1.1 Our Project Vision, draft Overarching and draft Project-wide Design Principles have been published in this document for the purposes of the SESRO statutory consultation. You can find out more about our consultation by visiting the dedicated website at www.thames-sro.co.uk/sesro/statcon2025.

9.1.2 We are asking for your feedback on our draft Overarching and Project-wide Design Principles, which you can provide in one of the following ways:

- Fill in the online Feedback Form, which you can find at the consultation website at www.thames-sro.co.uk/sesro/statcon2025
- Email our dedicated consultation response email address at SESRO@ipsos.com
- Fill in one of our printed Feedback Forms, which are available from one of our eight public information events, from locations within the community, or by requesting that one is posted to you by the Project team. Completed printed Feedback Forms may be posted free of charge to FREEPOST SESRO CONSULTATION. Pre-printed envelopes with the Freepost address are available where there are printed Feedback Forms. No stamp is needed.
- Write to us free of charge at FREEPOST SESRO CONSULTATION

9.1.3 All responses must be received in writing by 11.59pm on 13th January 2025. Responses received after that date may not be considered. We cannot guarantee acceptance of consultation responses submitted via other channels.

9.1.4 Any personal information submitted to us during statutory consultation will be processed in line with our privacy policy, which can be viewed at www.thameswater.co.uk/legal/privacy-notice.

It's everyone's water