Department
for Environment,
Food & Rural Affairs

National Policy Statement for water resources infrastructure

July 2025

Department
for Environment,
Food & Rural Affairs

National Policy Statement for water resources infrastructure

July 2025

Presented to Parliament pursuant to section 6(9)(b) of the Planning Act 2008.

We are responsible for improving and protecting the environment. We aim to grow a green economy and sustain thriving rural communities. We also support our world-leading food, farming and fishing industries.

Defra is a ministerial department, supported by 34 agencies and public bodies.

This publication is available at www.gov.uk/official-documents.

Any enquiries regarding this publication should be sent to us at defra.helpline@defra.gov.uk

ISBN 978-1-5286-5905-5

E03405510 07/25

Printed on paper containing 40% recycled fibre content minimum

Printed in the UK by HH Associates Ltd. on behalf of the Controller of His Majesty's Stationery Office

Contents

1. Introduction

1.1. Background and scope of this National Policy Statement

Purpose of this National Policy Statement

1.1.1. The National Policy Statement for water resources infrastructure sets out the need and government's policies for, development of nationally significant infrastructure projects for water resources in England. It is hereafter referred to as the 'National Policy Statement'. The National Policy Statement provides planning guidance for applicants of nationally significant infrastructure projects for water resources, as defined in the Planning Act 2008 ('the Planning Act').

1.1.2. The National Policy Statement will be used as the primary basis for examination by the Examining Authority[1]. It will also be used for making decisions by the Secretary of State in considering development consent applications for water resources infrastructure, that qualify as nationally significant infrastructure projects, as defined in sections 27, 28 and 28A of the Planning Act. This includes reservoirs, desalination plants and infrastructure designed to transfer water.

1.1.3. Where a development does not meet the current requirements for a nationally significant infrastructure project set out in the Planning Act, but the Secretary of State considers the project to be nationally significant, under section 35 of the Planning Act, the Secretary of State may direct that a water resources infrastructure development should be treated as a development for which development consent is required. This could apply to infrastructure types in the field of water that do not meet the definition of a nationally significant infrastructure project for water resources[2], provided the relevant requirements of section 35 are satisfied.

1.1.4. Where a water resources infrastructure development is treated as a development for which development consent is required through section 35 of the Planning Act, the National Policy Statement will apply, unless otherwise stated in the section 35

[1] The examination is undertaken by an Examining Authority appointed by the Secretary of State. For nationally significant infrastructure projects in England, the Examining Authority is the Planning Inspectorate. More information on the role of the Planning Inspectorate is available: https://infrastructure.planninginspectorate.gov.uk/

[2] For example, effluent re-use schemes as set out in section 2.6.

direction[3]. References in the National Policy Statement to nationally significant infrastructure projects will include projects of national significance designated under section 35.

1.1.5. The Secretary of State[4] must decide an application for an order granting development consent for water resources infrastructure in accordance with the National Policy Statement, unless to do so would:

- lead to the UK being in breach of its international obligations
- be unlawful
- lead to the Secretary of State being in breach of any duty imposed by or under any legislation
- result in adverse impacts of the development outweighing its benefits
- be contrary to legislation about how the decisions are to be taken

1.1.6. The National Policy Statement provides a clear framework for those making development consent applications for water resources infrastructure. In particular by setting out:

- the need for infrastructure (see section 2)
- providing assessment principles against which an application for development consent should be examined and determined (see section 3)
- more detailed guidance on the construction and operational impacts of the infrastructure types (see section 4)

1.1.7. The National Planning Policy Framework[5] and associated guidance is referenced in section 4. The National Planning Policy Framework clarifies its policy relationship to National Policy Statements.

1.1.8. In making decisions on such applications, the Secretary of State must also have regard to any local impact report submitted by a local authority[6], in accordance with the Planning Act. Regard must also be given to any matters prescribed that are relevant to the application, and any other matters which the Secretary of State considers are both important and relevant to any decision.

1.1.9. Other matters that the Examining Authority and the Secretary of State may consider both important and relevant to its decision-making may include development plan documents. In the event of a conflict between these or any other documents and a

[3] See sections 1.4.6. and 1.4.7.
[4] Pursuant to section 104 of the Planning Act.
[5] https://www.gov.uk/government/publications/national-planning-policy-framework--2
[6] Advice notes provide guidance to assist local planning authorities with the form and content, when preparing their Local Impact Report, where invited to do so under section 60 of the Planning Act. https://infrastructure.planninginspectorate.gov.uk/legislation-and-advice/advice-notes/

National Policy Statement, the National Policy Statement prevails for purposes of decision making given the national significance of the infrastructure.

1.1.10. In England, the National Policy Statement may also be a material consideration in making decisions on applications for water resources infrastructure development that fall within local authority planning regimes (for example under the Town and Country Planning Act 1990). Whether, and to what extent the National Policy Statement is a material consideration, will be judged on a case-by-case basis.

1.1.11. Where the National Policy Statement refers to other documents, including government policy, these documents may be updated or amended over the time span of the National Policy Statement[7]. Such references should be taken as references to successor documents.

1.1.12. The National Policy Statement is supported by the following documents:

- Appraisal of Sustainability – ensures that the National Policy Statement takes account of environmental, social and economic considerations, with the objective of contributing to the achievement of sustainable development. The Appraisal of Sustainability incorporates the requirements of the Environmental Assessment of Plans and Programmes Regulations 2004
- Habitats Regulations Assessment, required under the Conservation of Habitats and Species Regulations 2017 (the Habitats Regulations) – examines the potential effects of the National Policy Statement on habitats sites[8],

1.1.13. These documents are explained in more detail in sections 1.6 and 1.7.

1.2. Geographical coverage

1.2.1. This National Policy Statement provides the framework for decision making on development consent applications for the construction of new, or the expansion of existing, water resources infrastructure in England or in waters adjacent to England.

[7] Particularly, in relation to the general principles and generic decision-making policy included in sections 3 and 4.

[8] For the purpose of the National Policy Statement, except where indicated otherwise, 'habitats sites' means any site which would be included within the definition of a European Site or European Marine Sites under regulation 8 of the Conservation of Habitats and Species Regulations 2017 (as amended) for the purpose of those regulations, including candidate Special Areas of Conservation, Sites of Community Importance, Special Areas of Conservation, Special Protection Areas and any relevant Marine Sites.

1.2.2. In Scotland and Wales[9], planning consents for water resources infrastructure projects are devolved to the Scottish Government and the Welsh Government. Where an application for development consent is reliant on infrastructure being constructed in Scotland and Wales, the applicant should identify at the earliest stage all relevant consents or planning permissions required. The timing of decisions on these consents or planning permissions (that are not included in the application) may have an important impact on the examination of the application and should be considered carefully by the applicant. See sections 3 and 4 for more information on the consideration of cross border impacts and assessment criteria.

1.2.3. The National Policy Statement applies in England only. However, the Appraisal of Sustainability and Habitats Regulations Assessment that informed the National Policy Statement, consider the potential socio-economic and environmental impacts of nationally significant infrastructure related to water resources infrastructure in Wales and Scotland, given their borders with England.

1.3. Infrastructure covered by the National Policy Statement

1.3.1. Applications for development consent relating to water resources infrastructure will be made in accordance with the Planning Act. For the purposes of the National Policy Statement, water resources infrastructure comprises development in England which meets the criteria set out in sections 27, 28 28A, and 35 of the Planning Act.

1.3.2. Applications for development consent for these projects may also include 'associated development' within the meaning of the Planning Act. The applicant should refer to government guidance[10] for examples of 'associated development'. Water treatment facilities may also be needed to support the principal development. Development that does not fall within the definition of water resources infrastructure or associated development may require a separate application for planning permission to be made to the relevant planning authority.

1.3.3. The National Policy Statement is not a site-specific document. That is, it does not identify specific locations where water resources infrastructure should be sited. It provides guidance relevant to the consideration of this type of infrastructure anywhere in England.

[9] This includes Northern Ireland, as relevant, in the unlikely event of such a project.
[10] https://www.gov.uk/government/publications/planning-act-2008-associated-development-applications-for-major-infrastructure-projects

1.4. Water resources management plans

1.4.1. The criteria for nationally significant infrastructure projects relating to water resources, as set out in sections 27, 28 and 28A of the Planning Act, states that the development or construction of a project will be carried out by one or more water undertakers[11].

1.4.2. All water companies have a statutory obligation to prepare and maintain water resources management plans. These plans, in accordance with the Water Industry Act 1991 and subsequent legislation[12], set out how companies will manage demand and develop water resources where necessary, so as to be able to meet their water supply obligations. Water resources management plans are also developed in line with regulators' guidance[13].

1.4.3. Water resources management plans look ahead for at least the next 25 years and are comprehensively revised at least every 5 years. They are also subject to annual review to make sure they are maintained[14]. It is through the process of preparing, consulting on, and finalising the publication of these water resources management plans that decisions are made on what additional water resources infrastructure is needed. Water resources management plans will be informed by regional and multi-regional water resources plans as part of a collaborative, larger scale approach to meeting long term water resources challenges[15].

1.4.4. The Secretary of State will consider applications for development consent for infrastructure projects meeting the criteria set out in sections 27, 28 or 28A of the Planning Act. These projects will be present in final water resources management plans, which the Secretary of State will have given permission to publish.

The need for a nationally significant infrastructure project

1.4.5. For nationally significant infrastructure projects included in a published final water resources management plan, the 'need' for that scheme has been demonstrated in

[11] "Water undertaker" means a company appointed as a water undertaker under the Water Industry Act 1991 – water company.
[12] The Water Resources Management Plan Regulations 2007 (S.I. 2007/727) provide further detail on the water resources management plan process including consultation requirements. https://www.legislation.gov.uk/uksi/2007/727/contents/made
[13] This includes regulators' water resources planning guidelines and any government expectations for water resources planning.
[14] Please refer to section 2.5 for further information on the annual review process and relevance for a development consent application.
[15] There is more on the development of regional planning, including the role of the Environment Agency's National Framework and regional groups, in section 2. https://www.gov.uk/government/publications/meeting-our-future-water-needs-a-national-framework-for-water-resources

line with government policy. The applicable statutory requirements, for water resources management planning and 'need' will not be revisited as part of the application for development consent. The Examining Authority and the Secretary of State will begin start their assessment of applications for infrastructure covered by the National Policy Statement on that basis.

1.4.6. The Secretary of State will also consider applications for development consent for projects which do not meet the nationally significant infrastructure project criteria, as set out in sections 27, 28 and 28A of the Planning Act, but which the Secretary of State directs are to be treated as a development for which development consent is required under section 35 of the Planning Act. Where a section 35 direction is made in relation to a project which has been identified as a preferred option in a final water resources management plan, this National Policy Statement will apply and, as with national significant infrastructure projects under paragraph 1.4.5, the 'need' will not be revisited as part of the application for development consent[16].

1.4.7. Where a project that is not present in a final water resources management plan, development consent applicants will need to make the case for the need for the project on a case-by-case basis. They should demonstrate that they meet the need for nationally significant water resources infrastructure, as set out in section 2 and apply the assessment principles in the National Policy Statement. The National Policy Statement will apply unless the Secretary of State confirms it does not[17], however the case for the 'need' may require examination.

1.5. Relationship with other National Policy Statements

1.5.1. This is a standalone National Policy Statement and should be treated as such. It is separate from the National Policy Statement for Waste Water[18] and section 29 of the Planning Act, which sets out the definition of nationally significant waste water infrastructure.

1.5.2. This National Policy Statement could be an important and relevant consideration in respect of applications for infrastructure schemes that include or have impacts upon the demand for water resources or water resources infrastructure. Other National Policy Statements may also be relevant to decisions on water resources infrastructure.

[16] In accordance with section 104 of the Planning Act, where a national policy statement has effect in relation to development of the description to which the application relates.
[17] In cases where the National Policy Statement does not apply, the Secretary of State may still consider the National Policy Statement to be "important and relevant" for the purposes for s105 of the Planning Act.
[18] https://www.gov.uk/government/publications/national-policy-statement-for-waste-water

1.6. Sustainability considerations

1.6.1. An Appraisal of Sustainability is required by section 5(3) of the Planning Act in relation to any National Policy Statement. An Appraisal of Sustainability, developed alongside the National Policy Statement to inform its preparation, has been published to accompany it. As set out earlier in this section, it has been carried out in such a way that satisfies the requirements of the Environmental Assessment of Plans and Programmes Regulations 2004. The Appraisal of Sustainability appraised the likely sustainability effects of implementing the National Policy Statement in delivering the government's policy for the development of new water resources infrastructure, with a particular focus on:

- the National Policy Statement objectives set out in section 1.9[19]
- the assessment principles and guidance on impacts and general siting considerations contained within sections 3 and 4
- the reasonable alternatives to the National Policy Statement

1.6.2. As this National Policy Statement is not site-specific, the Appraisal of Sustainability has not assessed any site-specific proposals. A final published water resources management plan will have been subject to relevant statutory environmental assessments. Information from these assessments may be relevant to inform the detailed site-specific assessments, required for a development consent application.

1.7. Habitats considerations

1.7.1. The National Policy Statement has also been assessed under the Habitats Regulations[20] (Habitats Regulations Assessment).

1.7.2. This National Policy Statement sets out UK government policy but does not specify locations for new infrastructure, so the Habitats Regulations Assessment has been undertaken at a strategic level. The Habitats Regulations Assessment Report has been published alongside the National Policy Statement. The Habitats Regulations Assessment considered the likely significant effect on habitats sites of delivering the government's policy for developing water resources infrastructure through the National Policy Statement.

[19] A Post Adoption Statement will be available along with the final National Policy Statement. The purpose of this statement is to demonstrate how the Appraisal of Sustainability and the opinions expressed in consultation have been taken into account when drafting the final National Policy Statement.
[20] https://www.legislation.gov.uk/uksi/2017/1012/contents/made

1.7.3. The National Planning Policy Framework states that the following wildlife sites should have the same protection as habitats sites:

- potential Special Protection Areas and possible Special Areas of Conservation
- listed or proposed Ramsar sites
- sites identified, or required, as compensatory measures for adverse effects on habitats sites, potential Special Protection Areas, possible Special Areas of Conservation and listed or proposed Ramsar sites

1.7.4. The conclusions of this assessment are given in the separate Habitats Regulations Assessment Report (titled 'National Policy Statement for Water Resources Infrastructure Habitats Regulations Assessment').

1.8. Period of validity and review

1.8.1. The National Policy Statement will remain in its entirety unless withdrawn or suspended in whole or in part by the Secretary of State. It will be kept under review by the Secretary of State, in accordance with the requirements of the Planning Act, to ensure that it remains appropriate for decision making.

1.9. Summary of objectives

1.9.1. The objectives of the National Policy Statement are to:

- provide a clear national planning policy that facilitates the examination and determination of applications for nationally significant infrastructure projects for water resources in England
- set out the need for nationally significant water resources infrastructure and the role of water resources management plans in identifying the need and addressing it - this will provide clarity and confidence on eligible nationally significant infrastructure project schemes to inform water companies' long-term plans
- provide the primary basis for examination by the Examining Authority and for decisions by the Secretary of State on development consent applications for water resources infrastructure
- provide guidance to potential nationally significant infrastructure project developers on the relevant infrastructure, generic impacts and general siting considerations that may need to be taken into account when planning for the development of water resources infrastructure

- provide policy and guidance on generic impacts to support any relevant local planning authorities in preparing their local impact reports, which they will be invited to prepare under section 60 of the Planning Act
- guide the development of nationally significant infrastructure projects that support the government's sustainability goals and objective to enhance the environment
- provide guidance, where relevant, in respect of applications for infrastructure schemes that include, or have impacts upon, water resources infrastructure

2. Government policy and the need for water resources infrastructure

2.1. Introduction

2.1.1. Water is critical for life and livelihoods. England's water supply currently comes from a mix of underground sources (aquifers), rivers and reservoirs. The pressure on our water resources is increasing due to:

- population growth
- the impacts of climate change
- the need for sufficient water in our watercourses, lakes and wetlands to enhance biodiversity and protect the environment[21]

2.1.2. A stable and resilient supply of water is a critical pre-requisite for development of all types, including housing. Essential new developments, such as data centres, can use significant amounts of water. We must ensure we have a responsive and resilient supply of water to facilitate access to, and delivery of, advances in technology for current and future generations.

2.1.3. There is a critical and urgent need to build resilience in the water sector to address pressures on water supplies. Clean and plentiful water is a goal set out in the 25 Year Plan to Improve the Environment (the 25 Year Environment Plan)[22] and in its first revision, the Environmental Improvement Plan (2023) for improving the natural environment[23] (the Environmental Improvement Plan). The government's vision is a water industry that works for everyone providing reliable, robust services now and in the future, without compromising the needs of the environment.

2.1.4. Securing long term resilience involves planning for future events (such as drought events) as effectively as we can, to mitigate the impacts whilst ensuring value for money for consumers, in line with the government's strategic priorities for Ofwat's

[21] The drivers leading to increased pressure on water resources are set out in detail in section 2.2.
[22] https://www.gov.uk/government/publications/25-year-environment-plan This plan is treated as an Environmental Improvement Plan, as required by the Environment Act 2021. The Environment Act 2021 also requires that the Environmental Improvement Plan is reviewed and revised. A reference to the Environmental Improvement Plan includes references to previous plans and revisions.
[23] https://www.gov.uk/government/publications/environmental-improvement-plan

regulation[24]. This is achieved through the statutory water resources management plan process[25]. There is more information on this process in section 2.5.

2.2. Pressure on water availability now and in the future

2.2.1. Many studies have looked at individual pressures behind future deficits, such as:

- the impact of climate change on river flows[26]
- predictions of future population growth
- the likelihood of drought[27], or of its adverse impacts[28]
- the impacts on the environment and possible targets to protect it have also been studied[29]

2.2.2. Other studies, such as the National Infrastructure Commission's report on water[30] and the Water UK's Long Term Planning Framework[31] have synthesised this information and considered a range of possible future scenarios and ways to address them.

2.2.3. The Environment Agency's National Framework for water resources (published in 2025)[32] draws on wide ranging research to provide information and guidance to regional water resources planning groups on changes in water demand and supply. The National Framework indicates that if no action is taken, in total around 5000 million litres per day (Ml/d) of extra capacity is likely to be needed in England by 2055. This is to meet future pressures on the public water supply to address population growth and climate change, replace unsustainable abstractions and improve the environment, and to strengthen resilience to drought. The need is likely to grow further by the end of the century. Individual pressures leading to these deficits are set out below.

---

[24] https://www.gov.uk/government/publications/strategic-policy-statement-to-ofwat-incorporating-social-and-environmental-guidance The Strategic Policy Statement to Ofwat is usually updated before price reviews, the next price review being in 2024.
[25] Sections 37A-37D Water Industry Act 1991
[26] Such as: CCIRG, 1996; Arnell, 2004; UKWIR, 2007; Watts, 2010; Vidal et al., 2011 and the Future Flows and Groundwater Levels project https://www.ceh.ac.uk/our-science/projects/future-flows-and-groundwater-levels carried out, for the first time, a consistent assessment of the impact of climate change on river flows and groundwater levels across England, Wales and Scotland.
[27] https://www.metoffice.gov.uk/research/climate/understanding-climate/uk-and-global-extreme-events-drought
[28] https://randd.defra.gov.uk/ProjectDetails?ProjectId=18964
[29] For example: https://www.gov.uk/guidance/river-basin-management-plans-updated-2022
[30] https://nic.org.uk/studies-reports/national-infrastructure-assessment/national-infrastructure-assessment-1/preparing-for-a-drier-future/
[31] https://www.water.org.uk/publication/water-resources-long-term-planning/
[32]https://www.gov.uk/government/publications/national-framework-for-water-resources-2025-water-for-growth-nature-and-a-resilient-future

2.2.4. These pressures, along with others specific to individual schemes, are taken into account by water companies when developing supply and demand forecasts. The assumptions made to inform the extent of these pressures should be clearly communicated in water resources management plans.

2.2.5. The National Framework for water resources sets out how water resources planning contributes to the delivery of the Environmental Improvement Plan.

Climate change

2.2.6. Climate change will affect the amount and timing of rainfall that supports river flows and replenishes groundwater. It will also influence the demand for water and its quality, as well as the way land is used – all of which will put pressure on water resources.

2.2.7. The updated assessments in draft Water Resources Management Plans in 2024 estimate that around 642 Ml/d of the additional estimated 4,800 Ml/d[33] capacity needed by 2050 will be attributable to climate change.

Population growth

2.2.8. The demand for water is closely linked to population growth. It is estimated that the population of England will grow by anywhere between 3.6 and 10.4 million by 2050. We need to ensure that there are sufficient water supplies to provide water for a growing population.

2.2.9. The updated assessments in draft Water Resources Management Plans in 2024 estimate that around 1,180 Ml/d of the additional estimated 4,800 Ml/d capacity needed by 2050 will be attributable to the growing population.[34]

2.2.10. The Climate Change Committee[35] report shows that even low population growth and modest climate change scenarios show significant future water supply deficits. Higher population growth along with more severe climate change would see these deficits apparent in most of England by the 2050s. Some of the driest areas of the country, including the South East and the East are also those forecast to have the highest rates of population growth.

[33] https://www.gov.uk/government/publications/a-review-of-englands-draft-regional-and-water-resources-management-plans/a-summary-of-englands-draft-regional-and-water-resources-management-plans
[34] https://www.gov.uk/government/publications/a-review-of-englands-draft-regional-and-water-resources-management-plans/a-summary-of-englands-draft-regional-and-water-resources-management-plans
[35] https://www.theccc.org.uk/publication/2021-progress-report-to-parliament/

Economic growth

2.2.11. Economic growth will lead to increasing pressure on the industrial, commercial and agricultural use of water, as well as the public water supply. Climate change mitigation and associated technologies, such as hydrogen production, is likely to add further water resources needs. Just over 20% of public water supply consumption is from non-households, such as business and industry, rather than households. A resilient, well connected water supply system is a vital part of creating the connectivity and growth ambitions.

2.2.12. The National Infrastructure Commission concluded in its report on water, 'Preparing for a drier future' that the cost to maintain current levels of resilience and relying on emergency measures for more severe droughts to 2050 would be between £25 and £40 billion. The Commission also highlighted potential adverse public health and environmental impacts. In comparison, the Commission estimated that the cost of proactive long term resilience improvements to the same standards range between £18 billion and £21 billion.

2.2.13. A drought could have wider economic impacts beyond the cost of emergency measures. The Water UK water resources long term planning framework[36] estimated a loss of 37% for non-household Gross Value Added[37] across England and Wales if severe drought restrictions on use were put in place. Applied across England and Wales, that would equate to an economic loss of around £1.3 billion per day.

Protecting and enhancing the environment

2.2.14. The UK is home to globally important wetlands, rivers and chalk streams. A range of species' healthy existence depends on the availability of good quality water. Having the right flow in our rivers and protecting groundwater levels is essential to support healthy ecology and enhancing natural resilience to drought. The impacts of climate change and the growing demand for water are putting added pressure on this availability.

2.2.15. The abstraction of water from the environment can alter the natural flow regime. Current levels of water abstraction from some sources will need to be reduced to protect the environment and help sustain important heritage assets, in line with the River Basin Management Plans. The Environmental Improvement Plan set out the commitment to reduce damaging abstraction of water from rivers and

[36] https://www.water.org.uk/publication/water-resources-long-term-planning/
[37] ONS definition of gross value added is the value generated by any unit engaged in the production of goods and services.

groundwater, while maintaining and improving water supply resilience now and in the future. The challenge in delivering this will increase in the future due to the impacts of climate change and population growth.

2.2.16. The updated assessments in draft Water Resources Management Plans in 2024 estimate that around 2828 Ml/d of the additional estimated 4,800 Ml/d capacity needed by 2050 will be needed to replace unsustainable abstractions and improve the environment.[38]

2.3. A twin track approach to resilient water supplies

2.3.1. The government is committed to a twin track approach to securing resilient water supplies, which requires both new water resources infrastructure and further action to reduce the demand for water.

2.3.2. In 2018, the National Infrastructure Commission published its report on water, 'Preparing for a drier future'. It proposed that the additional capacity needed by 2050 could be met approximately in thirds:

- one third by reducing leakage in the supply network
- one third by reducing water demand
- one third by increasing the availability of supply

2.3.3. The National Framework for water resources sets out guidance on achieving this additional capacity.[39] Table 1 sets out the options available to meet this future additional capacity.

2.3.4. In the National Infrastructure Strategy, the government sets out that there must be a twin track approach to delivering additional water supply and demand reduction to increase the resilience of water supplies.[40]

2.3.5. Water companies plan what is needed to meet the additional capacity required in their water resources management plans. As set out in the National Framework for water resources they should work collaboratively to ensure that the extra capacity is delivered in the most appropriate way[41]. There is more on this and the role of water resources management plans in section 2.5.

---

[38] https://www.gov.uk/government/publications/a-review-of-englands-draft-regional-and-water-resources-management-plans/a-summary-of-englands-draft-regional-and-water-resources-management-plans
[39] https://www.gov.uk/government/publications/national-framework-for-water-resources-2025-water-for-growth-nature-and-a-resilient-future
[40] https://www.gov.uk/government/publications/uk-infrastructure-a-10-year-strategy
[41] The Environment Act 2021 will help improve collaboration on water resources: https://www.legislation.gov.uk/ukpga/2021/30/section/78/enacted

Options for addressing need

2.3.6. It is for water companies to determine which specific options are required to meet the need in their water resources management plans. Guidelines and principles are set out by the government, along with other regulators such as the Environment Agency and Ofwat[42]. This includes the range of options which companies should be considering when developing their plans. These are considered briefly in Table 1[43]. This makes clear the considerable contribution that demand management measures should make to reducing water supply deficits.

Table 1- options for addressing demand

Option to address demand	Description of option
Demand management (asset management - leakage reduction)	A well-maintained water distribution network increases resilience to drought and reduces the impact and inconvenience caused by leaks and bursts. Effective maintenance and asset management to reduce leakage are a high priority for the water industry. Since 1994 water leakage has fallen by a third. However, it remains at around 20% of supply and has plateaued in recent years. To tackle this Ofwat, supported by government, has set expectations for companies to reduce leakage. In the 2 previous price reviews water companies have committed to reduce leakage by, on average, 16% by 2025 and 16% by 2030. The water industry has committed to reducing leakage by 50% from 2018 levels by 2050 at the latest, which is supported by government. The statutory water demand target, made using the Environment Act 2021, is based on the trajectory of meeting the 2050 target[44].

[42] https://www.gov.uk/government/publications/water-resources-planning-guideline
[43] The Appraisal of Sustainability that accompanies the National Policy Statement considers alternatives to the National Policy Statement. It sets out that demand management is not an alternative to new water resources infrastructure. Both are required in conjunction with one another to secure resilient supplies, as part of government's twin track approach.
[44] https://www.legislation.gov.uk/uksi/2023/93/contents/made

Option to address demand	Description of option
	The government and regulators will set out further future milestones to reduce leaks ahead of every 5 year water resources planning cycle.
Demand management (using water more efficiently through behavioural change and reducing consumption)	Since 1999, *per capita* consumption[45] has decreased from 150 litres per head per day to 143 litres per head per day in 2020[46]. The government's ambitions to improve water efficiency and water demand management further and provide plentiful water for the environment are set out in the Environmental Improvement Plan. The National Framework for water resources uses a planning assumption on per capita consumption of 110 litres per person per day by 2050. The water demand target is based on the trajectory of meeting this 2050 target[47].
New water resources infrastructure	The Water UK Long Term Planning Framework and National Infrastructure Commission report on water set out that a range of supply side options will be required alongside demand management, to meet resilience needs. Infrastructure will be required to improve connectivity between water companies and/or between water company areas. Ofwat established the Regulators' Alliance for Progressing Infrastructure Development (RAPID) to ensure a smooth regulatory path for strategic water infrastructure like joint reservoir projects and inter-regional water transfers. Water storage systems will be required to support transfers, along with other schemes such as

[45] *Per capita* consumption is domestic personal water use.
[46] https://discoverwater.co.uk/amount-we-use
[47] https://www.legislation.gov.uk/uksi/2023/93/contents/made

Option to address demand	Description of option
	desalination and effluent re-use that provide a high level of resilience to longer term drought periods.
Catchment management and natural capital	The Environmental Improvement Plan acknowledges the important role of catchment management and investment in natural capital. It sets out how the government will support farmers and land managers in delivering outcomes and achieving benefits at a catchment level. This will help build resilience to climate change and drought and provide opportunities for species and ecosystem recovery. The Water Abstraction Plan 2017 set out the need to develop a stronger catchment focus and bring together the Environment Agency, abstractors and catchment groups to develop local solutions to existing pressures and to prepare for the future. The Strategic Policy Statement sets the objective for Ofwat to challenge companies to protect and enhance the environment, which underpin water and wastewater systems. The National Framework for water resources also emphasises the need for a strong catchment focus. The water industry has pioneered a catchment-based approach around natural capital assets and the Environment Agency estimates this will save bill payers £100 million and deliver a range of additional environmental benefits[48].

[48] https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/802122/25yep-progress-report-2019.pdf

2.4. Quantifying the need for new water resources infrastructure

2.4.1. To meet future needs, water resources infrastructure will be required to supplement demand management action[49].

2.4.2. To identify and quantify future national needs of public water supplies, the Environment Agency published the National Framework for water resources. The need for new water resources infrastructure is not limited to supporting a resilient public water supply. The National Framework also assesses the needs of industry, agriculture and the environment. The Environment Agency continues to work with the sector to develop tools to support collaboration between companies and other sectors, ensuring that these are taken into account in future water resources planning activities.

2.4.3. This National Framework provides evidence to support planning guidance and will be integrated into the water resources management plan process. Applications for development consent made before revised water resources management plans are published in 2024 should demonstrate how they have taken account of the National Framework in their Planning Statements.

2.4.4. As explained, if a nationally significant infrastructure project is included in a water resources management plan, the 'need' for that scheme will have been demonstrated in line with government policy and the applicable statutory requirements, and 'need' would not be revisited as part of the application for development consent.

2.5. The statutory role of water resources management plans in identifying the need

Identifying the most appropriate water resources option

2.5.1. It is a duty of each water company to prepare, publish and maintain a water resources management plan. A water resources management plan is a plan for how the water company will manage and develop water resources so as to be able, and continue to be able, to meet its water supply obligations under the Water Industry Act 1991.

[49] Draft regional water resources plans and water resources management plans (2022) estimate this could be 2 billion litres a day (2,000 Ml/d).

2.5.2. If a water company identifies a future deficit in supply, it will need to assess the water resources and demand management options to eliminate the deficit and justify its preferred options in its water resources management plan. In the latest round of water resources management plans most companies plan to develop new water resources to help eliminate predicted supply deficits[50].

2.5.3. Even if there is no predicted deficit, companies should consider options to improve:

- service to customers
- provide long-term best value
- benefit the environment
- collaborate with other water companies or sectors on options that make better use of water availability

2.5.4. The Environment Agency, Defra and Ofwat issue water resources planning guidelines to water companies, for the development of water resources management plans ahead of each new set of plans being developed, every 5 years. This guidance sets out the statutory requirements and other considerations that must be taken into account when considering future options. For example, government policy, costs and benefits, impact on the environment, customer preferences and optimising solutions. This includes the need for companies to work together to meet the national and regional challenges to water supply, both now and in the future.

2.5.5. Companies work together through regional groups. The need for this collaborative working is reinforced in the National Framework for water resources and water resources planning guidelines, the government's expectations for water resources planning[51]. Regional groups are expected to engage with other water users to develop cross-sector solutions and work with regional development partnerships, such as Local Enterprise Partnerships, to understand regional economic and population forecasts.

2.5.6. Water resources management plan guidance also makes clear the need to take account of the pressures identified in section 2.2 and the sources of evidence to be considered when calculating supply and demand. Water resources planning guidelines set out how water resources management plans must have strong links to other plans, including local plans produced by local authorities.

[50] Over at least a 25-year planning period.
[51] Provisions included in the Environment Act 2021 allow the Secretary of State to direct water companies to prepare joint proposals for the management of water resources this could be at a regional or other geographical scale. https://www.legislation.gov.uk/ukpga/2021/30/contents/enacted

2.5.7. When preparing water resources management plans, water companies must take into account views of customers and regulators. It requires pre-consultation with statutory consultees and those listed in the water resources planning guidelines. Water companies are then required to undertake public consultation during the preparation of water resources management plans and state how this has been taken into account in their plans.

2.5.8. The optioning stage of the water planning process is thorough and detailed. It requires a large number of options, and combinations of options, to be identified and modelled which have the potential to meet the identified need. Any option included in a final water resources management plan will need to consider feasibility and reliability as well as taking account of potential environmental and social impacts.

2.5.9. Water resources management plans and the schemes identified as preferred options in them are subject to important statutory environmental assessments including a Habitats Regulations Assessment and Strategic Environmental Assessment[52]. The Strategic Environmental Assessment[53] is fully integrated into the water resources management plan process from the earliest stages. These assessments support the process for identifying the most appropriate options to be included in a final water resources management plan.

2.5.10. The water resources management plans and the schemes proposed in them are assessed by the Environment Agency who advises the Secretary of State. The Secretary of State, subject to any required changes, will allow the company to publish its final plan. The funding required to deliver these schemes is included as part of water companies' business plans submitted to Ofwat, who review the proposals and announce the final level of funding deemed appropriate in 'final determinations'.

2.5.11. Water companies are required to maintain their plans and report to the Secretary of State on their reviews, annually. Water companies must prepare revised plans at least every 5 years or earlier if their annual review indicates a material change of circumstances, or if directed to by the Secretary of State. The Environment Agency produces annual review guidance, which should be followed.

[52] Required under the Environmental Assessment of Plans and Programmes Regulations 2004.
[53] The Strategic Environmental Assessment involves an iterative process of collecting information, defining alternatives, identifying environmental effects, developing mitigation measures and revising proposals in light of the predicted environmental effects.

Application requirement with respect to the water resources management plan

2.5.12. When applying for development consent, the applicant must submit a statement with a clear assessment of the proposal in the context of the water resources management plan and summarise the results of the water resources management plan annual review process and anything relevant to the development consent application. As outlined in section 1.4.5, if a nationally significant infrastructure project is included in a published final water resources management plan, the 'need' for that scheme will have been demonstrated.

Drinking Water Quality

2.5.13. The Drinking Water Inspectorate does not have a direct role in the appraisal of water resources management plans but may have discussions about drinking water quality matters arising from the plans.

2.5.14. Under section 68 of the Water Industry Act 1991, a water company has a statutory duty to supply wholesome water. Section 68(1)(b) of the Water Industry Act 1991 also places the following duty on a company that may have implications for how it develops its water resources management plan:

> "It shall be the duty of a water undertaker […] so far as reasonably practicable, to ensure, in relation to each source or combination of sources from which water is so supplied, that there is, in general, no deterioration in the quality of the water which is supplied from time to time from that source or combination of sources."

2.5.15. This duty will need to be considered in the preparation of a water resources management plan. The Drinking Water Inspectorate's long term planning guidance[54] sets out further matters for consideration and expectations for the water industry.

Economic regulation

2.5.16. The funding required to deliver schemes is normally included as part of water companies' 5 yearly business plans to Ofwat. Ofwat will then assess the efficiency and finance ability[55] of the water company plans. They will then set price limits, usually for 5 years, to allow water companies to fund their overall activities, including the efficient delivery of nationally significant infrastructure projects. Where project construction continues beyond the 5-year allowances, the remaining costs

[54] https://www.dwi.gov.uk/water-companies/guidance-and-codes-of-practice/
[55] Meaning the ability to be financed or receive financing.

will be included in future business plans and funded from price limits set by Ofwat at that time.

2.5.17. As part of Ofwat's 2019 Price Review, 'Direct Procurement for Customers' was introduced as a process for water companies to competitively tender for a third party to design, build, finance, operate and maintain infrastructure, some of which may be nationally significant infrastructure projects[56]. This initiative has the potential to provide significant benefits for customers[57]. Ofwat and the Secretary of State also have the power to specify large or complex water and sewerage infrastructure projects under the Water Industry (Specified Infrastructure Projects) (English Undertakers) Regulations 2013. This enables such projects to benefit from bespoke funding arrangements.

2.5.18. Alongside the development of the previous National Framework for water resources, a Regulators' Alliance for Progressing Infrastructure Development (RAPID) was established to identify and address regulatory issues for progressing strategic infrastructure projects. The alliance consists of Ofwat, the Environment Agency and the Drinking Water Inspectorate and provides a seamless regulatory interface to help unlock the potential for strategic schemes to improve the resilience of water supplies, while also enhancing the environment. The scope of the work covers strategic infrastructure projects proposed by water companies.

2.5.19. In summary, the Environment Agency's National Framework for water resources sets out the strategic water resources need. Regional groups then develop a more detailed assessment of need and develop optimal solutions to meet it, and this will be reflected in companies' individual preferred plans. RAPID will assist with the timely development of the strategic options.

2.5.20. The applicant should include in the statement in 2.5.12 planned financial arrangements, also explaining how the proposed infrastructure delivers value for money by reference to the analysis in the water resources management plan.

2.6. The role of nationally significant infrastructure projects

2.6.1. The role of each infrastructure type in addressing our future water supply needs is set out below. Each type of infrastructure comes with challenges, whether that is

[56] Ofwat will review the suitability of direct procurement for customers in relation to particular schemes when reviewing business plans.
[57] https://www.ofwat.gov.uk/regulated-companies/markets/direct-procurement/direct-procurement-for-customers//

land-take for reservoirs, or treatment and pumping costs for transfers (including effluent reuse) or desalination. The National Infrastructure Commission's report sets out that the choice of infrastructure depends on the particular situation. The water resources management plan process is where such questions are considered. The final preferred options in the water resources management plans will then be considered under the relevant planning regime.

2.6.2. Some of the options identified in final published water resources management plans will include infrastructure schemes that meet the definition of a nationally significant infrastructure project or that are directed to be under section 35[58]. The scale of these schemes allows them to deliver a significant volume of the extra capacity needed to meet future needs. We have set out the need for these infrastructure types below.

Reservoirs

2.6.3. Reservoirs, whether created through dams or embankments, offer significant potential for drought management due to their ability to conserve water for later use. Water can be captured during wet periods, or as a result of large transfers, and used during drier periods.

2.6.4. Reservoirs have the advantage of greater flexibility to meet peak demands, as there is the potential for water to be abstracted from reservoirs for short periods at high rates without environmental impact. This reduces the need for increased abstraction from rivers or groundwater during dry periods, therefore reducing the potentially negative impact on the environment. They can also provide compensatory flows to rivers to support downstream abstraction. They can play a role in blending water from different sources to reduce treatment requirements for drinking water supplies and therefore the treatment cost. They have an important role as part of a water transfer and storage system.

2.6.5. Reservoirs can have benefits other than helping to secure a more resilient water supply and protect the environment. They can enhance the environment and the wildlife that exist in it by providing new habitats and nesting and breeding grounds for birds. Recreational and wellbeing benefits can also be achieved as set out in sections 3 and 4. In some cases they can also provide resilience to downstream flood events and can play a potential role in water trading by supporting water transfer schemes.

2.6.6. Larger reservoirs can provide a good level of resilience during a short-term drought (2 years or less). However, they are not as resilient as other infrastructure types,

[58] As defined in the Planning Act.

such as desalination or effluent re-use, during longer term drought. Reservoirs will also need a considerable land area that are likely to have local land use impacts.

2.6.7. New reservoirs will play an important role in securing resilient supplies and supporting transfers of water across the country in the future. Reservoirs must be planned well in advance of when they are needed, as it takes around 10 years from when the decision to build is made, to being able to use the water supplied. New reservoirs might include associated development as set out in section 1.3.2.

Water transfers

2.6.8. Water transfers are important for enhancing the resilience of water supplies by improving connectivity between areas of higher water availability to those where water availability is low. Research for the National Framework for water resources suggests that strategic transfers from water resource zones with surpluses in the North and West of England to zones that would otherwise be in deficit in the East and South East. Alongside significant local supply-side expansion in the East, South East and West, this could satisfy the national supply deficit under all the demand-side scenarios modelled. Transfers can move water from areas of surplus to areas that need it. In some cases, this can be through existing infrastructure such as rivers and canals but other channels and pipes and supporting infrastructure may also be required.

2.6.9. There are, however, risks which would need adequate management associated with the movement of 'raw' (untreated) water supplies. These include the potential spreading of invasive non-native species[59] between abstracted and receiving waters and a difference in water chemistry adversely impacting water treatment works and distribution networks. Transfers, especially over long distances, may also have significant energy costs associated with pumping.

2.6.10. The National Infrastructure Commission made the importance of strategic transfers in meeting resilience needs clear in its report on water. It set out how a range of studies have all found a positive cost-benefit case for greater transfers and water trading. The National Infrastructure Commission's report suggested that strategic transfers could provide about 700 Ml/d extra capacity to the water supply system. The report also pointed out that the range of locations for other water supply schemes, such as reservoirs, can be enhanced by the improved connectivity provided by transfers. Many of the proposed new supply schemes include associated transfers of water.

[59] An invasive non-native, or 'alien', species (INNS) is defined as a species introduced outside its normal past or present distribution. INNS are those which threaten ecosystems, habitats or species with environmental or socio-economic harm.

2.6.11. As mentioned in section 2.5, the government expects neighbouring water companies to work together when planning resources. The National Framework for water resources, the regional groups and work undertaken by RAPID will help to determine the potential for water transfers and address barriers to their development.

Desalination

2.6.12. Desalination refers to the process of abstracting and treating saline or brackish water to drinking water standards and, in theory, can provide unlimited supplies of new water[60]. It does not rely on rainwater and so is extremely resilient to climate change. Desalination will often require supporting infrastructure, such as tanks or reservoirs for blending or treatment, to maintain similarity with local raw water supplies.

2.6.13. Desalination plants currently require high operational energy and face constraints such as managing the impact of discharges from the treatment process which can increase the costs and impact of this type of water resource. At present there is only one large scale desalination plant operating in England. It is operated by Thames Water and takes its water from the Thames estuary. Desalination is widely used on a global scale and technology is innovating and continually developing to deliver cleaner desalination technologies.

2.6.14. Water UK's Long Term Planning Framework estimates that London and the South East might need 150 to 200 Ml/d more supply capacity through desalination by 2065, in order to meet water supply needs.

Effluent re-use and other infrastructure

2.6.15. Other infrastructure types or technologies not specified in the Planning Act evaluated during the preparation of water resources management plans, may be considered under the Planning Act following a direction by the Secretary of State under section 35, as set out in section 1[61]. This could include other options to enhance the storage capability of the water supply system and water available for use, including but not limited to effluent re-use schemes and aquifer re-charge.

2.6.16. Recycling water through effluent reuse has the advantage of being a constant, reliable supply of water and may reduce the amount of water abstracted from the environment. It can also supplement river flows.

---

[60] Strategic Water Infrastructure and Resilience (AECOM 2016): https://randd.defra.gov.uk/ProjectDetails?ProjectId=18964

[61] Provided the requirements of section 35 of the Planning Act are met.

2.6.17. Whilst not identified as a separate water resource activity in the Planning Act, large scale effluent reuse is likely to result in large transfers and be part of the water resources management plan. In such circumstances, the transfer may qualify as a nationally significant infrastructure project when assessed against the relevant threshold in the Planning Act. Treatment and other supporting infrastructure could be considered as associated development (see section 1.3.2). Alternatively, and if appropriate, such a scheme might be considered through a section 35 direction.

3. Assessment principles

3.1. General principles of assessment

3.1.1. This section of the National Policy Statement sets out the cross-cutting principles against which an application for development consent should be examined and determined. These key principles relate to the design, environmental, health, safety and security aspects of the types of infrastructure covered by the National Policy Statement. This section also provides guidance on areas of statutory assessments and identifies where information from the water resources management plan options appraisal process may be relevant for project level assessments. Section 4 provides more detailed guidance on the construction and operational impacts of water resources nationally significant infrastructure projects.

3.1.2. Subject to the detailed policies and protections in the National Policy Statement, and the legal constraints set out in the Planning Act, there is a presumption[62] in favour of granting development consent for water resources nationally significant infrastructure projects that fall within the need for infrastructure established in the National Policy Statement.

3.1.3. In considering any proposed development, and in particular, when weighing its adverse impacts against its benefits, the Examining Authority and the Secretary of State should take into account its potential:

- benefits, including its contribution to meeting the need identified in a water company's water resources management plan, the facilitation of economic development including: job creation, reduction of financial disparities, housing and environmental improvement and any long-term or wider benefits
- adverse impacts, including any longer-term and cumulative adverse impacts, as well as any measures to avoid, reduce or compensate for any adverse impacts

3.1.4. The Secretary of State should also have regard to the manner in which such benefits are secured, and the level of confidence in their delivery.

[62] The presumption in favour of development does not apply where the plan or project is likely to have a significant effect on a habitats site (either alone or in combination with other plans or projects) unless an appropriate assessment has concluded that the plan or project will not adversely affect the integrity of any habitats site. S104 creates a presumption in favour of decisions being taken in accordance with the National Policy Statement, and so to the extent the project accords with the National Policy Statement then there is a presumption in favour of development consent being granted.

3.1.5. The water resources management plan infrastructure options appraisal process can identify where specific water supply infrastructure projects should be located. The process is subject to a number of statutory assessments and other feasibility studies. Table 2 below (for illustrative purposes only) identifies where information from the water resources management plan options appraisal process may be relevant for project level assessments.

Table 2 – water resources management plan process and assessments

Water resources management plan assessment	Relevance to a Development Consent Order application
Water supply and demand forecast calculations (in accordance with 'Water Resources Planning Guidelines' or successor guidance)	Establishes the scale of predicted deficits
Infrastructure options appraisal (in accordance with 'Water Resources Planning Guidelines' or successor guidance)	Determines the most suitable infrastructure **type** and **site location**
Strategic Environmental Assessment	Information may be relevant for project level Environmental Impact Assessment (see section 3.2) or topic areas in section 4.
Strategic or Plan level Habitats Regulations Assessment	Information may be relevant for project level Habitats Regulations Assessment (see section 3.3)
Water Framework Directive Assessment	Information may be relevant for project level Water Framework Directive assessment or section 4.15.
Carbon Accounting	Information may be relevant for (but not limited to) sections 3.2, 3.7 and 4.4.

3.1.6. Section 1.4.6 states that nationally significant infrastructure projects as defined in sections 27, 28 and 28A of the Planning Act will have been identified within a final water resources management plan. These projects will have undergone full options appraisal in accordance with water resources management plan requirements which should form the basis of any consideration of alternatives.

3.1.7. The Examining Authority should only recommend, and the Secretary of State will only impose, requirements in relation to a development consent, that are necessary, relevant to planning, relevant to the development to be consented, enforceable, precise, and reasonable in all other respects. Guidance on the use of planning conditions or any successor to it should be taken into account where requirements are proposed.

3.1.8. Development consent obligations under section 106[63] of the Town and Country Planning Act 1990 should only be sought where they are necessary to make the development acceptable in planning terms, (including where necessary to ensure compliance with the National Policy Statement), directly related to the proposed development, and fairly and reasonably related in scale and kind to the development[64].

3.2. Environmental Impact Assessment

3.2.1. All proposals for projects that are subject to the Infrastructure Planning (Environmental Impact Assessment) Regulations 2017 (the Environmental Impact Assessment Regulations) must be accompanied by an Environmental Statement, describing the aspects of the environment likely to be significantly affected by the project[6566].

3.2.2. Water resources infrastructure projects will typically be long-term investments which will need to remain operational over many decades, in the face of a changing climate. Consequently, applicants must consider the effects of climate change when planning the location, design, build, operation and, where appropriate, decommissioning of projects.

3.2.3. The Environmental Impact Assessment process is required to identify, describe and assess effects on the human health and population, biodiversity, land, soil, water, air, climate, the landscape, material assets and cultural heritage, and the interaction between them. The Environmental Impact Assessment Regulations set out the information that should be included in the Environmental Statement. The applicant should refer to Planning Inspectorate advice[67] on the production of Environmental Statements, which includes guidance on these aspects. This advice is particularly relevant when considering assessment areas identified in sections 3 and 4.

3.2.4. Information gathered from the water resources management plan options appraisal assessments or information contained within section 4 may be useful to identify the significant effects of the proposed project.

---

[63] Section 106 of the Town and Country Planning Act 1990 as amended by section 174 of the Planning Act.
[64] Town and Country Planning Act 1990, section 106; Regulation 122(2) Community Infrastructure Levy Regulations 2010; National Planning Policy Framework.
[65] https://www.legislation.gov.uk/uksi/2017/572/contents/made
[66] The Levelling Up and Regeneration Bill provides for improved assessment the potential environmental effects of relevant plans and projects, through a requirement to prepare 'Environmental Outcome Reports'. These will replace the existing systems of Strategic Environmental Assessment and Environmental Impact Assessment to introduce a clearer and simpler process where relevant plans and projects (including nationally significant infrastructure projects) are assessed.
[67] https://infrastructure.planninginspectorate.gov.uk/

3.2.5. When examining an application for development consent, the Examining Authority must examine the environmental information. This means the Environmental Statement, any further information and any other information, and representations made by any parties about the environmental effects of the development. They must reach a reasoned conclusion on the significant effects of the proposed development and, if a Development Consent Order is made, whether monitoring measures should be imposed.

3.2.6. When considering significant cumulative effects, any Environmental Statement should provide information on how the effects of an applicant's proposal would combine and interact with the effects of other development (including projects for which consent has been granted[68]). The Examining Authority may also have other evidence before it on such effects and potential interactions. Any such information may assist the Secretary of State in reaching decisions on proposals and on mitigation or enhancement measures that may be required.

3.2.7. The Examining Authority should consider how significant cumulative effects, and the interrelationship between effects, might as a whole affect the environment, even though they may be acceptable when considered on an individual basis or with mitigation measures in place.

3.2.8. In some instances, it may not be possible at the time of the application for development consent for all aspects of the proposal to have been settled in precise detail. Where this is the case, the applicant should explain in its application which elements of the proposal have yet to be finalised, and the reasons why this is the case.

3.2.9. Where some details are still to be finalised, the Environmental Statement should, to the best of the applicant's knowledge, assess the likely worst-case environmental effects of the proposed development to ensure that the impacts of the project, as it may be constructed, have been properly assessed[69].

3.2.10. The Environmental Statement should provide details of the measures proposed to prevent, reduce or offset any significant effects, the likely efficacy of such measures and how they are secured. It should also include details of any ongoing monitoring or remediation that maybe required.

---

[68] The applicant should refer to the Planning Inspectorate's advice on assessing cumulative effects https://infrastructure.planninginspectorate.gov.uk/

[69] Case law, beginning with R v Rochdale MBC Ex p. Tew [2000] Env.L.R.1 establishes that while it is not necessary or possible in every case to specify the precise details of development, the information contained in the Environmental Statement should be sufficient to fully assess the project's impact on the environment and establish clearly defined worst case parameters for the assessment. This is sometimes known as 'the Rochdale Envelope'.

3.2.11. Should the Secretary of State decide to grant development consent for an application where details are still to be finalised, this will need to be reflected in appropriate development consent requirements in the Development Consent Order. It may be the case that development consent is granted for a proposal, and at a later stage, the applicant wishes (for technical or commercial reasons) to construct it in such a way that it is outside the terms of what has been consented and assessed as part of environmental information, for example because its extent will be greater than has been provided for in terms of the consent. In this situation, it will be necessary for the applicant to apply for a change to be made to the development consent provided under the Planning Act.

3.2.12. In cases where the Environmental Impact Assessment Regulations do not apply to a project, and an Environmental Statement is not therefore required, the applicant should instead provide information proportionate to the project on the likely environmental, social and economic effects in the Planning Statement. References to an Environmental Statement in the National Policy Statement should be taken as including assessment(s) which provides this information, even if the proposed development is not Environmental Impact Assessment development.

3.3. Habitats Regulations Assessment

3.3.1. The applicant is required to provide sufficient information[70] to enable the Secretary of State to discharge their functions as the competent authority under the Habitats Regulations 2017. The Habitats Regulations Assessment undertaken at the water resources management plan options appraisal process stage could provide relevant information to inform any project specific Habitats Regulations Assessment.

3.3.2. Where, despite a thorough consideration of avoidance and mitigation measures, an appropriate assessment cannot ascertain no adverse effect on site integrity and there are no alternative solutions, the consideration of the Imperative Reasons of Overriding Public Interest (IROPI) outlined in the National Policy Statement can apply. The applicant should provide an assessment of alternative solutions, including option appraisals from the water resources management plan and project level avoidance and mitigation options. If no feasible alternatives exist that would result in lesser harm, the consideration of IROPI at project level should consider whether the public interest served by the nationally significant infrastructure project overrides the adverse effects identified by the assessment.

[70] Please refer to the Planning Inspectorate guidance on Habitats Regulations Assessments: https://infrastructure.planninginspectorate.gov.uk/legislation-and-advice/advice-notes/

3.3.3. Where an IROPI case needs to be made, the competent authority must be satisfied that adequate and timely compensation measures will be put in place to ensure the coherence of the UK National site network[71] is maintained. Compensatory measures should be:

- appropriate to the interest features affected and biogeographical area, and be capable of protecting the overall coherence of the UK National site network
- based on robust scientific evidence, technically and practically feasible, clearly defined and measurable, and likely to be effective
- in addition to any normal site management measures that can reasonably be expected to be carried out in the absence of the plan or project coming forward

3.3.4. In order to reduce the risk of delays in determining Development Consent Orders, applicants should provide as much information as possible relating to the legal, financial and technical arrangements, together with proposed monitoring, required to deliver the relevant compensatory measures - compensatory measures may be facilitated through mechanisms such as Development Consent Order articles, requirements or conditions in a deemed marine licence

3.3.5. At detailed design stage, and in so far as it may be necessary, the matters set out in the National Policy Statement will be relevant to determining whether there are alternative solutions and IROPI, provided that the design remains consistent with the objectives of the National Policy Statement.

3.3.6. Where a development may negatively affect any priority natural habitat type or priority species[72] any IROPI case would need to be established solely on one or more of the grounds relating to human health, public safety or beneficial consequences of primary importance to the environment or any other reasons which the appropriate authority considers to be imperative reasons of overriding public interest. The competent authority may only rely on other (i.e. social or economic) imperative reasons of overriding public interest if it has first obtained an opinion from the appropriate authority[73].

[71] As defined in regulation 3 of the Conservation of Habitats and Species Regulations 2017, as amended by the Conservation of Habitats and Species (Amendment) (EU Exit) Regulations 2019
[72] As defined in Regulation 3 of the Conservation of Habitats and Species Regulations 2017 as amended by the Conservation of Habitats and Species (Amendment) (EU Exit) Regulations 2019
[73] Usually the Secretary of State in England.

3.4. Environmental Net Gain

3.4.1. Environmental net gain is an approach to development that aims to leave the natural environment in a measurably better state than beforehand. Biodiversity net gain is an essential component of environmental net gain. Projects should consider and seek to incorporate improvements in natural capital, ecosystem services and the benefits they deliver when planning how to deliver biodiversity net gain. Biodiversity net gain is addressed in section 4.3.

3.4.2. Water resources infrastructure projects have the potential to deliver significant benefits and enhancements beyond biodiversity net gain, resulting in wider environmental net gains. The scope of potential gains will be dependent on the type, scale and location of specific projects. The water resources management plan options appraisal process is informed by the Environment Agency and Ofwat's water resources guidance, which provide advice on relevant assessment methodologies, and other related guidance, including the Water Industry Strategic Environmental Requirements[74]. The options appraisal process is also subject to statutory environmental assessments.

3.4.3. In addition to delivering biodiversity net gain, developments may also deliver wider environmental gains relevant to the local area, and to national policy priorities, such as reductions in greenhouse gas emissions, reduced flood risk, improvements to air or water quality, or increased access to natural greenspace. Applications for development consent should be accompanied by a statement demonstrating how opportunities for delivering wider environmental net gains have been considered, and where appropriate, incorporated into the design (including any relevant operational aspects) of the project. Applicants should make use of available guidance and tools for measuring natural capital assets and ecosystem services, such as the Natural Capitals Committee's 'How to Do it: natural capital workbook'[75] and Defra's guidance on Enabling a Natural Capital Approach[76]. Where environmental net gain considerations have featured as part of the strategic options appraisal process in the water resources management plan to select a project, the statement should reference that information to supplement the site-specific details.

3.4.4. Section 4 provides guidance on the impacts of new water resources infrastructure and references the National Planning Policy Framework. Opportunities are identified in a number of sections relating to environmental, social and economic

[74] https://www.gov.uk/government/publications/developing-the-environmental-resilience-and-flood-risk-actions-for-the-price-review-2024/water-industry-strategic-environmental-requirements-wiser
[75] Natural Capital Committee's 'How to Do it: a natural capital workbook': https://www.gov.uk/government/publications/natural-capital-committee-natural-capital-workbook
[76] https://www.gov.uk/guidance/enabling-a-natural-capital-approach-enca

enhancements, protection and mitigation measures that will also need to be considered.

3.5. Assessing alternatives

3.5.1. The applicant should comply with the legal obligations and policy set out in the National Policy Statement on the assessment of alternatives as set out here:

- the Environmental Impact Assessment Regulations requires projects with significant environmental effects to include a description of the reasonable alternatives studied by the applicant, which are relevant to the proposed development and its specific characteristics, and an indication of the main reasons for the option chosen, taking into account the significant effects of the project on the environment
- other specific legal obligations requiring the consideration of alternatives, for example, under the Habitats Regulations and Water Environment (Water Framework Directive) (England and Wales) Regulations 2017 (Water Framework Directive Regulations)
- policies in the National Policy Statement requiring consideration of alternatives, for example, the flood risk sequential test and the assessment of alternatives for developments in National Parks, the Broads and National Landscapes.

3.5.2. Information from the water resources management plan options appraisal process (and associated statutory assessments) will be relevant to demonstrate how alternative options have been considered, insofar as required under paragraph 3.5.1 and noting that the question of need would not be reopened when considering applications for development consent.

3.5.3. The consideration of alternatives, as required under the Environmental Impact Assessment Regulations, must begin in the earliest stages of scheme evolution. The starting point should be a review of the optioneering carried out for the regional and water resource management plan development processes, discussed in 2.5.

3.6. Criteria for good design for water resources infrastructure

3.6.1. Good design is a key aspect of sustainable development, creates better places and helps make infrastructure projects acceptable to communities. Good design should save money, reduce risk, add value, support environmental enhancements and create a legacy that looks good and works well. Being clear about design

expectations, and how these will be tested, is essential for achieving this. So too is effective engagement with communities, local planning authorities and other interests.

3.6.2. Good design should be embedded within the management structure of projects, for example a project board level design champion could be appointed, and a representative design panel used to maximise the value provided by the infrastructure. Design principles[77], such as those published by the National Infrastructure Commission[78] , in the government's response and the National Planning Policy Framework[79] should be established from the outset of the project to guide the development from conception to operation. Nationally significant infrastructure projects covered by the National Policy Statement will present very different design challenges in terms of their specific visual impacts and the need to incorporate engineering, safety and operational considerations.

3.6.3. There may be opportunities for the applicant to demonstrate good design in terms of site layout and design measures relative to existing landscape and historical character and function, landscape permeability, landform and vegetation whilst integrating biodiversity and nature conservation interests.

3.6.4. The applicant should provide sufficient information in its application to demonstrate how the design process was conducted (including stakeholder engagement and assurance and approval processes) and how the proposed design evolved taking into account the design code against which it will be built. Where a number of different designs were considered, in addition to assessing alternatives the applicant should set out the reasons why the favoured choice has been selected. The Examining Authority and Secretary of State will take into account the ultimate purpose of the infrastructure and give appropriate weight to the operational, safety and security standards which the design has to satisfy.

3.7. Climate change adaptation

3.7.1. The Planning Act requires that a National Policy Statement must give reasons for the policy set out in the statement and an explanation of how the policy set out in the statement takes account of government policy relating to the mitigation of, and adaptation to, climate change. This section focuses on adaption; mitigation is considered at section 4.4.

[77] Design principles could take into account any national guidance on infrastructure design and any local authority design guidance.
[78] https://nic.org.uk/app/uploads//NIC-Design-Challenges-Pamphlet-Print-Spread-Version.pdf
[79] https://www.gov.uk/guidance/national-planning-policy-framework

3.7.2. The Planning Act requires the Secretary of State to have regard to the desirability of adapting to climate change in designating a National Policy Statement[80].

3.7.3. This section sets out how the National Policy Statement puts government policy on climate change adaptation into practice, and in particular how the applicant should, and the Secretary of State will, take into account the effects of climate change when developing and considering water resources nationally significant infrastructure project applications respectively. The Environmental Improvement Plan sets out the government's commitment to ensure that policies, programmes and investment decisions consider the possible extent of climate change. Climate change adaptation measures will be essential to the management of the impacts of climate change. These impacts include an increased risk of drought and flooding, drier summers and warmer wetter winters, more intense rainfall events and rising sea levels. Water resources infrastructure will be required to address future pressures on the public water supply, including those from climate change. The contribution that water resources nationally significant infrastructure projects make towards ensuring a resilient water supply and preparedness for drought is set out in section 2.

3.7.4. New water resources infrastructure will typically be a long-term investment which will need to remain operational over many decades. Consequently, the applicant must consider the impacts of climate change at design, build and operational stages[81]. Section 4 identifies areas where climate change adaptation should be incorporated into detailed design, such as flood risk and coastal change, biodiversity and nature conservation, and water quality.

3.7.5. Detailed consideration must be given to the range of potential impacts of climate change using the latest UK planning practice guidance on climate change allowances[82], and to identify appropriate mitigation or adaptation measures. This should cover the estimated lifetime of the new infrastructure. Should a new set of UK Climate Projections become available after the preparation of any Environmental Statement, the Secretary of State should consider whether it needs to request additional information from the applicant.

3.7.6. Where water resources infrastructure includes safety critical elements, the applicant should apply the apply high emissions scenario at different probability levels so as to include high impact, low likelihood scenarios to those elements critical to the safe

[80] Section 10(3)(a) of the Planning Act.
[81] An Environmental Impact Assessment must also (as part of the Environmental Statement) consider the impact of the project on climate (for example the nature and magnitude of greenhouse gas emissions) and the vulnerability of the project to climate change.
[82] https://www.gov.uk/government/collections/planning-practice-guidance

operation of the infrastructure[83]. The use of credible maximum allowances (H++) emissions scenarios (typically extreme climate change scenarios) should also be applied where there is potential for extremely negative consequences under high impact scenarios (such as elements of infrastructure which are critical to the safety of its operation). Although these are the very worst-case scenarios and the likelihood thought to be very low (at least this century) it is appropriate for the applicant to take a risk-averse approach in these cases. The most recent Climate change projections should always be used and references in the National Policy Statement should be read as references to the latest climate change projections.

3.7.7. Any adaptation measures should be based on the latest set of UK Climate Projections[84] as set out above, the most recent UK Climate Change Risk Assessment[85], consultation with statutory consultation bodies, and any other appropriate climate projection data. Any adaptation measures must themselves also be assessed, which should set out how and where such measures are proposed to be secured.

3.7.8. Where the National Policy Statement mentions the UK Climate Change Risk Assessment, the reader should refer to the most recent version of the document

3.7.9. If any proposed adaptation measures themselves give rise to consequential impacts, including carbon emissions affecting targets outlined in the Climate Change Act 2008 discussed further section 4.4, the Secretary of State will consider the impact in relation to the application as a whole and the assessment principles and guidance set out in the National Policy Statement.

3.7.10. Adaptation measures can be required to be implemented at the time of construction where necessary and appropriate to do so.

3.7.11. Where adaptation measures are likely to be necessary to deal with the impact of long term and/or extreme climate change scenarios, and that measure would have an adverse effect on other aspects of the project or the surrounding environment (such as coastal processes), the Secretary of State may consider requiring the applicant to ensure that the adaptation measure could be implemented should the need arise, rather than at the outset of the development (such as reserving land for future extension, increasing the height of an existing sea wall, or requiring a new sea wall)[86].

---

[83] https://www.gov.uk/guidance/flood-and-coastal-risk-projects-schemes-and-strategies-climate-change-allowances
[84] http://ukclimateprojections.metoffice.gov.uk/
[85] https://www.gov.uk/government/publications/uk-climate-change-risk-assessment-2017
[86] The applicant should refer to the Planning Inspectorate's advice on assessing cumulative effects https://infrastructure.planninginspectorate.gov.uk/legislation-and-advice/advice-notes/

3.8. Environmental regulation

3.8.1. Issues relating to discharges or emissions from a proposed project which affect air quality, water quality, land quality or the marine environment, or which include noise, may be subject to separate regulation under the pollution control framework or other consenting and licensing regimes. Relevant permissions will need to be obtained for any construction or operational activities within the development that are regulated under those regimes before the activities can be commenced. The applicant should contact the relevant consenting authority for pre-application advice.

3.8.2. Water resources nationally significant infrastructure projects may require a number of separate consents or will be subject to other regulatory regimes (for example, see section 3.10 on the Reservoirs Act 1975). Typical water related consents will include: abstraction and impoundment licences; environmental permitting of discharges to surface waters; and flood risk activities[87].

3.8.3. In deciding an application, the Examining Authority and Secretary of State should focus on whether the development is an acceptable use of the land, and on the impacts of that use, rather than the control of processes, emissions or discharges themselves. The Secretary of State should assess the potential impacts of processes, emissions or discharges to inform decision making, but should work on the assumption that, in terms of the control and enforcement, the relevant pollution control or other consenting regime will be properly applied and enforced. Decisions under the Planning Act should complement but not duplicate those taken under the relevant pollution control regime.

3.8.4. These considerations apply in an analogous way to other environmental regulatory regimes, including those on land drainage and flood defence and biodiversity.

3.8.5. When an applicant applies for an Environmental Permit, the relevant regulator (the Environment Agency or a local authority) requires that the application demonstrates that processes are in place to meet all relevant Environmental Permit requirements. In examining the impacts of the project, the Examining Authority may wish to seek the views of the regulator on the scope of the permit or consent and any management plans (such as any produced for noise) that would be included in an Environmental Permit application.

3.8.6. Applicants are encouraged to begin pre-application discussions with the Environment Agency as early as possible. Where applicants wish to parallel track Development Consent Order and Environmental Permit applications, the

[87] See advice on working with public bodies: https://infrastructure.planninginspectorate.gov.uk/legislation-and-advice/advice-notes/

Environment Agency suggests that applicants should start work towards submitting the permit application at least 6 months prior to the submission of an application for a Development Consent Order. This will help ensure that applications take account of all relevant environmental considerations and that the relevant regulators are able to provide timely advice and assurance to the Examining Authority.

3.8.7. There is a statutory duty on applicants to consult the Marine Management Organisation on nationally significant infrastructure projects which would affect, or would be likely to affect, any relevant marine areas as defined in the Planning Act (as amended by section 23 of the Marine and Coastal Access Act 2009). The Secretary of State's consent may include a deemed marine licence and the Marine Management Organisation will advise on what conditions should apply to any deemed marine licence.

3.8.8. The Secretary of State should be satisfied that development consent can be granted taking full account of environmental impacts. This will require close cooperation with the Environment Agency and/or the pollution control authority, and other relevant bodies, such as the Marine Management Organisation, Natural England, Internal Drainage Boards, and water and sewerage undertakers, to ensure that:

- the relevant pollution control authority is satisfied that potential releases can be adequately regulated under the pollution control framework
- the effects of existing sources of pollution in and around the project are not such that the cumulative effects of pollution when the proposed development is added would make that development unacceptable, particularly in relation to statutory environmental quality limits
- the relevant authority is satisfied that impacts on main rivers, flood and sea defences and the floodplain are capable of being adequately regulated under a Flood Risk Activity Permit

3.8.9. The Secretary of State should not refuse consent on the basis of regulated impacts unless there is good reason to believe that any necessary operational pollution control permits, licences or other consents will not subsequently be granted.

3.9. Common law nuisance and statutory nuisance

3.9.1. Section 158 of the Planning Act provides a defence of statutory authority in civil or criminal proceedings for nuisance. Such a defence is also available in respect of anything else authorised by an order granting development consent. The defence does not extinguish the local authority's duties under Part III of the Environmental Protection Act 1990 to inspect its area and take reasonable steps to investigate

complaints of statutory nuisance and to serve an abatement notice where satisfied of its existence, likely occurrence or recurrence.

3.9.2. During the examination of an application for development consent for infrastructure covered under the National Policy Statement, possible sources of nuisance under section 79(1) of the Environmental Protection Act 1990 should be considered by the Examining Authority. The Examining Authority should also consider how those sources of nuisance might be mitigated or limited so they can recommend appropriate requirements that the Secretary of State might include in any subsequent Development Consent Order.

3.9.3. The defence of statutory authority is subject to any contrary provision made by the Secretary of State in any particular case by an order granting development consent[88].

3.10. Safety

3.10.1. For all water resources infrastructure types, relevant bodies such as local authorities and the Health and Safety Executive[89] are statutory consultees that should be consulted, where required, on matters relating to safety.

3.10.2. Reservoirs covered by the National Policy Statement will be subject to the requirements of the Reservoirs Act 1975 due to their size. This Act promotes the safety of large reservoirs and contains a number of provisions that may be relevant for the Examining Authority to consider, such as:

- a suitably qualified civil engineer (known as a panel engineer)[90] must be appointed during design, construction and operational phases of the reservoir
- the Environment Agency must be notified of the intention to build a new reservoir. They advise on flood risk issues and other aspects associated with the reservoir. Once constructed, Environment Agency flood risk mapping may need updating

3.10.3. Guidance has been issued for reservoir owners and operators[91].

[88] Section 158(3) of the Planning Act.
[89] Health and Safety Executive role in nationally significant infrastructure projects. PINS Advice Note: https://infrastructure.planninginspectorate.gov.uk/legislation-and-advice/advice-notes/
[90] Reservoir Panel Engineers: https://www.gov.uk/government/publications/contact-details-of-engineers-on-the-all-reservoirs-panel
[91] Guidance for reservoir owners and operators: https://www.gov.uk/guidance/reservoirs-owner-and-operator-requirements

3.10.4. Structural design aspects relating to safety should not be compromised when balanced against other design considerations.

3.10.5. Under the Environmental Impact Assessment Regulations there is a requirement to consider the implications of major accidents or disasters.

3.10.6. Under the Water Industry Act 1991, water companies have powers to introduce byelaws, which could address operational issues relating to public safety, access and security of facilities.

3.11. Security considerations

3.11.1. National security considerations apply across all national infrastructure sectors. Defra acts as the sector sponsor department for the water sector with lead responsibility for security matters and for directing the security approach to be taken. It works with the Centre for the Protection of National Infrastructure to reduce the vulnerability of the water sector to terrorism and other national security threats.

3.11.2. Government policy is to ensure that, where possible, proportionate protective security measures are designed into new infrastructure projects at an early stage in the project development. Security considerations will likely apply in the case of the infrastructure project for which development consent may be sought under the National Policy Statement.

3.11.3. Where national security implications have been identified, the applicant should consult with Defra to ensure that physical, procedural and personnel security measures have been adequately considered in the design process and that adequate consideration has been given to the management of security risks. If Defra, having taken advice from the Centre for the Protection of National Infrastructure and others it considers appropriate, forms the opinion that current and potential future security needs are adequately addressed and that relevant guidance on these matters has been appropriately taken into account in the application, it will provide confirmation of this to the Examining Authority. The Examining Authority then need not give any further consideration to the details of the security measures during the examination.

3.11.4. When considering the location of water resources infrastructure in the vicinity of an existing Ministry of Defence site, the applicant should consult with the Ministry of Defence to ensure the site, and Ministry of Defence activities, will either not be adversely impacted by the proposed project, or such impacts from the proposed project on the site and Ministry of Defence activities will be minimised through mitigation, agreed by Ministry of Defence. The applicant will present evidence of this consultation to the Examining Authority to show that this has been done. The

Examining Authority will take any considerations raised by Ministry of Defence into account during its examination of the project when making their decision.

3.11.5. The applicant should only include such security-related information in the application as is necessary to enable the Examining Authority to examine the development consent issues and make a properly informed recommendation on the application.

3.11.6. In exceptional cases, where examination of an application would involve public disclosure of information about defence or national security which would not be in the national interest, the Secretary of State can intervene and may appoint an examiner to consider evidence in closed session[92].

3.12. Health

3.12.1. The construction and use of water resources infrastructure has the potential to affect people's health, wellbeing and quality of life. Infrastructure can have direct impacts on health because of traffic, noise, vibration, air quality and emissions, light pollution, community severance, dust, odour, polluting water discharges, hazardous waste and pests. These impacts are considered further in section 4.

3.12.2. New or enhanced water resources infrastructure may also have indirect health impacts, for example if they affect access to key public services, local transport, opportunities for cycling and walking, or the use of open space for recreation and physical activity (see also section 4.13). It should be noted that there is potential for increased employment, along with the new recreational opportunities (particularly for reservoirs) that may have indirect positive health impacts.

3.12.3. Where the proposed project has likely significant environmental impacts that would have an effect on human population or health, the applicant should identify and set out the assessment of any likely significant health impacts[93].

3.12.4. These impacts may affect people in a cumulative manner. The applicant, the Examining Authority and the Secretary of State (in determining an application for development consent) should consider the cumulative impact on health. The applicant should identify measures to avoid, reduce or compensate for adverse health impacts and seek enhancement opportunities as appropriate.

[92] Section 95A of the Planning Act.
[93] As required by the Environmental Impact Assessment Regulations.

4. Generic impacts

4.1. Overview

4.1.1. This section focuses on the potential construction and operational impacts of water resources infrastructure. It includes the assessments that an applicant will need to carry out, and the specific planning requirements that the applicant will need to meet, in order to gain development consent.

4.1.2. Many of the following topic sections summarise areas of potential significant impacts associated with water resources infrastructure. There may be other impacts, for which policy is not set out in the National Policy Statement, which the decision maker will wish to consider when they determine that the impact is relevant and important to their decision. The government's planning policy guidance[94] is likely to be another useful source of guidance on generic impacts.

4.1.3. While the National Policy Statement covers developments in England only, assessments of impacts should take account of any impacts that water resources infrastructure may have in the devolved administrations. Where projects affect cross-border links, applicants should work with the devolved administrations as set out in section 1.2 and relevant regulatory organisations.

4.1.4. Sufficient relevant information is crucial to good decision making, particularly where formal assessments are required (such as Environmental Impact Assessment, Habitats Regulations Assessment, flood risk or transport assessment). To avoid delay, applicants should discuss what information is needed with the Planning Inspectorate, statutory bodies and other relevant organisations as early as possible. Any assessment should be based on the most up to date data and guidance.

4.1.5. Through the Environment Act 2021 the government has set 13 legally binding targets for England covering the areas of: biodiversity; air quality; water; resource efficiency and waste reduction; tree and woodland cover; and Marine Protected Areas. The Secretary of State must consider duties under the Environment Act 2021 in relation to environmental targets and have regard to the policies set out in the government's Environmental Improvement Plan for improving the natural environment.

[94] https://www.gov.uk/government/collections/planning-practice-guidance

4.2. Air quality

Introduction

4.2.1. Water resources infrastructure can involve emissions to air during all project phases, which could lead to adverse impacts on human health, protected species and habitats, or on the wider environment. Related aspects are also considered in sections 4.6 and 4.14. Planning practice guidance[95] provides information on how to consider and assess air quality issues. Current UK legislation sets out health-based ambient air quality objectives, including concentration limit values for the main air pollutants[96]. The UK has also signed up to ambitious emission reduction commitments for 5 harmful air pollutants by 2020 and 2030 under the amended Gothenburg Protocol and the National Emission Ceilings Regulations 2018, building on existing commitments which have applied since 2010[97]. The Clean Air Strategy 2019[98] sets out the comprehensive actions required across all parts of government and society to improve air quality, including initiatives relating to construction activities. The Air Quality Strategy sets out the framework for action by local authorities in reducing air pollution from sources within their control; local authorities, the Environment Agency and National Highways must have regard to it. In addition, 2 air quality targets – one a maximum annual mean concentration of $PM_{2.5}$ and one a minimum reduction in population exposure to $PM_{2.5}$ – have been set under the Environment Act 2021[99]. The government will continue to ensure up to date guidance on the targets is available.

4.2.2. The air quality effects of the proposed development on wildlife and biodiversity should be assessed in accordance with the Biodiversity and Nature Conservation section 4.3.

Applicant's assessment

4.2.3. Applicants should seek through the design of any proposed scheme to minimise the emission of air pollutants as far as reasonably practicable. Where the air pollution impacts of the proposed development are likely to be significant and could, either singly or cumulatively lead to a breach of any relevant statutory air quality limits or statutory air quality objectives, or impede the attainment of statutory targets, the

[95] Planning practice guidance on air quality https://www.gov.uk/guidance/air-quality--3
[96] The Air Quality Standards Regulations 2010/1001
[97] The amended Gothenburg Protocol to the UNECE Convention on Long-range Transboundary Air Pollution and the National Emission Ceilings Regulations 2018.
[98] Clean Air Strategy 2019. Available from https://www.gov.uk/government/publications/clean-air-strategy-2019
[99] https://www.legislation.gov.uk/uksi/2023/96/contents/made

applicant must undertake an assessment of the impacts of the proposed development as part of the Environmental Statement.

4.2.4. Air quality considerations are likely to be particularly relevant where water resources infrastructure is proposed within or adjacent to Air Quality Management Areas[100] or any road links exceeding limit values according to Defra's assessments[101][102], or near to densely populated areas or where they may have potential impacts on habitats sites, including those outside England. Air quality considerations are also likely to be relevant where a proposal is nearby to an education site (such as a school), or a healthcare site (such as a hospital). Consideration should also be given to disparity of exposure and whether any air pollution generated by a proposed scheme will exacerbate already-high levels of exposure.

4.2.5. The Environmental Statement should describe:

- existing (background) and baseline air quality levels
- any significant air quality effects, associated with the development (both alone and in-combination), their mitigation and any residual effects distinguishing between the project stages, and taking account of any significant emissions from any traffic generated by the project
- the contribution of emissions to air, to site-specific critical levels and loads, for the protection of vegetation and ecosystems after mitigation methods have been applied
- how the scheme has been designed so as to prevent air pollutant emissions
- the contribution of emissions to ambient air quality after mitigation methods have been applied

4.2.6. Defra publishes future national projections of air quality based on estimates of future levels of emissions, traffic and vehicle fleet. Projections are updated as the evidence base changes and the applicant should ensure these are current at the point of an application. The applicant's assessment should be consistent with this but may include more detailed modelling to demonstrate local impacts and other forms of assessment to show the development does not jeopardise the achievement of statuary targets.

Mitigation

4.2.7. Where a proposed development is likely to lead to a breach of any relevant statutory air quality limits or statutory air quality objectives or affect the ability of a

[100] If a local authority finds any places where the national air quality objectives are not likely to be achieved, it must declare an Air Quality Management Area and put together a plan to improve air quality.
[101] https://uk-air.defra.gov.uk/interactive-map
[102] https://uk-air.defra.gov.uk/data/gis-mapping

non-compliant area to achieve compliance or impede meeting national statutory targets, the applicant should work with the relevant authorities to secure appropriate mitigation measures to ensure that any statutory air quality limits and statutory air quality objectives are not breached and sufficient consideration of targets is made. Air quality considerations are likely to be particularly relevant where a development is proposed:

- within or adjacent to Air Quality Management Areas or nature conservation sites (including habitats sites and Sites of Special Scientific Interest (SSSIs)), including those outside England
- where the proposed scheme's impacts are likely to be sufficient to increase pollutant concentrations above relevant limits, bringing about the need for a new Air Quality Management Area or an air quality plan, to address exceedances of limit values under the Air Quality (England) Regulations 2000 (as amended 2002) or the Air Quality Standards Regulations 2010 or change the area of an existing Air Quality Management Area
- to bring about changes to exceedances of the limit values, or statutory air quality objectives or where they may have the potential to impact on nature conservation sites
- in areas which do not meet the annual mean concentration target for $PM_{2.5}$ or is close to areas with high population density or vulnerable communities

4.2.8. In considering proposed mitigation measures, the Secretary of State may refer to the conditions and advice in any relevant air quality plan, or local Air Quality Action Plan.

4.2.9. Reductions in air emissions might be achieved through consideration of design and layout; the technologies employed; and energy use. Reductions in exposure can be achieved through consideration of the development location, layout (i.e. avoiding trapping pollution between buildings) and potentially, through placement of barriers between receptors and sources of pollution.

Decision making

4.2.10. The Secretary of State should take into account the presence of Air Quality Management Areas, or any road links referred to in section 4.2.4 and national air quality targets. A proposed development should be consistent with local Air Quality Action Plans.

4.2.11. The Secretary of State should consider air quality impacts over the wider area that is likely to be affected, as well as in the vicinity of a proposed development. In all cases, the Secretary of State must take account of relevant statutory air quality limits and statutory air quality objectives, including duties and the targets under the Environment Act 2021, and have regard to policies set out in

the government's Environmental Improvement Plan. The Secretary of State should be satisfied that the applicant has designed the scheme in such a way as to minimise air pollutant emissions.

4.2.12. Where relevant the Secretary of State should be satisfied that the mitigation measures put forward by the applicant, and which are needed in respect of both construction and operational emissions, are appropriate and that residual effects are acceptable. A construction management plan, adequately secured through a Development Consent Order requirement, will help provide mitigation measures (such as limiting times of activity and ensuring an adequate distance between sources of emissions and receptors, dust suppression plans, containment, and air quality monitoring).

4.2.13. The Secretary of State must give air quality considerations substantial weight where, after taking into account mitigation, a development would be likely to lead to a significant adverse air quality impact as set out in the Environmental Impact Assessment or where they lead to deterioration in air quality in in the region or locality[103].

4.2.14. The Secretary of State should refuse consent where, after taking into account mitigation, the air quality impacts of the development will:

- result in an area that is currently reported as being compliant with the limit values set out in Schedule 2 of the Air Quality Standards Regulations 2010 for the relevant averaging periods becoming non-compliant
- result in a breach of the statutory air quality objectives
- affect the ability of a non-compliant area to achieve compliance with either the statutory air quality limits or the statutory air quality objectives
- is assessed as likely to hinder achievement of statuary emission and concentration targets

4.3. Biodiversity and nature conservation

Introduction

4.3.1. Biodiversity is the variety of life in all its forms and encompasses all species of plants and animals and the complex ecosystems of which they are a part. government policy for the natural environment is set out in the Environmental Improvement Plan. The Plan sets out the vision for enhancing biodiversity, by

[103] For monitoring and reporting air pollution the UK has been divided into agglomeration zones (areas of urban population > 250,000 people) and non-agglomeration zones.

supporting healthy, well-functioning ecosystems and establishing more coherent ecological networks that are more resilient to current and future pressures. Geological conservation relates to the sites that are designated for their geology and/or their geomorphological importance[104].

4.3.2. The Secretary of State should have regard to the aims and goals of the Environmental Improvement Plan and any relevant measures and targets, including statutory targets set under the Environment Act 2021 or elsewhere.

4.3.3. The wide range of legislative provisions that can impact on planning decisions affecting biodiversity and geological conservation issues are set out in Planning Practice Guidance[105].

4.3.4. The development of water resources infrastructure could have impacts (both adverse and beneficial) on biodiversity and nature conversation interests during construction and operational phases. A site-specific Habitats Regulations Assessment (where required) and a plan level Habitats Regulations Assessment undertaken for water resources management plans should identify likely significant effects and necessary mitigation measures.

Applicant's assessment

4.3.5. Where the project is subject to Environmental Impact Assessment the applicant should ensure that the Environmental Statement clearly sets out any likely significant effects on internationally, nationally and locally designated sites of ecological or geological conservation importance (including those outside England) on protected species and on habitats and other species identified as being of principal importance for the conservation of biodiversity. The assessment should consider the full range of potential impacts on ecosystems including habitats, protected species or species identified as being of principal importance to biodiversity and nature conservation.

4.3.6. The applicant should show how the project has taken advantage of opportunities to conserve and enhance biodiversity and geological conservation interests[106].

[104] A list of designated sites (including marine sites) is included in the Geological Conservation Review held by the Joint Nature Conservation Committee (JNCC)
[105] Planning Practice Guidance on Natural Environment https://www.gov.uk/guidance/natural-environment
[106] See, for example, the biodiversity planning toolkit created by the Association of Local Government Ecologists in partnership with NGOs, Defra, Statutory Nature Conservation Bodies and the Environment Agency.

Mitigation

4.3.7. Applicants should include appropriate mitigation measures as an integral part of their proposed development, including identifying where and how these will be secured. In particular, the applicant should demonstrate that:

- during construction, they will seek to ensure that activities will be confined to the minimum areas required for the works
- during construction and operation, best practice will be followed to ensure that risk of disturbance or damage to species or habitats is minimised
- habitats will, where practicable, be restored after construction works have finished
- developments will be designed and landscaped to provide green corridors and minimise habitat fragmentation where possible and reasonable
- opportunities will be taken to enhance existing habitats and, where practicable, to create new habitats of value within the site landscaping proposals
- where habitat creation is required as mitigation, compensation or enhancement, the location and quality will be of key importance. In this regard, habitat creation should be focused on areas where the most ecological and ecosystems services benefits can be realised

Decision making

4.3.8. The government's policy for biodiversity in England is set out in the Environmental Improvement Plan and the UK Marine Strategy. The aim is to halt overall biodiversity loss, support healthy naturally functioning ecosystems and establish coherent ecological networks, with more and better places for nature for the benefit of wildlife and people. This aim needs to be viewed in the context of the challenge presented by climate change. Healthy, naturally functioning ecosystems and coherent ecological networks will be more resilient and adaptable to climate change effects. Failure to address this challenge will result in significant adverse impact on biodiversity and the ecosystem services it provides.

4.3.9. The Secretary of State should consider what appropriate requirements should be attached to any consent and/or in any planning obligations entered into, in order to ensure that any mitigation or biodiversity net gain measures are secured, delivered and maintained. Habitat creation or enhancement which is proposed for the purposes of delivering biodiversity net gain should be secured on a long-term basis.

4.3.10. The Secretary of State will need to take account of what mitigation measures may have been agreed between the applicant and Natural England and/or the Marine Management Organisation and whether Natural England and/or the Marine Management Organisation has granted or refused, or intends to grant or refuse, any

relevant licences, including protected species mitigation licences. For cross border impacts, Natural Resources Wales and NatureScot should also be consulted.

4.3.11. Subject to the specific policies below, development should avoid significant harm to biodiversity and geological conservation interests and provide net gains for biodiversity (see section 4.3).

4.3.12. In taking decisions, the Secretary of State should ensure that appropriate weight is given to designated sites of international, national and local importance, protected species, and other habitats and species of importance for the conservation of biodiversity and geological interest in the wider environment. Taking into consideration the importance of the biodiversity and geological conservation interests, if significant harm to biodiversity resulting from the development cannot be avoided (through locating on an alternative site with less harmful impacts), adequately mitigated, or as a last resort compensated for, then development consent may be refused.

Habitats sites

4.3.13. The highest level of biodiversity protection is afforded to sites identified through international conventions. The Habitats Regulations (refer to section 3.3 also) provide statutory protection for habitat sites. Certain habitats may be qualifying features of sites designated under the Habitats Regulations and international conventions including Ramsar.

Sites of Special Scientific Interest (SSSI)

4.3.14. Many SSSIs are also designated as sites of international importance and will be protected accordingly. Those that are not, or those features of SSSIs not covered by an international designation, should be given a high degree of protection in recognition of their national significance. All National Nature Reserves are also notified as SSSIs.

4.3.15. Where a proposed development is likely to have a significant adverse effect on an SSSI (either individually or in combination with other developments), development consent should not normally be granted. Where an adverse effect on the site's notified special interest features is likely, an exception should be made only where the benefits of the development at this site clearly outweigh both the impacts that it is likely to have on the features of the site that make it of special scientific interest, and any broader impacts on the national network of SSSIs. The Secretary of State should ensure that the applicant's proposals to mitigate the harmful[107] aspects of the development and, where possible, to ensure the

[107] In line with the principle above, the term "harm" should be understood to mean significant harm.

conservation and enhancement of the site's biodiversity or geological interest, are acceptable. Where necessary, requirements and/or planning obligations should be used to ensure these proposals are delivered.

Marine Conservation Zones

4.3.16. Marine Conservation Zones introduced under the Marine and Coastal Access Act 2009, are areas that have been designated for the purpose of conserving marine flora or fauna, marine habitat or types of marine habitat or features of geological or geomorphological interest. The protected feature or features and the conservation objectives for the Marine Conservation Zones are stated in the designation order for the Marine Conservation Zones, which provides statutory protection for these areas. Measures to restrict damaging activities will be implemented by the Marine Management Organisation and other relevant organisations. The Secretary of State is bound by the duties in relation to Marine Conservation Zones imposed by sections 125 and 126 of the Marine and Coastal Access Act 2009.

Regional and Local Sites

4.3.17. Sites of regional and local biodiversity and geological interest (which include Local Geological Sites, Local Nature Reserves and Local Wildlife Sites and Nature Improvement Areas) have an important role to play in meeting national biodiversity goals and targets, in contributing to the quality of life and the well-being of the community, and in supporting research and education. The Secretary of State should give due consideration to such regional or local designations to ensure that these sites are safeguarded. However, given the need for new infrastructure, these designations should not be used in themselves to refuse development consent where harm cannot be avoided (through locating on an alternative site with less harmful impacts) or adequately mitigated. In these circumstances, there should be compensatory measures.

Irreplaceable habitats including ancient woodland and ancient or veteran trees

4.3.18. Ancient woodland is a valuable biodiversity resource both for its diversity of species and for its longevity as woodland. Once lost it cannot be recreated. Developers should identify ways to avoid negative effects on ancient woodland and ancient and veteran trees. This could include selecting an alternative site for development or redesigning the scheme. The Secretary of State should not grant development consent for any development that would result in the loss or deterioration of irreplaceable habitats including ancient woodland and ancient or veteran trees found outside ancient woodland, unless there are wholly exceptional reasons for the development, and a suitable compensation strategy exists.

Protection of other habitats and species

4.3.19. Many individual wildlife species receive statutory protection under a range of legislative provisions[108]. Other species and habitats have been identified as being of principal importance for the conservation of biodiversity in England and Wales[109] and therefore requiring conservation and enhancement action, as set out in the Environment Act 2021 and the biodiversity target[110]. The Secretary of State should ensure that applicants have taken measures to ensure these species and habitats are protected from the adverse effects of development. Where appropriate, requirements or planning obligations may be used in order to deliver this protection. The Secretary of State should refuse consent where it would result in harm to these habitats and species unless the benefits of the development (including need) clearly outweigh that harm.

Biodiversity net gain

4.3.20. Biodiversity net gain delivers measurable improvements for biodiversity by creating or enhancing habitats in association with development. Biodiversity net gain should be applied in conjunction with the mitigation hierarchy and does not change or replace existing environmental obligations. It does not override protection for designated sites, protected or priority species and irreplaceable or priority habitats.

4.3.21. Development should contribute to and enhance the natural environment by providing net gains for biodiversity. Applicants should use the latest version of the biodiversity metric[111] to calculate their biodiversity baseline and inform their biodiversity net gain outcomes and should present this data as part of their application. Biodiversity net gain can be delivered onsite, within the development footprint. Applications for development consent should include details of any proposed on-site biodiversity gains.

4.3.22. Biodiversity net gain can also be delivered wholly or partially off-site. Any off-site delivery of biodiversity net gain should also be set out within the application for development consent. When delivering biodiversity net gain off-site, developments should do this in a manner that best contributes to the achievement of relevant

[108] Certain plant and animal species, including all wild birds, are protected under the Wildlife and Countryside Act 1981. European plant and animal species are protected under the Conservation of Habitats and Species Regulations 2017 (as amended). Some other animals are protected under their own legislation, for example Protection of Badgers Act 1992.
[109] Lists of habitats and species of principal importance for the conservation of biological diversity in England published in response to Section 41 of the Natural Environment and Rural Communities Act 2006 are available from the Biodiversity Action Reporting System website.
[110] https://www.legislation.gov.uk/ukpga/2021/30/contents/enacted and https://www.legislation.gov.uk/ukdsi/2022/9780348242966
[111] Statutory biodiversity metric tools and guides - GOV.UK

wider strategic outcomes, for example by increasing habitat connectivity or enhancing other ecosystem service outcomes. Reference should be made to relevant national or local plans and strategies, such as green infrastructure strategies or Nature Recovery Networks[112][113], to inform off-site biodiversity net gain delivery. Applicants are encouraged to refer to industry good practice principles and guidance for development before preparing their application. Where biodiversity net gain considerations have featured as part of the water resources management plan strategic options appraisal process to select a project, then applicants could reference that information to supplement the site-specific details.

4.3.23. Development proposals potentially provide many opportunities for building in beneficial biodiversity or geological features as part of good design. When considering proposals, the Secretary of State should consider whether the applicant has maximised such opportunities in and around developments. The Secretary of State may use requirements or planning obligations where appropriate in order to ensure that such benefits are delivered.

4.3.24. Schedule 15 of the Environment Act 2021 contains provisions for a mandatory biodiversity net gain requirement for Nationally Significant Infrastructure Projects (NSIPs).[114] A government Biodiversity Gain Statement will set out the requirements on biodiversity net gain for NSIPs.

4.4. Climate change mitigation - greenhouse gas emissions

Introduction

4.4.1. The Planning Act requires that a National Policy Statement must give reasons for the policy set out in the statement and an explanation of how the policy set out in the statement takes account of government policy relating to the mitigation of, and adaptation to, climate change. This section focuses on mitigation. The government has a number of international and domestic duties and commitments to limit greenhouse gas emissions.

4.4.2. Anthropogenic activities continue to increase the concentration of greenhouse gases in the atmosphere. The Climate Change Act 2008, as amended in 2019,

[112] https://www.gov.uk/government/publications/nature-recovery-network/nature-recovery-network
[113] If published, the relevant strategy is the Local Nature Recovery Strategy (LNRS). If an LNRS has not been published, the relevant consenting body or planning authority may specify alternative plans, policies or strategies to use.
[114] https://www.legislation.gov.uk/ukpga/2021/30/schedule/15/enacted

establishes a legally binding target to reduce the UK's greenhouse gas emissions[115] to at least 100% below 1990 levels by 2050[116] otherwise known as achieving 'net zero'.

4.4.3. To drive progress and set the UK on a pathway towards this target, the Climate Change Act 2008 introduced a system of carbon budgets[117]. This system provides legally binding limits on the amount of emissions that may be produced in successive 5 year periods. These targets help to ensure that both current and future generations take the action needed to reduce greenhouse gas emissions. The UK's Sixth Carbon Budget put into law a target to reduce greenhouse gas emissions[118] – meaning emissions will be approximately 77% lower in 2035 than in 1990.

4.4.4. The Paris Agreement was adopted in 2015 and marked a clear turning point towards a global sustainable and net zero future, requiring countries to have national mitigation plans (known as Nationally Determined Contributions) to limit emissions, with the international goal of keeping global warming well below 2°C and pursuing efforts to limit warming to 1.5°C.

4.4.5. As of December 2020, the UK has committed to a revised Nationally Determined Contribution which commits the UK to an at least 68% reduction in economy-wide greenhouse gas emissions compared to 1990 levels by the year 2030.

4.4.6. Whilst the Paris Agreement also includes a collective aim to reach net zero in the second half of the century, the UK has legislated to reduce our domestic greenhouse gas emissions to net zero ahead of this, by 2050. The government's policies for the post 2050 period have not yet been set, but when the policies are developed, and where these are not yet part of a revised National Policy Statement for water resources infrastructure, the applicant should consider these separately where relevant.

4.4.7. The government's 2050 net zero target was set following the publication of the Intergovernmental Panel on Climate Change's Special Report on Global Warming of 1.5 degrees Celsius and subsequent advice from the government's independent advisors the Climate Change Committee on the issue of how the UK's target could be set, bearing in mind the Paris Agreement and its 1.5 degrees Celsius temperature goal. The government has also set out policy and planned action in relation to infrastructure in the National Infrastructure Strategy[119].

---

[115] The targeted greenhouse gases are: carbon dioxide, methane, nitrous oxide, hydrofluorocarbons, perfluorocarbons and sulphur hexafluoride.
[116] https://www.legislation.gov.uk/uksi/2019/1056/contents/made
[117] Carbon budgets consider all 6 targeted greenhouse gases.
[118] To 965MtCO2e between 2033 – 2037.
[119] https://www.gov.uk/government/publications/uk-infrastructure-a-10-year-strategy

4.4.8. The development of water resources infrastructure could give rise to greenhouse gas emissions during development phases. Examples of potential impacts of water resources nationally significant infrastructure projects on greenhouse gas emissions include:

- during construction: HGV movements, construction plant and the embodied carbon in raw materials
- during operation: energy use required for pumping and treatment of water (and other associated infrastructure needs) and a small number of vehicle movements

4.4.9. The potential greenhouse gas emissions will vary by type of infrastructure. For example, the desalination process can involve energy intensive treatment and in consequence, operational emissions might be significant.

Applicant's assessment

4.4.10. Climate impacts are considered as part of the water resources management plan options appraisal process. This information may be useful in the preparation of site-specific assessments.

4.4.11. While it is unlikely that any emissions increase from an individual development of water resources infrastructure will materially affect the government's ability to meet its emissions targets[120], the applicant should provide evidence of the climate impact of the development and an assessment of emissions associated with construction and operation against the water company's ability to deliver its contribution to the government's targets and commitments. Information from the water resources management plan should provide useful contextual information on how it proposes to reduce its greenhouse gas emissions.

4.4.12. Where a proposed development is an Environmental Impact Assessment development under the Environmental Impact Assessment Regulations[121], the applicant should undertake an assessment of the project as part of the Environmental Statement, to include an assessment of any likely significant climate effects on the project itself. Where there are residual emissions, the applicant should also provide evidence of the climate impact of the project (including

[120] The water industry sector is committed to reducing its greenhouse gas emissions to net zero, ahead of the UK's target, by 2030. Water UK has published a roadmap on how the sector intends to achieve this: https://www.water.org.uk/routemap2030/ . The government welcomes and supports the sector's approach.
[121] Infrastructure Planning (Environmental Impact Assessment) Regulations 2017 (S.I. 2017/572). Regulation 5(2)(c) refers to the significant effects of the proposed development on, among other factors, climate.

embodied carbon), both from construction and operation, such that it can be assessed against the government's climate obligations[122].

Mitigation

4.4.13. Evidence of appropriate mitigation measures (where appropriate incorporating engineering plans on configuration and layout, and use of materials) in design, construction and operation should be presented. The applicant should demonstrate that it has investigated feasible options in terms of using:

- energy efficient technology or processes
- energy recovery technologies or processes
- renewable energy sources, produced either on site or linked to any local renewable energy initiatives
- greenhouse gas offsetting measures

4.4.14. Examples of the mitigation that could be considered for the proposed development include:

- maximising the use of on-site materials, which could reduce HGV movements
- incorporating the use of energy efficient materials, building techniques and energy efficient pumping and water treatment equipment
- gravity fed transfers could require less energy requirements for pumping
- opportunities could be sought for the use of, or generation of, renewable energy to help offset additional operational carbon emissions
- offsetting through woodland creation on or adjacent to the site and registered with the Woodland Carbon Code

Decision making

4.4.15. Any increase in greenhouse gas emissions from the project alone is not a reason to refuse development consent for infrastructure to secure water supplies, unless the increase in greenhouse gas emissions resulting from the project is so significant that it would have a material impact on the ability of the government to meet its greenhouse gas reduction obligations and commitments including but not limited to, net zero, the Nationally Determined Contribution and carbon budgets.

4.4.16. The Secretary of State will consider the effectiveness of the mitigation measures in order to ensure that the greenhouse gas emissions are as low as

[122] Including the level of emissions and the impact of those on national and international efforts to limit climate change, both alone and where relevant in combination with other developments at a regional or national level, or sector level.

reasonably practicable. The Secretary of State's view of the adequacy of the mitigation measures will be a material factor in the decision-making process, particularly the applicant's proposed offsetting measures, for any significant emissions expected from the project.

4.5. Coastal change

Introduction

4.5.1. Where infrastructure projects are proposed on or near the coast, coastal change is likely to be a key consideration (see section 3.7 on Climate change adaptation). This section is concerned both with the impacts which water resources infrastructure (primarily desalination projects) can have as a driver of coastal change and with how to ensure that developments are resilient to ongoing and potential future coastal change. The aim of the government's planning policy is to reduce risk from coastal change by avoiding inappropriate development in vulnerable areas or adding to the impacts of physical changes to the coast.

4.5.2. The construction of water resources infrastructure on the coast may involve, for example, the construction of discharge outfalls and abstraction points, dredging and flood and coastal protection measures which could result in direct effects on the coastline, seabed, marine ecology and biodiversity, and the historic environment. The effluent discharge from the desalination process may be concentrated saline and require careful management, such as through permitting, marine licences or other mechanisms in the Development Consent Order.

4.5.3. Additionally, indirect changes to the coastline and seabed might arise as a result of a hydrodynamic response to some of these direct changes. This could lead to localised or more widespread coastal erosion or accretion and changes to offshore features such as submerged banks and ridges, marine biodiversity and the historic environment.

4.5.4. This section only applies to water resources infrastructure projects situated on or are close enough so as to affect the coast. The sections on biodiversity and geological conservation, flood risk, the historic environment and climate change adaptation, including the increased risk of coastal erosion, are also relevant, as are sections on access to coastal recreation sites and features in the section on land use.

Applicant's assessment

4.5.5. Applications for development in a Coastal Change Management Area should make it clear why there is a need for it to be located in a Coastal Change Management Area[123]. If this is the case, applicants should consult the local planning authority, Environment Agency, Inshore Fisheries and Conservation Authorities, and other relevant bodies on the scope of an assessment of the vulnerability of the proposed development to coastal change, to help demonstrate its appropriateness in such a location. The applicant should take into account the potential impacts of climate change during the infrastructure's operational life using the latest UK Climate Change Risk Assessment, the latest set of UK Climate Projections, and other relevant sources of climate change evidence.

4.5.6. For projects involving dredging or disposal into the sea, the applicant should consult the Marine Management Organisation, and where appropriate, for cross-boundary impacts, Natural Resources Wales and NatureScot, at an early stage. The applicant should also consult the Marine Management Organisation on projects which could impact on coastal change, since the Marine Management Organisation may also be involved in considering other projects which may have related coastal impacts. The applicant should examine the broader context of coastal protection around the proposed site and the influence in both directions, meaning coast on site and site on coast.

4.5.7. The applicant should be particularly careful to identify any effects of physical changes on the integrity and special interest features of Marine Conservation Zones, habitats sites and Sites of Special Scientific Interest. The applicant should also identify that the development will not significantly affect the ability of these designated sites and their interest features to adapt to climate change, through (for example) mechanisms such as coastal squeeze. For any projects affecting the above marine protected areas, the applicant should consult Natural England and where appropriate, for cross-boundary impacts, Natural Resources Wales and NatureScot, at an early stage.

Mitigation

4.5.8. Applicants should propose appropriate mitigation measures to address any adverse physical changes to the coast in consultation with the Marine Management Organisation, the Environment Agency, Natural England, Natural Resources

[123] Coastal Change Management Areas are areas identified in Local Plans as likely to be affected by coastal change (physical change to the shoreline through erosion, coastal landslip, permanent inundation or coastal accretion).

Wales[124], NatureScot[125], Local Planning Authorities, other statutory consultees, Coastal Partnerships and other coastal groups. The applicant should demonstrate what mitigation measures have been agreed.

Decision making

4.5.9. When assessing applications in a Coastal Change Management Area, the Secretary of State should not grant development consent unless it is demonstrated that the:

- development will be safe from flood risk and coastal erosion over its planned operational lifetime and will not have an unacceptable impact on coastal change (for example significant effects related to habitats, navigation, fisheries or flood and coastal erosion risk)
- character of the coast (including designations) is not compromised unacceptably
- development provides wider sustainability benefits
- development does not hinder the creation and maintenance of a continuous, signed and managed route around the coast

4.5.10. The Secretary of State should consider whether the mitigation requirements put forward by an applicant are acceptable and will be delivered and whether any requirements and/or obligations should be attached to any grant of Development Consent Order to secure their delivery.

4.5.11. Essential infrastructure may be granted development consent in a Coastal Change Management Area, provided there are clear plans to manage the impacts of coastal change on it, and it will not have an adverse impact on rates of coastal change elsewhere.

4.5.12. Resilient and long-term adaptive design could help to mitigate against coastal change. The Secretary of State should ensure that any development consent granted in a Coastal Change Management Area is not impacted by coastal change – if necessary, by limiting the planned lifetime of the proposed development and including restoration requirements where these are necessary to reduce the risk to people and the development.

4.5.13. In addition to the National Policy Statement, the Secretary of State must have regard to the appropriate marine policy documents, as provided for in the Marine and Coastal Access Act 2009, in taking any decision which relates to the exercise of any function capable of affecting any part of the UK marine area. The

[124] As relevant
[125] As relevant

Secretary of State should also have regard to any relevant Shoreline Management Plans[126]. In the event of a conflict between any of these marine policy documents and the National Policy Statement, the National Policy Statement prevails for the purposes of decision making given the national significance of the infrastructure.

4.5.14. Substantial weight should be attached to the risks of flooding (see section 4.7) and coastal erosion. The applicant must demonstrate that full account has been taken of the policy on assessment and mitigation in the National Policy Statement, taking account of the potential effects of climate change on these risks as discussed above.

4.6. Dust, odour, artificial light, smoke and steam

Introduction

4.6.1. The construction and operation of water resources infrastructure, common to any infrastructure project, has the potential to create a range of emissions such as dust, odour, artificial light, smoke and steam. All have the potential to have a detrimental impact on amenity or cause a common law nuisance or statutory nuisance under Part III, Environmental Protection Act 1990[127]. These may also be covered by pollution control or other environmental consenting regimes.

4.6.2. Because of the potential effects of these emissions and in view of the availability of the defence of statutory authority against nuisance claims, it is important that the potential for these impacts is considered by the applicant in its application, by the Examining Authority in examining applications, and by the Secretary of State in taking decisions on development consent.

4.6.3. For nationally significant infrastructure projects covered by the National Policy Statement, some impact on amenity for local communities is likely to be unavoidable, particularly during construction. Impacts should be kept to a minimum and should be at a level that is acceptable.

[126] Shoreline management plans are developed by Coastal Groups with members mainly from local councils and the Environment Agency. They identify the most sustainable approach to managing the flood and coastal erosion risks to the coastline in the short term (0 to 20 years), medium term (20 to 50 years) and the long term (50 to 100 years). The Shoreline Management Plan is available online at: https://www.gov.uk/government/publications/shoreline-management-plans-smps

[127] http://www.legislation.gov.uk/ukpga/1990/43/part/III

Applicant's assessment

4.6.4. Where the development is subject to an Environmental Impact Assessment, the applicant should assess any likely significant effects on amenity from a range of emissions such as dust, odour, artificial light, smoke and steam, and describe these in the Environmental Statement. In particular, the assessment provided by the applicant should describe:

- the type and quantity of emissions
- aspects of the development which may give rise to emissions during construction, operation and decommissioning
- premises or locations that may be affected by the emissions
- effects of the emission on identified premises or locations
- measures to be employed in preventing or mitigating the emissions

4.6.5. The applicant is advised to consult the relevant local planning authority and, where appropriate, the Environment Agency, about the scope and methodology of the assessment.

Mitigation

4.6.6. The Secretary of State should ensure the applicant has provided sufficient information to show that any necessary mitigation will be put into place. In particular, the Secretary of State should consider whether to require the applicant to abide by a scheme of management and mitigation concerning emissions of dust, odour, artificial light, smoke and steam from the development to reduce any loss to amenity which might arise during the construction and operation of the development. A construction management plan may help clarify and secure mitigation.

Decision making

4.6.7. The Secretary of State should be satisfied that all reasonable steps have been taken, and will be taken, to minimise any detrimental impact on amenity from emissions of dust, odour, artificial light, smoke and steam. This includes the impact of light pollution from artificial light on local amenity, intrinsically dark landscapes and nature conservation.

4.6.8. If development consent is granted for a project, the Secretary of State should consider whether there is a justification for all of the authorised project (including any associated development) being covered by a defence of statutory authority against nuisance claims.

4.7. Flood risk

Introduction

4.7.1. Climate change over future decades is likely to result in milder, wetter winters and hotter, drier summers in the UK, while sea levels will continue to rise. These factors will lead to increased flood risk in areas susceptible to flooding, and to an increased risk of flooding in some areas not currently thought of as being at risk. In addition to increasing flood risk, longer term climate change will result in changes to weather-related disruption, most often caused by wind, rain, snow and ice.

4.7.2. The National Planning Policy Framework sets out that inappropriate development in areas at risk of flooding should be avoided by directing development away from areas at highest risk, whether existing or future. But where development is necessary, it should be made safe without increasing flood risk elsewhere. Supporting guidance[128] explains that essential infrastructure (which can include nationally significant infrastructure projects covered by the National Policy Statement) is permissible in areas of high flood risk, subject to the sequential and exception tests[129]. In addition, as set out in the National Planning Policy Framework new development should be planned to avoid increased vulnerability to the range of impacts arising from climate change.

4.7.3. The development of water resources infrastructure could affect, or be affected by, areas at risk of flooding during construction and operational phases. Reservoirs, in particular, offer opportunities to assist with local flood risk management, by for example controlling abstraction or discharge volumes during critical flood risk periods. The scope of these opportunities will be dependent on location and operational priorities for public water supply.

Applicant's assessment

4.7.4. Applications for infrastructure projects in the following locations should be accompanied by a flood risk assessment:

- Flood Zones 2 and 3 (medium and high probability of river and sea flooding)
- Flood Zone 1 (low probability of river and sea flooding) for projects of 1 hectare or greater (or where strategic flood risk assessments identify land as being at increased flood risk in future), or projects that may be subject to other sources of flooding (local watercourses, surface water, groundwater,

[128] http://planningguidance.communities.gov.uk/blog/guidance/flood-risk-and-coastal-change/
[129] https://www.gov.uk/guidance/flood-risk-assessment-the-sequential-test-for-applicants

canals or reservoirs), or where the Environment Agency has notified the local planning authority that there are critical drainage problems

4.7.5. For local flood risk (surface water, groundwater and ordinary watercourse flooding), local flood risk management strategies and surface water management plans provide useful sources of information for consideration in flood risk assessments. Surface water flood issues need to be understood and these issues taken into account; for example, flow routes should be clearly identified and managed.

4.7.6. The applicant should identify and assess the risks of all forms of flooding to and from the development, and demonstrate how these flood risks will be managed, taking climate change into account[130]. Indeed, reservoirs can also be used in some circumstances to store water to mitigate flooding impacts.

4.7.7. In preparing a flood risk assessment the applicant should:

- consider the risk of all forms of flooding arising from the development, in addition to the risk of flooding to the project, and demonstrate how these risks will be managed and, where relevant, mitigated, so that the development remains safe throughout its lifetime[131]
- take into account the impacts of climate change, clearly stating the development lifetime over which the assessment has been made, and the range of climate scenarios considered
- explore opportunities for enhancing local flood risk management (for example, through increased water storage or adapting operational aspects of the infrastructure during critical flood risk periods)
- consider the need for safe access and exit arrangements
- include the assessment of residual risk after risk reduction measures have been taken into account, and demonstrate that this is acceptable for the development
- consider if there is a need to remain operational during a worst-case flood event over the development's lifetime
- provide evidence for the Secretary of State to apply the Sequential Test and Exception Test[132], as appropriate

4.7.8. Where the development may be affected by, or may add to, flood risk, the applicant is advised to seek early pre-application discussions with the Environment Agency, and, where relevant, other flood risk management bodies such as lead local flood authorities, Internal Drainage Boards, sewerage undertakers, highways authorities,

[130] https://www.gov.uk/guidance/flood-risk-assessments-climate-change-allowances
[131] Updated flood maps are available on the Environment Agency's website
[132] National Planning Policy Framework, 'Planning and Flood Risk: https://www.gov.uk/government/publications/national-planning-policy-framework--2

Canal & River Trust and reservoir owners and operators. These discussions can be used to identify the likelihood and possible extent and nature of the flood risk, help scope the flood risk assessment, and identify the information that may be required by the Secretary of State to reach a decision on the application. If the Environment Agency has concerns about proposals on flood risk grounds, the applicant is encouraged to discuss these concerns at a sufficiently early stage with the Environment Agency and explore ways in which the proposal might be amended, or additional information provided, which would satisfy the Environment Agency concerns, before the application for development consent is submitted.

Mitigation

4.7.9. The applicant should ensure that the development's design takes into account flood risk and should put forward measures to mitigate the impact of flooding. Mitigation measures will need to be developed as part of the applicant's application for development consent to ensure that it is safe from flooding and will not increase flood risk elsewhere for the proposed development's lifetime, taking into account climate change.

4.7.10. To manage flood risk satisfactorily and the impact of the natural water cycle on people, property and ecosystems, good design and infrastructure mitigation measures may need to be secured using requirements and/or planning obligations. This may include the use of sustainable drainage systems but could also include vegetation to help to slow runoff, hold back peak flows, and make landscapes more able to absorb the impact of severe weather events. Offsite mitigation may also be required, for example securing land for flood storage/conveyance purposes or providing contributions towards other flood risk management activities provided by other organisations.

4.7.11. In the National Policy Statement, the term sustainable drainage systems is used and taken to cover the whole range of sustainable approaches to surface water drainage management including:

- source control measures, including rainwater recycling and drainage
- infiltration devices to allow water to soak into the ground, which can include individual soakaways and communal facilities
- filter strips and swales, which are vegetated features that hold and drain water downhill mimicking natural drainage patterns
- filter drains and porous pavements to allow rainwater and runoff to infiltrate into permeable material below ground and provide storage if needed
- basins and ponds to hold excess water after rain and allow controlled discharge that avoids flooding

- flood routes to carry and direct excess water through developments to minimise the impact of surface water flooding

4.7.12. Site layout and surface water drainage systems should be able to cope with events that exceed the design capacity of the system, so that excess water can be safely stored on, or conveyed from, the site without adverse impacts.

4.7.13. The surface water drainage arrangements for any project should be such that the volumes and peak flow rates of surface water leaving the site are equivalent to greenfield runoff rates, taking into account climate change, unless specific off-site arrangements are made and result in the same net effect[133].

4.7.14. It may be necessary to provide surface water storage and infiltration to limit and reduce both the peak rate of discharge from the site and the total volume discharged from the application/main application site. There may be circumstances where it is appropriate for infiltration attenuation storage to be provided outside the project site, if necessary, through the use of a planning obligation or a Development Consent Order requirement.

4.7.15. The sequential approach should be applied to the layout and design of the project. Vulnerable uses should be located on parts of the site at lower probability and residual risk of flooding. The applicant should seek opportunities, where appropriate, to use open space for multiple purposes such as amenity, wildlife habitat, and flood storage uses. Opportunities can be taken to lower flood risk by improving flow routes, flood storage capacity and using sustainable drainage systems.

Decision making

4.7.16. Where flood risk is a factor in determining an application for development consent, the Secretary of State will need to be satisfied that, where relevant:

- the application is supported by an appropriate flood risk assessment
- the Sequential Test has been applied as part of site selection and, if required, the Exception Test

4.7.17. When determining an application, the Secretary of State will need to be satisfied that flood risk will not be increased elsewhere, and will only consider development appropriate in areas at risk of flooding where, informed by a flood risk assessment, following the Sequential Test and, if required, the Exception Test, it can be demonstrated that:

[133] https://www.gov.uk/government/publications/national-standards-for-sustainable-drainage-systems/national-standards-for-sustainable-drainage-systems-suds

- within the site, the most vulnerable development is located in areas of lowest flood risk, unless there are overriding reasons to prefer a different location
- the development is appropriately flood resistant and resilient
- it incorporates sustainable drainage systems, unless there is clear evidence that this would be inappropriate
- any residual risk can be safely managed
- safe access and escape routes are included where appropriate, as part of an agreed emergency plan

4.7.18. The applicant, the Examining Authority and the Secretary of State in taking decisions should take account of the policy on climate change adaptation as set out in the National Planning Policy Framework and supporting guidance[134]. The supporting guidance is updated regularly to incorporate the latest UK Climate Projections. The applicant should take into account the potential impacts of climate change using the latest UK Climate Change Risk Assessment[135], the latest set of UK Climate Projections, and other relevant sources of climate change evidence. The applicant should also ensure any Environment Statement and Flood Risk Assessment identifies appropriate mitigation or adaptation measures and how these will be secured. This should cover the estimated lifetime of the new infrastructure. Should a new set of UK Climate Projections become available after the preparation of an Environmental Statement, the Examining Authority or the Secretary of State will consider whether they need to request additional information from the applicant as part of the development consent application.

4.7.19. When determining an application, the Secretary of State will need to be satisfied that the potential effects of climate change on flood risk on the development have been considered as part of the design.

4.7.20. Approval for the development's overall approach to drainage systems will form part of any development consent issued by the Secretary of State[136]. The Secretary of State will therefore need to be satisfied that the proposed drainage system complies with the National Standards for Sustainable Drainage Systems. In addition, the Development Consent Order, or any associated planning obligations, will need to make provision for the adoption and maintenance of any Sustainable Drainage Systems, including any necessary access rights to property. The Secretary of State will need to be satisfied that the most appropriate body would be given the responsibility for maintaining any sustainable drainage systems, taking

[134] https://www.gov.uk/guidance/flood-risk-assessments-climate-change-allowances and https://www.gov.uk/government/publications/adapting-to-climate-change-for-risk-management-authorities
[135] See section 3.7.
[136] Drainage implications as defined in Paragraph 7(2) of Schedule 3 to the Flood and Water Management Act 2010 http://www.legislation.gov.uk/ukpga/2010/29/schedule/3/crossheading/requirement-for-approval

into account the nature and security of the infrastructure on the proposed site. The responsible body could include, for example, the applicant, the landowner (if different from the applicant), the relevant local authority, or another body such as the Internal Drainage Board or water company.

4.7.21. If the Environment Agency, or the lead local authority flood authority, objects to the granting of development consent on the grounds of flood risk, the Secretary of State can grant consent, but would need to be satisfied that all reasonable steps have been taken by the applicant and the Environment Agency or the lead local authority flood authority, to resolve the concerns.

4.8. Historic environment

Introduction

4.8.1. The construction and operation of water resources infrastructure has the potential to result in adverse impacts on the historic environment, above, at and below the surface.

4.8.2. The historic environment includes all aspects of the environment resulting from the interaction between people and places through time, including all surviving physical remains of past human activity, whether visible, buried or submerged, and landscaped and planted or managed flora.

4.8.3. Those elements of the historic environment identified as having a degree of significance meriting consideration in planning decisions because of their historic interest are called 'heritage assets'. Heritage assets may be buildings, monuments, sites, places, areas or landscapes, or any combination of these. The value of a heritage asset to this and future generations because of its heritage interest is referred to as its significance. The interest may be historic, archaeological, architectural or artistic. Significance derives not only from a heritage asset's physical presence, but also from its setting[137].

4.8.4. Some heritage assets have a level of significance that justifies official designation. Categories of designated heritage assets are:

- World Heritage Sites[138]

[137] Setting of a heritage asset is the surroundings in which it is experienced. Its extent is not fixed and may change as the asset and its surroundings evolve. Elements of a setting may make a positive or negative contribution to the significance of an asset, may affect the ability to appreciate that significance, or may be neutral.

[138] The Department for Culture, Media and Sport is responsible for consultation with UNESCO, but Historic England generally deal with the issues at a project level.

- Scheduled Monuments
- Listed Buildings
- Protected Wreck Sites
- Registered Parks and Gardens
- Registered Battlefields
- Conservation Areas[139]

4.8.5. Non-designated heritage assets of archaeological interest that are demonstrably of equivalent significance to Scheduled Monuments should be considered subject to the policies for designated heritage assets[140]. The absence of designation for such heritage assets does not indicate lower significance.

4.8.6. The Secretary of State will also consider the effects of the proposed development on other non-designated heritage assets in determining applications for development consent. Any non-designated heritage assets would be identified either through the development plan process by local authorities, including 'local listing', or through the nationally significant infrastructure project examination and decision-making process.

Applicant's assessment

4.8.7. Where the development is subject to Environmental Impact Assessment the applicant should undertake an assessment of any likely significant heritage impacts, including cumulative impacts, as part of the Environmental Statement.

4.8.8. The applicant should provide, as part of the Environmental Statement, a description of the significance of the heritage assets affected by the proposed development, and the contribution of their setting to that significance. The level of detail should be proportionate to the asset's importance, and no more than is sufficient to understand the potential impact of the proposal on the significance of the asset. As a minimum, the relevant Historic Environment Record[141] and National Heritage List for England should be consulted, and the heritage assets assessed using appropriate expertise where necessary. Where a site on which development is

[139] The issuing of licences to undertake works on protected wreck sites in English waters is the responsibility of the Secretary of State for Culture, Media and Sport and does not form part of Development Consent Orders. The issuing of licences for protected military remains is the responsibility of the Secretary of State for Defence.
[140] There will be archaeological interest in a heritage asset if it holds, or may potentially hold, evidence of past human activity worthy of expert investigation at some point.
[141] Historic Environment Records are information services maintained and updated by (or on behalf of) local authorities and National Park Authorities with a view to providing access to comprehensive and dynamic resources relating to the historic environment of an area for public benefit and use. Details of Historic Environment Records in England are available from the Heritage Gateway website. Historic England should also be consulted where relevant.

proposed includes, or has the potential to include, heritage assets with archaeological interest, the applicant should include an appropriate desk-based assessment and, where necessary, an appropriate level of field evaluation. The applicant should ensure that the extent of the impact of the proposed development on the significance of any heritage asset affected can be adequately understood from the application and supporting documents.

4.8.9. The applicant is encouraged, where opportunities exist, to prepare proposals which can make a positive contribution to the historic environment, and to consider how their scheme takes account of the significance of heritage assets affected. This can include, where possible:

- enhancing, through a range of measures such as sensitive design, the significance of heritage assets including its setting
- considering measures that address those heritage assets that are at risk, or which may become at risk, as a result of the scheme
- considering how visual or noise impacts can affect heritage assets, and whether there may be opportunities to enhance access to or interpretation, understanding and appreciation of the heritage assets affected by the scheme

4.8.10. Careful consideration in preparing the scheme will be required on whether the impacts on the historic environment will be direct or indirect, temporary or permanent.

Mitigation

4.8.11. A documentary record of our past is not as valuable as retaining the heritage asset, and therefore the ability to record evidence of the asset should not be a factor in deciding whether such loss should be permitted, and whether or not consent should be given.

4.8.12. Where the loss of the whole or part of a heritage asset's significance is justified, the Secretary of State will require the applicant to record and advance understanding of the significance of the heritage asset before it is lost (wholly or in part). The extent of the requirement should be proportionate to the asset's importance and significance and the impact. The applicant should be required to publish this evidence and to deposit copies of the reports with the relevant Historic Environmental Record. They should also be required to deposit the archive generated in a local museum or other public repository willing to receive it.

4.8.13. Where appropriate, the Secretary of State will impose requirements on the Development Consent Order to ensure that the work is undertaken in a timely manner, in accordance with a written scheme of investigation that complies with the

policy in the National Policy Statement and which has been agreed in writing with the relevant local authority, and to ensure that the completion of the exercise is properly secured.

4.8.14. Where there is a high probability (based on an adequate assessment) that a development site may include, as yet undiscovered heritage assets with archaeological interest, the Secretary of State will consider requirements to ensure appropriate procedures are in place for the identification and treatment of such assets discovered during construction.

Decision making

4.8.15. In determining applications, the Secretary of State will identify and assess the particular significance of any heritage asset that may be affected by the proposed development (including affecting the setting of a heritage asset), taking account of the available evidence and any necessary expertise from:

- relevant information provided with the application and, where applicable, relevant information submitted during examination of the application
- any designation records included on the National Heritage List for England
- historic landscape character records
- the relevant Historic Environment Record(s) and similar sources of information[142]
- representations made by interested parties during the examination
- expert advice, where appropriate and when the need to understand the significance of the heritage asset demands it

4.8.16. The Secretary of State must also comply with the obligations relating to Listed Buildings, Conservation Areas and Scheduled Monuments set out in the Infrastructure Planning (Decisions) Regulations 2010[143].

4.8.17. In considering the impact of a proposed development on any heritage assets, the Secretary of State will take into account the particular significance of the heritage asset. This understanding should be taken into account when considering the impact of a proposal on a heritage asset to avoid or minimise any conflict between the conservation of the heritage asset and any aspect of the proposal.

4.8.18. The Secretary of State will take into account the desirability of sustaining and enhancing the significance of heritage assets and putting them to viable uses

[142] Historic Environment Good Practice Advice in Planning: 2 - Managing Significance in Decision-Taking in the Historic Environment, available online at: https://historicengland.org.uk/images-books/publications/gpa2-managing-significance-in-decision-taking/
[143] http://www.legislation.gov.uk/uksi/2010/305/regulation/3/made

consistent with their conservation and the positive contribution their conservation can make to sustainable communities, including their economic vitality. The Secretary of State will also take into account the desirability of new development making a positive contribution to the local character and distinctiveness. The consideration of design should include scale, height, massing, alignment, materials, use and landscaping (for example screen planting).

4.8.19. When considering the impact of a proposed development on the significance of a designated heritage asset, the Secretary of State will give great weight to the asset's conservation. The more important the asset, the greater the weight should be. This is irrespective of whether any potential harm amounts to substantial harm, total loss or less than substantial harm to its significance.

4.8.20. Once lost, heritage assets cannot be replaced, and their loss has a cultural, environmental, economic and social impact. Significance can be harmed or lost through alteration or destruction of the heritage asset or development within its setting. Any harm or loss to a designated heritage asset should require clear and convincing justification.

4.8.21. Substantial harm to or loss of a Grade II Listed Building or a Grade II Registered Park or Garden should be exceptional. Substantial harm to or loss of designated sites of the highest significance, including World Heritage Sites, Scheduled Monuments, Grade I and II* Listed Buildings, Protected Wreck Sites, Registered Battlefields, and Grade I and II* Registered Parks and Gardens should be wholly exceptional.

4.8.22. Any harmful impact on the significance of a designated heritage asset should be weighed against the public benefit of development, recognising that the greater the harm to the significance of the heritage asset, the greater the justification that will be needed for any loss.

4.8.23. Where the proposed water resources development will lead to substantial harm to or the total loss of significance of a designated heritage asset, the Secretary of State will refuse consent unless it can be demonstrated that the substantial harm or total loss of significance is necessary in order to deliver substantial public benefits that outweigh that loss or harm, or alternatively that all the following apply:

- the nature of the heritage asset prevents all reasonable uses of the site
- no viable use of the heritage asset itself can be found in the medium term through appropriate marketing that will enable its conservation
- conservation by grant funding or some form of not for profit charitable or public ownership is demonstrably not possible

- the harm or loss is outweighed by the benefit of bringing the site back into use

4.8.24. Where the proposed development will lead to less than substantial harm to the significance of a designated heritage asset, this harm should be weighed against the public benefits of the proposal, including, where appropriate, securing its optimum viable use.

4.8.25. The effect of an application on the significance of a non-designated heritage asset should be taken into account in determining the application. In weighing applications that affect directly or indirectly non-designated heritage assets, a balanced judgement will be required having regard to the scale of any harm or loss and the significance of the heritage asset.

4.8.26. Not all elements of a World Heritage Site or Conservation Area will necessarily contribute to its significance. The Secretary of State will treat the loss of a building (or other element) that makes a positive contribution to the significance of a World Heritage Site or Conservation Area's significance either as substantial harm or less than substantial harm, as appropriate, taking into account the relative significance of the elements affected and their contribution to the significance of the World Heritage Site or Conservation Area as a whole.

4.8.27. Where the loss of significance of any heritage asset is justified on the merits of the new development, the Secretary of State will consider imposing a requirement on the consent, or require the applicant to enter into an obligation, that will prevent the loss occurring until the relevant part of the development has commenced.

4.8.28. The applicant should look for opportunities for new development within Conservation Areas and World Heritage Sites, and within the setting of heritage assets, to enhance and better reveal their significance. Proposals that preserve those elements of the setting that make a positive contribution to, or better reveal the significance of, the asset should be treated favourably.

4.8.29. Where there is evidence of deliberate neglect of, or damage to, a heritage asset, the Secretary of State should not take its deteriorated state into account in any decision.

4.9. Landscape and visual impacts

Introduction

4.9.1. The landscape and visual impacts of a proposed water resources nationally significant infrastructure project will vary on a case-by-case basis according to the type of infrastructure (including any associated development), its location and the landscape setting of the proposed development. Landscape and visual effects also include tranquillity effects and other aspects of landscape, which can affect people's enjoyment of the natural environment and recreational facilities. In this context, references to landscape should be taken as covering waterscape, seascape and townscape, where appropriate. Where projects are proposed, in sensitive or protected landscapes, the applicant should consult at the earliest opportunity with the relevant local authority, National Park Authority or National Landscape partnership or Conservation Board.

Applicant's assessment

4.9.2. The applicant should undertake an assessment of any likely significant landscape and visual impacts and describe these in the Environmental Statement, including cumulative impacts. Guidelines have been produced to assist in addressing landscape issues[144] The landscape and visual assessment should include reference to any local landscape character assessment[145] or the National Character Area Profiles[146] and associated studies as a means of assessing landscape impacts relevant to the proposed development. In addition, the applicant's assessment should take account of any relevant policies based on these assessments in local development documents. Reference should also be made to the relevant protected landscape management plans.

4.9.3. The applicant's assessment should include any significant effects during construction of the development and/or the significant effects of the completed development and its operation on landscape components (such as field patters, hedges and trees, nature conservation etc.) and landscape character, including historic character and other associations.

4.9.4. The assessment should include the visibility and conspicuousness of the development during construction, and the presence and operation of the

[144] Latest version of: Guidelines for Landscape and Visual Impact Assessment.
[145] Natural England guidance on landscape and seascape character assessments https://www.gov.uk/guidance/landscape-and-seascape-character-assessments
[146] https://www.gov.uk/government/publications/national-character-area-profiles-data-for-local-decision-making/national-character-area-profiles

development and potential impacts on views and visual amenity. This should include any noise and light pollution effects, including on local amenity, tranquillity and dark skies.

4.9.5. Legislation already provides a high degree of protection for National Parks and National Landscapes (areas of outstanding natural beauty). Any application for development consent within, or to affect land in, a National Park, The Broads or National Landscape would need to comply with the duties set out in the National Parks and Access to Countryside Act 1949[147] and the Countryside and Rights of Way Act 2000[148] (as amended by s245 of the Levelling up and Regeneration Act 2023[149].

4.9.6. Where necessary, applicants will need to demonstrate how they have fulfilled the requirements set out in Defra's 'English National Parks and the Broads: UK government vision and circular 2010' or successor documents. These requirements should also be complied with where infrastructure projects impact on National Landscapes.

Mitigation

4.9.7. Reducing the scale of a project or making changes to its operation can help to avoid or mitigate the visual and landscape effects of a proposed project. However, reducing the scale or otherwise amending the design, or changing the operation of a proposed development, may result in a significant operational constraint and reduction in function. There may be exceptional circumstances where mitigation could have a very significant benefit and warrant a reduction in scale or function. In these circumstances, the Secretary of State may decide that the benefits of the mitigation to reduce the landscape and visual amenity effects outweigh the marginal loss of scale or function.

4.9.8. Adverse landscape and visual effects may be minimised through appropriate siting of infrastructure, design (including choice of materials), and landscaping schemes, depending on the size and type of proposed project. Materials and designs for infrastructure should always be given careful consideration (see section 3.6 on Criteria for 'good design' for water resources infrastructure).

4.9.9. Depending on the scale of the project, topography of the surrounding terrain and areas of population it may be appropriate to undertake landscaping off site,

[147] Section 11A of National Parks and Access to the Countryside Act 1949: https://www.legislation.gov.uk/ukpga/Geo6/12-13-14/97
[148] Section 85 of Countryside and Rights of Way Act 2000: https://www.legislation.gov.uk/ukpga/2000/37/section/85
[149] Guidance for relevant authorities on seeking to further the purposes of Protected Landscapes - GOV.UK

although if such landscaping was proposed to be consented by the Development Consent Order, it would have to be included within the order limits for that application. For example, filling in gaps in existing tree and hedge lines may help to mitigate the impact when viewed from a more distant vista.

Decision making

Landscape Character Impact

4.9.10. Landscape effects depend on the existing character of the local landscape, its current quality, how highly it is valued and its capacity to accommodate change. All these factors need to be considered in judging the impact of a proposed development on landscape and visual amenity. A proposed development needs to be designed and located carefully and with sensitivity, taking account of the potential impact on the landscape character and visual amenity. Having regard to siting, operational and other relevant constraints, the aim should be to avoid or minimise harm to the landscape and visual amenity, providing appropriate mitigation or enhancement measures where possible.

Development proposed within nationally designated landscapes

4.9.11. Great weight should be given to conservation and enhancement of natural beauty in nationally designated landscapes. National Parks, the Broads and National Landscapes have the highest status of protection in relation to landscape and natural beauty. Each of these designated areas has specific statutory purposes which help ensure their continued protection and which the Secretary of State has a statutory duty to seek to further their purposes when making decisions which affect the land within the designated area. National Park Authorities, Conservation Boards and relevant authorities with the responsibility for National Landscapes should be consulted at the earliest stages of the water resources management plan options appraisal process to test the feasibility and appropriateness of developing in these areas. The duty to seek to further the statutory purposes of protected landscapes also applies to local authorities (including National Park Authorities) and statutory undertakers.[150]

4.9.12. The Secretary of State should refuse development consent in these areas except in exceptional circumstances and where it can be demonstrated that the development is unavoidable and in the public interest. Consideration of such applications should include an assessment of:

[150] https://www.gov.uk/government/publications/the-protected-landscapes-duty/guidance-for-relevant-authorities-on-seeking-to-further-the-purposes-of-protected-landscapes

- the need for the development, including in terms of any national considerations, and the impact of consenting, or not consenting it, upon the local economy
- the cost of, and scope for, developing elsewhere, outside the designated area, or meeting the need for it in some other way
- any detrimental effect on the environment, the landscape and recreational opportunities, and the extent to which that could be moderated

4.9.13. Where consent is given in these areas, the Secretary of State should be satisfied that the applicant has ensured that the development will be carried out to high environmental standards and, where possible, includes measures to conserve and enhance natural beauty and related aspects of the environment. Where necessary, the Secretary of State should consider the imposition of appropriate requirements to ensure these standards and measures are delivered.

Developments outside nationally designated areas which might affect them

4.9.14. The duty to seek to further the statutory purposes of protected landscapes also applies when considering applications for projects outside the boundaries (in their "setting") of these areas but which may have impacts within them. The development should aim to avoid compromising the purposes of designation, and such projects should be designed sensitively given the various siting, operational, and other relevant constraints. A duty to have regard also applies to developments in England that may have impacts on designated landscapes in Wales and in Scotland.

Developments in other areas

4.9.15. Outside nationally designated areas, there are local landscapes that are highly valued locally. Where a local development document in England has policies based on landscape character assessment and identified valued landscapes, these should be given particular consideration. However, locally valued landscape should not be used in themselves as reasons to refuse consent, as this may unduly restrict acceptable development.

4.9.16. In taking decisions, the Secretary of State will consider whether the development has been designed carefully, taking account of environmental effects on the landscape and siting, operational and other relevant constraints, to avoid adverse effects on landscape or to minimise harm to the landscape, including by reasonable mitigation.

Visual Impacts

4.9.17. The Secretary of State will judge whether the visual effects on sensitive receptors, such as local residents, and other receptors, such as visitors to the local area, outweigh the benefits of the development. Coastal areas are particularly vulnerable to visual intrusion because of the potential high visibility of development on the foreshore, on the skyline and affecting views along stretches of undeveloped coast, especially those defined as Heritage Coast[151].

4.10. Land use including open space, green infrastructure and Green Belt

Introduction

4.10.1. The land use implications of a proposed water resources nationally significant infrastructure project will vary on a case-by-case basis according to the type of infrastructure (and any associated development) and its location. Applicants should engage at an early stage with relevant local, county or unitary planning authorities to discuss the land use implications of proposals (or the Marine Management Organisation in coastal locations). In the interests of making effective use of land, opportunities for using previously developed land should be fully investigated.

4.10.2. Green Belts, defined in a development plan, are situated around certain cities and built-up areas, including London. The fundamental aim of Green Belt policy is to prevent urban sprawl by keeping land permanently open. The essential characteristics of Green Belts are their openness and their permanence. Grey belt aims to balance the need for new housing and development with the protection of Green Belt land. Grey Belt land is previously developed land or Green Belt land that does not strongly contribute to the core purposes of Green Belt protection, such as preventing urban sprawl and merging of towns. Further information on the purposes and protection of Green Belt and Grey Belt is set out in the National Planning Policy Framework.

4.10.3. Best and most versatile agricultural land is land which is most flexible, productive and efficient in response to inputs, and which can best deliver future crops for food and non-food uses such as biomass, fibres and pharmaceuticals. This is land, which is in grades 1, 2 and 3a of the government's Agricultural Land

[151] See the National Planning Policy Framework: https://www.gov.uk/government/publications/national-planning-policy-framework--2

Classification. The National Planning Policy Framework is clear that local planning authorities should take into account the economic and other benefits of best and most versatile agricultural land. Where development on agricultural land is demonstrated to be necessary areas of poorer quality land should be preferred to those of higher quality. Planning practice guidance for the natural environment provides additional guidance on best and most versatile agricultural land and soil issues.

4.10.4. Development of land will affect soil resources, including physical loss of and damage to soil resources, through land contamination and structural damage. Indirect impacts may also arise from changes in the local water regime, organic matter content, soil biodiversity and soil process.

4.10.5. For developments on previously developed land, applicants should ensure that they have considered the risk posed by land contamination. Risks would require consideration in accordance with the contaminated land statutory guidance as a minimum.[152]

4.10.6. Access to high quality open spaces[153] and the countryside and opportunities for sport and recreation can be a means of providing necessary mitigation and/or compensation requirements. There is good and growing evidence that connecting people with green space can deliver positive health outcomes through the prevention of mental ill-health, as an alternative option for managing mild to moderate mental health conditions and in some cases supporting the management of more severe conditions. It can also deliver important benefits for recreation, physical health, social well-being and employment.

4.10.7. Green and blue infrastructure[154] can also enable developments to provide positive environmental, social, health and economic benefits. Green infrastructure includes green space such as parks and woodlands but also other environmental features such as street trees, hedgerows and green walls and roofs. It also includes blue infrastructure such as canals, rivers, streams, ponds lakes and their borders. Well designed and managed green and blue infrastructure provides multiple benefits at a range of scales. It can contribute to biodiversity recovery, sequester

[152] https://www.gov.uk/government/publications/contaminated-land-statutory-guidance
[153] Open space is defined in the Town and Country Planning Act 1990 as land laid out as a public garden, or used for the purposes of public recreation, or land which is a disused burial ground. However, in applying the policies in this section, open space should be taken to mean all open space of public value, including not just land, but also areas of water (such as rivers, canals, lakes and reservoirs) which offer important opportunities for sport and recreation and can act as a visual amenity.
[154] Green infrastructure is a network of multi-functional green spaces, both new and existing, both rural and urban, which supports the natural and ecological processes and is integral to the health and quality of life of sustainable communities. Blue infrastructure relates to features which incorporate the water environment.

carbon, absorb surface water, cleanse pollutants, absorb noise and reduce high temperatures.

4.10.8. As well as the economic contributions of productive forests, trees and woodlands also contribute to a number of other sustainability considerations including climate change adaptation and mitigation, water management and quality, biodiversity and health and wellbeing. The Environmental Improvement Plan and the environmental targets[155] recognises the need to protect existing trees and forests and increase canopy cover. Specific actions are set out in the England Trees Action Plan 2021 to 2024[156], including a commitment to ensure planning reforms will lead to more trees being planted and ensure strong protections for existing trees.

Applicant's Assessment

4.10.9. The applicant should identify existing and proposed land uses[157] near the project. This included any effects of replacing an existing development or use of the site with the proposed project or preventing a development or use on a neighbouring site from continuing. The applicant should also assess any effects of precluding a new development or use proposed in the development plan. The assessment should be proportionate to the scale of the preferred scheme and its likely impacts on such receptors. For developments on previously developed land, the applicant should ensure that they have considered the risk posed by land contamination and how it is proposed to address this.

4.10.10. Existing open space, sports and recreational buildings and land should not be developed unless the land is no longer needed or the loss would be replaced by equivalent or better provision in terms of quantity and quality in a suitable location. If the applicant is considering proposals which would involve developing such land, it should have regard to any local authority's assessment of need for such types of land and buildings and consult with the local community.

4.10.11. Existing trees and woodlands should be retained where possible. The applicant should assess the impacts on, and loss of, all trees and woodlands within the project boundary and develop mitigation measures to minimise adverse impacts and any risk of net deforestation as a result of the scheme. Mitigation may include use of buffers to enhance resilience, improvements to connectivity, and improved woodland management. Where woodland loss is unavoidable, compensation

[155] https://www.legislation.gov.uk/uksi/2023/90/contents/made
[156] https://www.gov.uk/government/publications/england-trees-action-plan-2021-to-2024
[157] For example, where a planning application has been submitted

schemes should be required and the long-term management and maintenance of newly planted trees should be secured.

4.10.12. During any pre-application discussions with the applicant, the local planning authority should identify any concerns it has about the impacts of the application on land use, having regard to the development plan and relevant applications and including, where relevant, whether it agrees with any independent assessment that the land is no longer needed. Early and ongoing discussion with the local planning authorities and the local community is important for projects, such as reservoirs, of significant scale. These are also matters that relevant local authorities may wish to include in their Local Impact Report which can be submitted after an application for development consent has been accepted.

4.10.13. The general policies controlling development in the countryside apply with equal force in Green Belts but there is, in addition, a general presumption against inappropriate development within them. Such development should not be approved except in very special circumstances which are already the subject of government guidance[158]. The applicant should therefore determine whether the proposal, or any part of it, is within the Green Belt and, if so, whether its proposal may be considered inappropriate development within the meaning of Green Belt policy. Metropolitan Open Land and land designated a Local Green Space in a local or neighbourhood plan are subject to the same policies of protection as Green Belt, and inappropriate development should not be approved except in very special circumstances.

4.10.14. Applicants should take into account the economic and other benefits of land. Applicants should seek to minimise impacts on the best and most versatile agricultural land. Where significant development on agricultural land is demonstrated by the applicant to be necessary, applicants should use poorer quality land (grades 3b, 4 and 5) where possible to minimise impacts on soil health (except where doing so would be inconsistent with other sustainability considerations). Assessments of agricultural land should be supported by relevant survey information to confirm the agricultural land grade. Applicants should also identify any effects on soil health and show how they would minimise those effects, including by proposing appropriate mitigation measures.

4.10.15. Where required, a preliminary assessment of ground instability should be carried out at the earliest possible stage. Applicants should ensure that any necessary investigations are undertaken to ascertain that the site is and will remain stable, or can be made so, as part of the development. The site needs to be

[158] https://www.gov.uk/guidance/housing-and-economic-land-availability-assessment#paragraph_044 and National Planning Policy Framework: https://www.gov.uk/government/publications/national-planning-policy-framework--2

assessed in context of surrounding areas where subsidence, landslides and land compression could threaten the development during its anticipated life or damage neighbouring land or property. Risks to the quality and quantity of groundwater resources should also be assessed. This could be in the form of a land stability or slope stability risk assessment report. Planning practice guidance[159] provides further advice on assessing land stability.

4.10.16. The applicant should identify and assess any impacts the proposed project may have for mineral safeguarded areas (or other minerals supply aspects) with the relevant Mineral Planning Authority.

Mitigation

4.10.17. The applicant can minimise the direct effects of a project on the existing use of the proposed site, or proposed uses near the site, by the application of good design principles, including the layout of the project and the protection of soils during construction[160][161].

4.10.18. Where green infrastructure is affected, the applicant should aim to ensure the functionality and connectivity of the green infrastructure network is maintained and any necessary works are undertaken, where possible, to mitigate any adverse impact and, where appropriate, to improve that network and other areas of open space, including appropriate access to National Trails and other public rights of way.

4.10.19. The Secretary of State must also consider whether mitigation of any adverse effects on green infrastructure or open space is adequately provided for by means of requirements, planning obligations, or any other means, for example to provide exchange land and provide for appropriate management and maintenance agreements. Any exchange land should be at least as good in terms of size, usefulness, attractiveness, quality and accessibility. Where sections 131 and 132 of the Planning Act apply[162], any replacement land provided under those sections will need to conform to the requirements of those sections.

4.10.20. Where the development has a sterilising effect on land use, there may be scope for this to be mitigated through, for example, using the land for nature

[159] Planning practice guidance on land stability https://www.gov.uk/guidance/land-stability
[160] https://www.gov.uk/government/publications/code-of-practice-for-the-sustainable-use-of-soils-on-construction-sites
[161] To inform sustainable soil management criteria (where appropriate), the agricultural land quality and soil types should be determined using the Agricultural Land Classification.
[162] http://www.legislation.gov.uk/ukpga/2008/29/section/131 and http://www.legislation.gov.uk/ukpga/2008/29/section/132

conservation or wildlife corridors or providing benefits associated with blue infrastructure.

4.10.21. Public rights of way, National Trails, and other rights of access to land are important recreational facilities for walkers, cyclists and equestrians. The applicant is expected to take appropriate mitigation measures to address adverse effects on National Trails, other public rights of way, and open access land and, where appropriate, to consider what opportunities there may be to improve or create new access (see sections 4.10.6 and 4.10.7 above). In considering revisions to an existing right of way, consideration needs to be given to the use, character, attractiveness and convenience of the right of way. The Secretary of State should consider whether the mitigation measures put forward by an applicant are acceptable and whether requirements or other provisions in respect of these measures might be attached to any grant of development consent.

Decision making

4.10.22. Where the proposed development conflicts with a proposal in a development plan or emerging development plan, the Secretary of State should take account of the stage which the development plan document in England has reached. In deciding what weight to give to the plan for the purposes of determining the planning significance of what would be replaced, prevented or precluded, the closer the development plan document is to being adopted by the local planning authority, the greater weight which can be attached to the impact of the proposal on that development plan[163].

4.10.23. The Secretary of State should not grant consent for development on existing open space, land used for sports and recreational buildings and for other sports and recreational purposes including playing fields, unless an assessment has been undertaken either by the local authority or independently, which has shown the open space and the buildings and/or land to be no longer needed. Alternatively, the Secretary of State determines that the benefits of the project (including need) outweigh the potential loss of such facilities, taking into account any positive proposals made by the applicant to provide new, improved or compensatory land or facilities.

4.10.24. Where networks of green or blue infrastructure have been identified in development plans, they should normally be protected from development and, where possible, strengthened by or integrated within it. The Secretary of State will

[163] See the National Planning Policy Framework for national policy on the weight to be given to policies in emerging plans.

also have regard to the effect of the development upon and resulting from existing land contamination, as well as the mitigation proposed.

4.10.25. The Secretary of State will take into account the economic and other benefits of the best and most versatile agricultural land and ensure the applicant has put forward appropriate mitigation measures to minimise impacts on soils or soil resources.

4.10.26. When located in the Green Belt, projects may comprise inappropriate development. Inappropriate development is, by definition, harmful to the Green Belt and there is a presumption against it except in very special circumstances. The Secretary of State will need to assess whether there are very special circumstances to justify inappropriate development. Very special circumstances will not exist unless the potential harm to the Green Belt by reason of inappropriateness, and any other harm, is clearly outweighed by other considerations. In view of the presumption against inappropriate development, the Secretary of State will attach substantial weight to the harm to the Green Belt when considering any application for such development.

4.10.27. In considering the impact on maintaining coastal recreation sites and features, the Secretary of State should expect an applicant to have taken advantage of opportunities to maintain and enhance access to the coast. In doing so, the Secretary of State should consider the implications of development for the creation of a continuous signed and managed route around the coast, as provided for in the Marine and Coastal Access Act 2009.

4.10.28. Where the development has an impact on a mineral safeguarding area, the Secretary of State must ensure that the applicant has put forward appropriate mitigation or compensation measures to safeguard mineral resources.

4.11. Noise and vibration

Introduction

4.11.1. Excessive noise can have wide-ranging impacts on the quality of human life and health such as annoyance, sleep disturbance and cardiovascular disease), use and enjoyment of areas of value (such as quiet or tranquil places) and areas with high landscape quality. Noise can also affect terrestrial and marine biodiversity. The government's policy is set out in the Noise Policy Statement for England[164]. It

[164] Noise Policy Statement for England, Defra, available online at: https://www.gov.uk/government/publications/noise-policy-statement-for-england

promotes good health and good quality of life through effective noise management. Similar considerations apply to vibration, which can also cause damage to buildings. In this section, in line with current legislation, references below to ‘noise’ apply equally to the assessment of impacts of vibration.

4.11.2. Factors that will determine the likely noise impact include:

- construction noise and the inherent operational noise from the proposed development and its characteristics
- the proximity of the proposed development to noise-sensitive premises, (including residential properties, schools and hospitals) and noise-sensitive areas (including certain parks and open spaces)
- the proximity of the proposed development to tranquil places and other areas that are particularly valued for their soundscape or landscape quality
- the proximity of the proposed development to designated sites where noise may have an adverse impact on protected species or other wildlife

Applicant’s assessment

4.11.3. Where noise impacts are likely to arise from water resources infrastructure, the applicant should include a noise assessment as part of the Environmental Statement. That noise assessment should include:

- a description of the noise-generating aspects of the development proposal leading to noise impacts, including the identification of any distinctive tonal, impulsive, low frequency or temporal characteristics of the noise
- identification of noise-sensitive receptors and noise-sensitive areas that may be affected
- the characteristics of the existing noise environment
- a prediction of how the noise environment will change with the proposed development:
    - in the shorter term, such as during the construction period
    - in the longer term, during the operating life of the infrastructure
- at particular times of the day, evening and night (and weekends) as appropriate, and at different times of the year
- an assessment of the effect of predicted changes in the noise environment on any noise-sensitive receptors, including an assessment of any likely impact on health and well-being where appropriate, and noise-sensitive areas
- if likely to cause disturbance, an assessment of the effect of underwater or subterranean noise
- measures to be employed in mitigating the effects of noise - applicants should consider using best available techniques to reduce noise impacts

4.11.4. The nature and extent of the noise assessment should be proportionate to the likely noise impact.

4.11.5. The potential noise impact of ancillary activities associated with the development, such as increased road and rail traffic movements, or other forms of transportation, should also be considered as appropriate.

4.11.6. For the prediction, assessment and management of construction noise, reference should be made to any relevant British Standards[165] and other guidance which also give examples of mitigation strategies. Operational noise, with respect to human receptors, should be assessed using the principles of the relevant British Standards[166] and other guidance[167].

4.11.7. The applicant should consult the relevant authority on the likely scope of the noise impact assessment and mitigation, and should consult Natural England, in particular with regard to assessment of noise on protected species or other wildlife, and should consult, as relevant, the Environment Agency, the Marine Management Organisation, Natural Resources Wales and NatureScot, where there might be marine noise impacts. The results of any noise surveys and predictions may inform the ecological assessment. The seasonality of potentially affected species in nearby sites may also need to be taken into account.

Mitigation

4.11.8. Mitigation measures for the project should be proportionate and reasonable and may include one or more of the following:

- engineering: reduction of noise at point of generation and containment of noise generated
- materials: use of materials that reduce noise
- lay-out: adequate distance between source and noise-sensitive receptors including outdoor amenity areas; incorporating good design to minimise noise transmissions through screening by natural or purpose-built barriers or buildings
- administration: restricting activities allowed on the site, either during construction and/or operation such as specifying acceptable noise limits or times of use (for example, any facilities needing to use a public announcement system)

[165] As published by the British Standards Institution, available online at: https://www.bsigroup.com/, for example BS 5228
[166] As published by the British Standards Institution, available online at: https://www.bsigroup.com/, for example BS 4142, BS 6472 and BS 8233
[167] For example, Planning Practice Guidance on noise: https://www.gov.uk/guidance/noise--2

4.11.9. This should also take into account seasonality of wildlife in any nearby designated sites.

4.11.10. In certain situations, and only when all other forms of noise mitigation have been exhausted, it may be appropriate for the Secretary of State to consider requiring noise mitigation through improved sound insulation to noise sensitive receptors.

Decision making

4.11.11. A development must be undertaken in accordance with statutory requirements for noise. Due regard must be given to the relevant sections of the Noise Policy Statement for England, the National Planning Policy Framework, and the government's associated planning practice guidance on noise.

4.11.12. The proposed development should demonstrate good design through selection of the approach with the most acceptable soundscape available; containment of noise within buildings wherever possible; optimisation of facility layout to minimise noise emissions; and, where possible, the use of landscaping, bunds or noise barriers to reduce noise transmission.

4.11.13. The Secretary of State should not grant development consent unless satisfied that the proposals will meet the following aims, through the effective management and control of noise, within the context of government policy on sustainable development:

- avoid significant adverse impacts on health and quality of life from noise as a result of new development
- mitigate and minimise other adverse impacts on health and quality of life from noise from new development
- where possible, contribute to improvements to health and quality of life

4.11.14. In determining an application, the Secretary of State should consider whether mitigation measures are needed both for construction noise and operational noise. The Secretary of State may wish to impose requirements to ensure delivery of all mitigation measures. This is to ensure that the noise levels from the proposed development do not exceed those described in the assessment or any other estimates on which the decision was based.

4.11.15. Applicants should propose appropriate mitigation measures to limit the impact of any noise emissions on amenity.

4.11.16. For those processes in a development that would require an Environmental Permit, the Secretary of State may assume that the regime will exercise the

necessary controls over noise impacts. However, the Secretary of State must take into account the potential impact from all noise sources, as relevant, when deciding whether to grant development consent and, if so, on what terms.

4.12. Resource and waste management

Introduction

4.12.1. Government policy on hazardous and non-hazardous waste is intended to protect human health and the environment by producing less waste and by using it as a resource wherever possible. Where this is not possible, waste management regulation ensures that waste is disposed of in a way that is least damaging to the environment and to human health. The Secretary of State should have regard to any potential impacts on the achievement of resource efficiency and waste reduction targets set under the Environment Act 2021 or wider goals set out in the government's Environmental Improvement Plan.

4.12.2. Sustainable waste management is implemented through the 'waste hierarchy', which sets out the priority order that must be applied when managing waste[168]. These are (in order):

- prevention
- preparing for reuse
- recycling
- other recovery, including energy recovery
- disposal

4.12.3. Departure from this priority hierarchy, in order to achieve the best overall environmental outcome, is possible where it is justified by life-cycle analysis on the overall impacts of the generation and management of the waste.

4.12.4. Water resources infrastructure projects may generate hazardous and non-hazardous waste during the construction and operation. The applicant should consult with the relevant waste planning authority and operators to ensure that there is sufficient local waste management capacity. The Environmental Permitting[169] regime incorporates operational waste management requirements for certain activities. When an applicant applies to the Environment Agency for an environmental permit, they will require the application to demonstrate that processes are in place to meet all relevant permit requirements.

[168] The waste hierarchy is set out in Regulation 12 of The Waste (England and Wales) Regulations 2011.
[169] The Environmental Permitting (England and Wales) Regulations 2016.

4.12.5. As a producer of waste, the applicant has a duty of care to ensure their waste is appropriately managed[170], specifically in taking all reasonable steps to:

- prevent unauthorised or harmful deposit, treatment or disposal of waste
- prevent any other person failing to meet the requirement to have an environmental permit, or a breach of a permit condition
- prevent the escape of waste from their control
- ensure that any person they transfer the waste to has the correct authorisation
- provide an accurate description of the waste when it is transferred to another person

Applicant's assessment

4.12.6. The applicant should set out the arrangements that are proposed for managing any waste produced in the application for development consent. The applicant should prepare a Site Waste Management Plan and Materials Management Plan where relevant. The arrangements in the plan should include information on the proposed waste recovery and disposal system for all waste generated by the development and should also include details of the alternatives that have been considered.

4.12.7. The applicant must demonstrate that all waste produced by the facility will be managed in accordance with the waste hierarchy outlined in section 4.12.2 above and that, during construction, excavated soil, subsoil and rock will, where possible, be reused as per the Materials Management Plan and/or Soil Management Plan. The applicant must also set out the process in place to ensure their duty of care as a waste producer outlined in section 4.12.4 above is met. The applicant should seek to minimise the volume of waste produced. The applicant should also seek to minimise the volume of waste sent for disposal unless it can be demonstrated that this is the best overall environmental, social and economic outcome when considered over the whole lifetime of the project.

Mitigation

4.12.8. The applicant should set out a comprehensive suite of mitigations to eliminate or significantly reduce the risk of adverse impacts associated with resource and waste management.

[170] The waste duty of care is set out in Section 34 of the Environmental Protection Act 1990.

Decision making

4.12.9. The Secretary of State will consider the extent to which the applicant has proposed an effective process that will be followed to ensure effective management of hazardous and non-hazardous waste arising from all stages of the lifetime of the development. The Secretary of State should be satisfied that the process set out provides assurance that:

- waste produced will be appropriately managed, both onsite and offsite
- the waste from the proposed development can be dealt with appropriately by the waste infrastructure which is, or is likely to be, available. Such waste arisings should not have an adverse effect on the capacity of existing waste management facilities to deal with other waste arising in the area
- adequate steps have been taken to minimise the volume of waste arising, and of the volume of waste arising sent to disposal, except where an alternative is the most sustainable outcome overall

4.12.10. Where necessary, the Secretary of State should use requirements or obligations to ensure that appropriate mitigations are applied.

4.13. Socio-economic impacts

Introduction

4.13.1. The construction and operation of water resources infrastructure may have short or longer term economic and social impacts on local communities, businesses or services. The construction phase of reservoirs in particular can be lengthy. However, reservoirs also offer long term opportunities for the provision of recreational and/or educational facilities. Applicants should look to maximise local employment opportunities during construction and operational phases (see section 4.10 on Land use including open space, green infrastructure and Green Belt).

4.13.2. Water resources infrastructure may also offer opportunities to supply local business water users' needs directly, for example local industries or agricultural operations. Potential users may be identified at the pre-consultation stage by engagement with local communities, authorities or business forums, through regional water resources groups, or by water companies in their water resources management plans.

Applicant's assessment

4.13.3. The applicant should consider how the impacts of the infrastructure during construction and operational phases, such as job creation and increased spending

in local economies, visual impacts, and traffic and transport may affect local communities and amenities.

4.13.4. Applicants should describe the existing socio-economic conditions in the areas surrounding the proposed development, following appropriate consultation with those most affected, and should refer to how the development's socio-economic impacts correlate with local planning policies. The applicant should also describe the existing demographics within the area and assess how the development could affect any equalities groups[171]. Applicants should assess any likely significant positive and negative socio-economic or equalities impacts as part of an Environmental Statement.

4.13.5. The assessment should cover any socio-economic impacts appropriate to the proposed development. Examples include:

- the creation of jobs and training opportunities
- the provision of educational and visitor facilities
- the impact of the proposed new facility on tourism, local businesses or local services
- opportunities to provide a direct water supply to local business water users

4.13.6. Socio-economic impacts may be linked to other impacts, for example the visual impact or an individual's perception of a development. It may also have an impact on the local economy and local businesses. Where such impacts are relevant to the development, an applicant should include them in their assessments.

4.13.7. Any cumulative effects on communities should be assessed. For example, if development consent or consent under other regimes, were to be granted for a number of infrastructure projects within a region and these were developed in a similar timeframe, there could be some short-term negative effects. For instance, a potential shortage of construction workers to meet the needs of other industries and major projects within the region.

4.13.8. Applications for reservoirs are required[172] to be supported by a recreational amenities statement outlining details of any amenities to be provided. The statement could use information gathered from sections 4.13 and 3.12 (for example) to justify any associated recreational or educational amenities. The Water Industry Act 1991 also places certain duties on water companies in relation to the provision of recreational facilities.

[171] Equalities groups means those groups with 'protected characteristics' as defined in the Equality Act 2010
[172] Regulation 6(6) The Infrastructure Planning (Applications: Prescribed Forms and Procedure) Regulations 2009 or latest version: https://www.legislation.gov.uk/uksi/2009/2264/contents/made

Mitigation

4.13.9. The Secretary of State should consider whether the mitigation measures put forward by the applicant are acceptable to mitigate any adverse socio-economic impacts of the development. For example, high quality design and/or screening (such as by natural features) can improve the visual and environmental experience for visitors and the local community alike.

Decision making

4.13.10. The Secretary of State should consider any relevant provisions the applicant has made, or is proposing to make, to mitigate impacts (for example through planning obligations), and any community investment that may arise, as well as any options for phasing development, that would mitigate any negative socio-economic impacts. The Secretary of State should ensure that infrastructure projects can be integrated effectively with existing businesses and community facilities. Existing businesses and facilities should not have unreasonable restrictions placed on them as a result of development permitted after they were established. Where the operation of an existing business or community facility could have a significant adverse effect on new infrastructure projects in its vicinity, the applicant should be required to provide suitable mitigation before the development has been completed.

4.13.11. The decision maker should also consider the equality impacts, whether measures put forward by the applicant to mitigate any adverse equalities impacts caused by the development are acceptable or whether other mitigations should be pursued.

4.14. Traffic and transport

Introduction

4.14.1. The transport of materials, goods and personnel to and from a water resources infrastructure site can have a variety of impacts on the surrounding transport infrastructure and potentially on connecting transport networks during the construction and operational phases. Impacts include economic, social and environmental effects.

4.14.2. Environmental impacts may result particularly from trips generated on roads which may increase noise and air pollution as well as greenhouse gas emissions.

4.14.3. Disturbance caused by traffic and abnormal loads generated during the construction phase will depend on the scale and type of the proposal.

4.14.4. The consideration and mitigation of transport impacts is an essential part of government's wider policy objectives for sustainable development and the Transport Decarbonisation Plan.

Applicant's assessment

4.14.5. If a project is likely to have significant transport implications, the applicant's Environmental Statement should include a transport appraisal. The Department for Transport's Transport Analysis Guidance[173] provides guidance on modelling and assessing the impacts of transport schemes. Appraisals should adopt a vision led approach that seeks to prioritise modal shift to sustainable transport modes and supports transport as a principal mechanism by which to mitigate the impact of the scheme.

4.14.6. Applicants should consult National Highways, Network Rail and Highway Authorities as appropriate on the assessment and mitigation.

4.14.7. The applicant should prepare a construction management plan for construction stages and a travel plan for the operational stage of the infrastructure. Both should include demand management and monitoring measures to mitigate transport impacts. The applicant should also provide details of proposed measures to improve access by walking, wheeling, cycling, public and shared transport to:

- reduce the need for parking associated with the proposal
- contribute to decarbonisation of the transport network
- reduce the need to travel
- secure behavioural change and modal shift through an offer of genuine modal choice and to mitigate transport impacts

4.14.8. The assessment should also consider any possible disruption to services and infrastructure (such as road, rail and airports).

4.14.9. If additional transport infrastructure is needed or proposed, it should always include good quality walking, wheeling and cycle routes, and associated facilities (changing and storage etc) needed to enhance active transport provision.

4.14.10. Applicants should discuss with network providers the possibility of co-funding by government for any third-party benefits. Guidance has been issued which explains the circumstances where this may be possible, although the government cannot guarantee in advance that funding will be available for any given uncommitted scheme at any specified time.

[173] https://www.gov.uk/guidance/transport-analysis-guidance-tag

4.14.11. If a proposed development is likely to have significant transport implications, the applicant's Environmental Statement should also include a transport assessment.

Mitigation

4.14.12. Where mitigation is needed, possible demand management measures must be considered. This could include:

- reduce the need to travel by consolidating trips
- locate development in areas already accessible by active travel and public transport
- provide opportunities for shared mobility
- re-mode by shifting travel to a sustainable mode that is more beneficial to the network
- retime travel outside of the known peak times
- reroute to use parts of the network that are less busy

4.14.13. If feasible and operationally reasonable, such mitigation should be required, before considering requirements for the provision of new inland transport infrastructure to deal with remaining transport impacts. All stages of the project should support and encourage a modal shift of freight from road to more environmentally sustainable alternatives, such as rail, cargo bike, maritime and inland waterways, as well as making appropriate provision for and infrastructure needed to support the use of alternative fuels including charging for electric vehicles.

4.14.14. Regard should always be given to the needs of freight at all stages in the construction and operation of the development including the need to provide appropriate facilities for Heavy Goods Vehicle drivers as appropriate.

4.14.15. Where considerations are between rail, water-borne or road transport, rail and water-borne options are to be preferred over road transport options, where that option is safe and cost-effective.

4.14.16. Where there is likely to be substantial Heavy Goods Vehicle traffic, an applicant should consider how to:

- control numbers of Heavy Goods Vehicle movements to and from the site in a specified period during construction and operation where possible, and consider the impacts of alternative transport routes
- maximise opportunities for modal interchange to more environmentally sustainable alternatives to minimise the length of journeys and time needed to transport goods and materials on the road

- provide appropriate infrastructure needed to support vehicles that use alternative fuels (including electric vehicles)
- make sufficient provision for Heavy Goods Vehicle parking, and associated high quality driver facilities, either on the site or at dedicated facilities elsewhere, to support driver welfare, avoid 'overspill' parking on public roads, prolonged queuing on approach roads and uncontrolled on-street Heavy Goods Vehicle parking
- ensure satisfactory arrangements for reasonably foreseeable abnormal disruption or for transporting abnormal loads, in consultation with relevant network providers and the responsible police force

4.14.17. The Secretary of State should also have regard to the cost-effectiveness of demand management measures compared to new transport infrastructure, as well as the aim to secure more sustainable patterns of transport development when considering mitigation measures. Applicants should consider the DfT policy guidance "Water Preferred Policy Guidelines for the movement of abnormal indivisible loads" when preparing their application.

4.14.18. The Secretary of State may consider attaching requirements, or requiring obligations in relation to, any development consent to ensure such arrangements are delivered. If an applicant suggests that the costs of meeting any obligations or requirements would make the proposal economically unviable this should not in itself justify the relaxation by the Secretary of State of any obligations or requirements needed to secure the mitigation.

Decision making

4.14.19. A water resources nationally significant infrastructure project may give rise to substantial impacts on the surrounding transport infrastructure and the Secretary of State should therefore ensure that the applicant has sought to mitigate these impacts, including during the construction phase of the development and by enhancing active, public and shared transport provision and accessibility.

4.14.20. Where the proposed mitigation measures are insufficient to reduce the impact on the transport infrastructure to acceptable levels, the Secretary of State should consider requirements to mitigate adverse impacts on transport networks arising from the development, as set out below.

4.14.21. Development consent should not be withheld provided that the applicant is willing to enter into planning obligations for funding new infrastructure or requirements can be imposed to mitigate transport impacts. In this situation the Secretary of State should apply appropriately limited weight to residual effects on the surrounding transport infrastructure.

4.14.22. The Secretary of State should only consider refusing development on highways grounds if there would be an unacceptable impact on highway safety, residual cumulative impacts on the road network would be severe, or it does not show how consideration has been given to securing modal shift to more environmentally sustainable transport options, how freight and construction impacts have been minimised and mitigated and the provision of adequate active, public or shared transport access.

4.15. Water quality and resources

Introduction

4.15.1. Section 2 outlines the important part water resources nationally significant infrastructure projects contribute to providing a safe and resilient national water supply. However, the construction and operational impacts of water resources infrastructure could have an adverse effect on the local water environment. This includes groundwater, inland surface water, transitional waters[174] and bathing and coastal waters. The environmental objectives for water bodies are set out in River Basin Management Plans[175] and are legally binding.

4.15.2. Projects could also cause adverse ecological effects resulting from physical modifications to the local water environment (hydro-morphological changes). This is particularly relevant for 'impounding' reservoirs[176]. These effects could lead to adverse impacts on health and/or on protected species and habitats (see also section 4.3), and could, in particular, result in surface waters, bathing waters (bodies of water designated as recreational waters), groundwater or protected areas[177] failing to meet environmental objectives required under the Water Framework Directive Regulations[178]. Preventing deterioration in status is the primary environmental objective of the Water Framework Directive Regulations[179].

---

[174] Transitional waters are bodies of surface water in the vicinity of river mouths which are partly saline in character as a result of their proximity to coastal waters, but which are substantially influenced by freshwater flows.
[175] https://www.gov.uk/guidance/river-basin-management-plans-updated-2022#accessing-the-rbmps
[176] 'Impounding' reservoirs block the natural flow of a river or drainage from an area. 'Non-impounding' reservoirs are filled by pumping water or by piped inflow of water.
[177]. Protected areas are areas which have been designated as requiring special protection under specific retained EU law for the protection of their surface water and groundwater or for the conservation of habitats and species directly depending on water.
[178]. The Water Environment (Water Framework Directive) (England and Wales) Regulations 2017 allows for situations where it is not realistically possible to meet its objectives. Regulation 19 provides the process whereby an exemption may be granted, including for the purpose of Sustainable Development, where new modifications to a water body would prevent achievement of the Water Environment (Water Framework Directive) (England and Wales) Regulations 2017 environmental objectives.
[179] https://www.legislation.gov.uk/uksi/2017/407/contents/made

4.15.3. The water resources management plan options appraisal process is subject to Water Framework Directive assessment and information from this process may be useful for any project specific Water Framework Directive assessment. The water resources management plan options appraisal process considers the wider availability of water supplies, so that projects have been assessed in terms of the quantity of water available for public supply and its impact on water availability for the local environment. This section therefore focuses on local impacts to water bodies.

4.15.4. The government's planning policies make clear that the planning system should contribute to and enhance the natural and local environment. It should do this by preventing both new and existing development from contributing to water pollution so that the environment is not adversely affected or put at unacceptable risk. The government has issued guidance on water supply, wastewater and water quality considerations in the planning system[180]. Water companies have an important role in protecting and enhancing the water environment. The government expects water companies to deliver water environment improvements, such as reduced nutrient pollution and sewage discharges from storm overflows. The Secretary of State must also consider duties under other legislation including duties under the Environment Act 2021 in relation to water targets and have regard to the policies set out in the Environmental Improvement Plan.

Applicant's assessment

4.15.5. The applicant should make early contact with the relevant regulators, including the local authority, the Environment Agency and Marine Management Organisation, where appropriate, for relevant licensing and environmental permitting requirements. Where the proposed development is likely to have adverse effects on the water environment, the applicant should undertake an assessment of the existing status and impacts of the proposed development on water quality, water resources and physical characteristics as part the Environmental Statement. A project specific Water Framework Directive assessment[181] may also be required.

4.15.6. Any Environmental Statement should describe:

- the existing quality of waters affected by the proposed project
- existing water resources affected by the proposed project and the impacts of the proposed project on water resources

[180] https://www.gov.uk/guidance/water-supply-wastewater-and-water-quality
[181] Planning Inspectorate advice note on Water Framework Directive https://infrastructure.planninginspectorate.gov.uk/legislation-and-advice/advice-notes/

- existing physical characteristics of the water environment (including quantity and dynamics of flow) affected by the proposed project, and any impact of physical modifications to these characteristics
- reference any impacts of the proposed project on water bodies or protected areas under the Water Framework Directive Regulations including groundwater resources, bathing or coastal waters
- the likely range of impacts on existing water quality, resources, physical characteristics of the water environment and waterbodies or protected areas due to climate change
- any cumulative effects

4.15.7. In the context of protecting groundwater the applicant should, in particular, take note of guidance[182] which explains the legal requirements associated with groundwater activities.

4.15.8. Movement of 'raw' (untreated) water supplies risks spreading invasive non-native species[183] between abstracted and receiving waters. Some degree of water treatment may therefore be required. Where necessary, an assessment of the increased risk to water quality that the project poses (that is considering existing pathways and potential for spread via these) should be submitted. The assessment should detail the measures required to mitigate the risk. As part of the water resources management plan options appraisal process, water companies are required to undertake a similar assessment, and this will help to identify risks and mitigation measures.

4.15.9. The applicant may also need to assess other measures to protect the water environment. This could include protecting eels or improving fish passage.

Mitigation

4.15.10. The Secretary of State will need to consider whether the mitigation or enhancements measures put forward by the applicant which are needed for operation and construction are acceptable.

4.15.11. The project should adhere to any national standards for sustainable drainage systems, which introduce a hierarchical approach to drainage design that promotes the most sustainable approach but recognises the feasibility and use of

[182] https://www.gov.uk/government/publications/protect-groundwater-and-prevent-groundwater-pollution/protect-groundwater-and-prevent-groundwater-pollution

[183] An invasive non-native, or "alien", species (INNS) is defined as a species introduced outside its normal past or present distribution. INNS are those which threaten ecosystems, habitats or species with environmental or socio-economic harm.

conventional drainage systems as part of a sustainable solution for any given site, given its constraints. Please refer to section 4.7 also on flood risk.

4.15.12. The risk of impacts on the water environment can be reduced through careful design and adherence to pollution control practice.

Decision making

4.15.13. Activities that discharge substances into the water environment are subject to pollution control. The considerations set out in section 3.8 on the interface between planning and other regulatory controls therefore apply.

4.15.14. The Secretary of State will need to give impacts on the water environment more weight where a development would have adverse effects on the achievement of the environmental objectives established under Water Framework Directive Regulations.

4.15.15. The Secretary of State should be satisfied that a proposal has had regard to the River Basin Management Plans and the requirements of and objectives of the Water Framework Directive Regulations. The specific objectives for particular river basins are set out in River Basin Management Plans. The Secretary of State must refuse development consent where a project is likely to cause deterioration of a water body or its failure to achieve good status or good potential, unless the conditions to apply the exemption of Overriding Public Interest, as outlined under Regulation 19, are met. A project may be approved in the absence of a qualifying Overriding Public Interest test only if there is sufficient certainty that it will not cause deterioration or compromise the achievement of good status or good potential.

4.15.16. The Secretary of State should consider proposals to mitigate adverse effects on the water environment and any enhancement measures put forward by the applicant and whether appropriate requirements should be attached to any development consent and/or whether planning obligations are necessary, such as those that will help achieve statutory targets.

5. List of acronyms

IROPI – Imperative Reasons of Overriding Public Interest

Ml/d – million litres per day or megalitres per day

Ofwat – Water Services Regulation Authority

$PM_{2.5}$ – particulate matter that have a diameter less than 2.5 micrometres

RAPID – Regulators' Alliance for Progressing Infrastructure Development

SSSI – Site of Special Scientific Interest

E03405510

978-1-5286-5905-5