River Thames Scheme

Protecting our communities
Securing our economy
Enhancing our Thames

River Thames Scheme

Preliminary Environmental Information Report
Volume 1: Non-Technical Summary

January 2024

View of the River Thames at Laleham Park looking south towards the M3 crossing

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Non-Technical Summary

1 Introduction

1.1 Overview

1.1.1 Working in Partnership we, the Environment Agency and Surrey County Council, are together delivering the River Thames Scheme (RTS).

1.1.2 The RTS represents a new landscape-based approach to creating healthier, more resilient, and more sustainable communities. The RTS responds to the challenges of flooding, climate change and nature recovery. It creates more access to green open spaces and sustainable travel routes whilst also encouraging inclusive economic growth.

1.1.3 The RTS will be a major new piece of green and blue infrastructure. A new flood channel will reduce the risk of flooding to homes, businesses, and infrastructure, while also providing habitat for wildlife and a new feature in the landscape for recreation. Areas of publicly accessible green open space will be provided next to the flood channel for recreation and connecting with nature, with blue open space also under consideration. New or improved active travel provision (meaning movement in the local area involving physical exercise such walking, or cycling) will run through the flood channel corridor and areas of enhanced public connection. This will link the project with communities and provide better connections across the area. Improved habitat will connect with existing wildlife sites and corridors to support nature recovery.

1.1.4 The RTS is an infrastructure project of national significance and must be consented through the granting of a Development Consent Order (DCO). We will undertake an Environmental Impact Assessment (EIA) under the Infrastructure Planning (EIA) Regulations 2017, given the size and potential for the RTS to have likely significant effects on the environment.

1.1.5 This report is a stand-alone Non-Technical Summary of our Preliminary Environmental Information Report (PEIR), which we have produced as part of the EIA process for the RTS.

1.1.6 Our PEIR follows on from our RTS EIA Scoping Report (Environment Agency and Surrey County Council, October 2022), and is based on the EIA Scoping Opinion from the Planning Inspectorate (PINS), on behalf of

the Secretary of State, received in November 2022. Our PEIR and ongoing EIA is also informed by feedback from extensive previous engagement with stakeholders and the public, including the second public consultation on the RTS undertaken for six weeks from 8 November 2022 to 20 December 2022.

1.1.7 Our PEIR provides the information reasonably required for consultees, including the public, to understand the likely significant effects of the project on the environment, as understood at this stage. It forms a key consultation tool for the DCO statutory consultation by providing an update on the ongoing EIA, consultation and design of the RTS. Our PEIR:

- Reviews relevant legislation, policy and guidance;
- Updates effects scoped into the EIA following the PINS Scoping Opinion plus changes to design and footprint of the project;
- Reviews and updates the baseline (the environmental starting point), and how this is expected to change (the future baseline);
- Reviews the area in which each topic has the potential to experience likely significant effects (the study area);
- Updates or clarifies proposed assessment methods;
- Provides preliminary assessment of the likely significance of scoped in environmental effects of the RTS; and
- Identifies potential mitigation measures to avoid, reduce or compensate for environmental effects (see also Section 4.1.14).

1.2 Background

1.2.1 We are committed to supporting sustainable growth in the area, connecting communities and creating an environment where people, businesses and wildlife can thrive.

1.2.2 The River Thames between Egham and Teddington runs through the largest area of populated but undefended floodplain in England. There is little to no flood protection in place for this area. In addition to the towns and villages in this area, the landscape has been heavily shaped by major infrastructure and extensive mineral workings. This has resulted in an area in which many homes and businesses are at risk of flooding, within a landscape that suffers from visual barriers and physical limitations, and prevents open space being used to its full potential.

1.2.3 A major flood would put thousands of homes, businesses and commercial spaces at risk. It would also cause risk to life and severe disturbance to local communities, as well as disruption on both nationally and locally significant road and rail routes, including sections of the M25 and M3. Several major drinking water sources supplying south-east England, and up to 20 local electricity sub-stations and the public sewage network would also be affected by a major flood, resulting in disruption to homes and businesses. With climate change, larger and more frequent floods are likely to be experienced in the future, which will have an even greater impact on communities, infrastructure and the economy.

1.2.4 Plate 1 shows the flooding at Runnymede M25 junction 13 during flooding in 2014. The Egham By-Pass is submerged by flood water as is the area around the Runnymede Hotel and fields beyond.

Plate 1: Flooding at Runnymede (M25 junction 13) in 2014

1.2.5 Through extensive studies led by the Environment Agency, we have concluded that the preferred approach to reduce flood risk in the area is to build a new river channel (in two sections) to take excess flood water, known as a flood relief channel. Our preferred approach also includes increasing the capacity of the River Thames downstream of the new flood relief channel. This has led to the evolution of the RTS.

1.2.6 The RTS will reduce flood risk from main rivers in areas of the River Thames floodplain between Datchet and Teddington, particularly in the areas between Hythe End and Shepperton and the settlements of Staines, Egham Hythe, Chertsey Laleham and Shepperton. The project

will reduce the risk of flooding to approximately 11,000 homes, 1,600 businesses, existing nationally significant infrastructure including highways, railways and utilities, as well as heritage and ecological sites.

1.2.7 The flood relief channel will work most effectively in moderately sized floods like the 1 in 20 annual chance flood, which was similar to the 2003 and 2014 floods. These are the conditions where the channel will give the greatest reductions in flood levels. The area around Penton Hook at the upstream end of the Runnymede Channel (see Plate 2) will have the greatest reduction in water levels (of between 0.4 metres to 0.9 metres reduction in levels depending on the size of the flood). Information on the background, development, testing, and confidence in our modelling of river flooding is presented in our Flood Modelling Report Non-Technical Summary (WBi, 2023).

1.2.8 We are also continuing to work on the landscape and green infrastructure design of the RTS. The aim of this work, once constructed, is to further enhance the health of communities, and encourage sustainable growth through the provision of improved access to green and blue open spaces and an improved active travel network.

1.3 RTS Vision

1.3.1 The RTS will be a major new piece of green and blue infrastructure, which integrates a new flood channel with new public open space, associated recreational infrastructure and environmental enhancements. The RTS project vision is “to reduce flood risk to people living and working near the Thames, enhance the resilience of nationally important infrastructure, contribute to a vibrant local economy and maximise the social and environmental value of the River Thames”. To achieve the project vision we have identified the following goals:

- Reduce flood risk to dwellings, businesses, and infrastructure;
- Provide better access to green open spaces, connection with wildlife and a more sustainable travel network;
- Create a network of high-quality habitat and biodiversity net gain (meaning increased overall biodiversity value);
- Facilitate sustainable and inclusive economic growth; and
- Enable delivery and design that contributes to the achievement of Environment Agency, Surrey County Council and Partner climate goals relating to carbon use.

2 Project Description

2.1 Overview

2.1.1 The area within the project boundary for EIA PEIR is the pink shaded area shown in Plate 2. This includes a large corridor of land south of the River Thames and north of the M3 between Thorpe and Chertsey, and north of the River Thames between Chertsey and Shepperton; as well as separate areas around Sunbury, Molesey and Teddington Weirs, plus land south of Island Barn Reservoir and south of Virginia Water. Certain aspects of the RTS design are shown and labelled on Plate 2, including the Runnymede Channel (shaded in purple), the Spelthorne Channel (shaded in orange), a section of the River Thames where bed lowering is planned, and Sunbury Weir, Molesey Weir and Teddington Weir where flow capacity improvements are proposed. Landscape and green infrastructure opportunities, including habitat improvements, are also proposed within the project boundary for EIA PEIR.

2.1.2 We are still developing the design, which continues to be informed by consultation and ongoing technical surveys and assessments. To allow flexibility, for this PEIR we followed government guidance to establish relevant parameters (i.e. assumptions) about the project design, construction and operation that are “likely to result in the reasonable worst-case scenario”. Since the design parameters for the PEIR were set the design has been further refined. The maximum parameters of the Design for Statutory Consultation presented in the Statutory Consultation Brochure are almost entirely the same as those previously set for this PEIR; we have reviewed the changes and have verified that they do not change the assessment of likely significant effects reported in this PEIR.

2.1.3 As the EIA and consultation continues, we will refine the design parameters and the project boundary; updates will be reported and assessed within the Environmental Statement (ES).

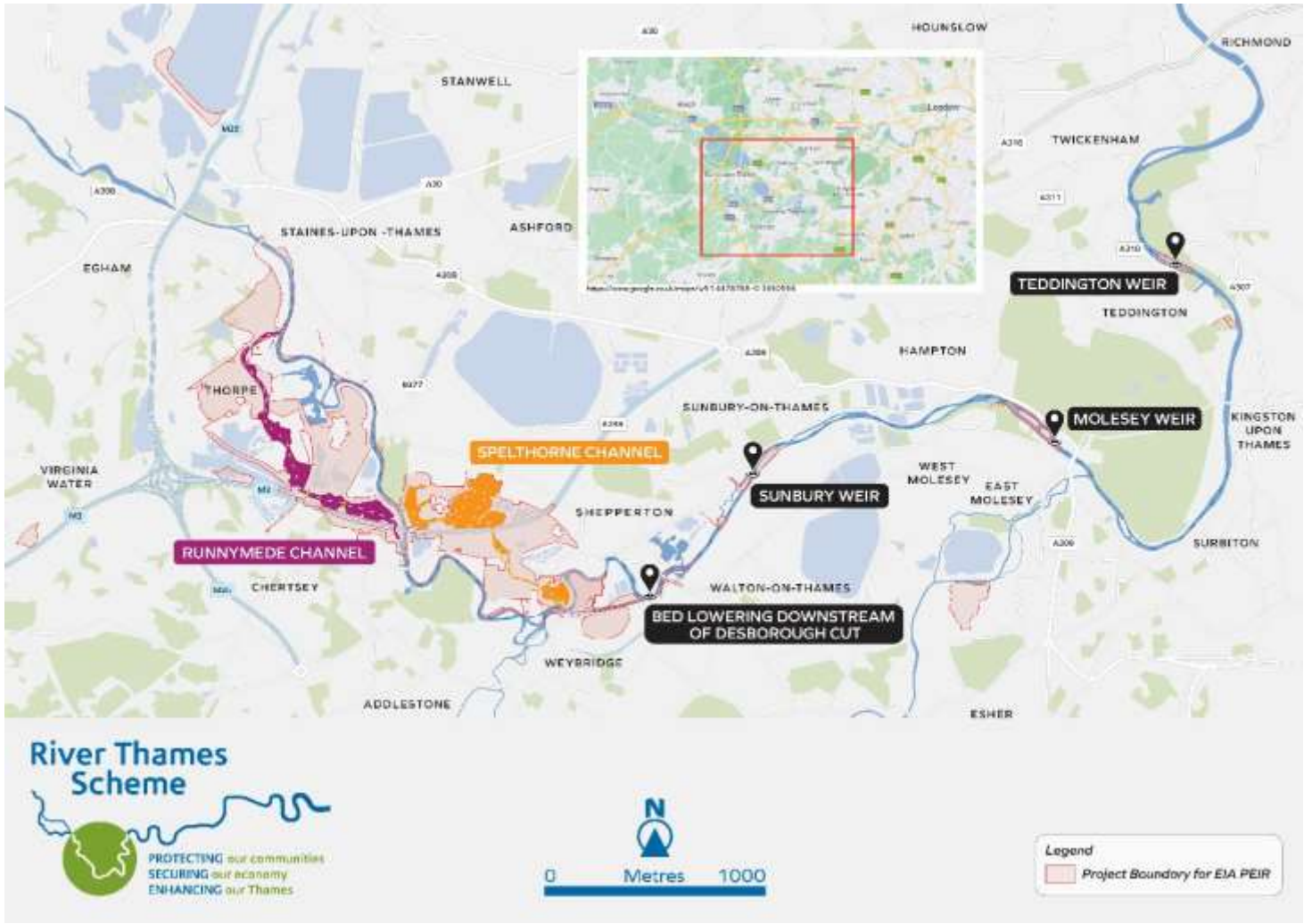


Plate 2: Overview of the RTS

2.2 Design

2.2.1 This Non-Technical Summary and our associated PEIR for the RTS includes the following design elements being considered within the project boundary for EIA PEIR and are shown on Figure 0-1 (further information on other features shown on Figure 0-1 can be found in our PEIR document):

- A new flood channel in two sections, through the boroughs of Runnymede and Spelthorne in Surrey. The Runnymede Channel will be about 4.8 kilometres long, starting at Egham Hythe and generally flowing southeast. It will flow through six existing lakes, including two at the Thorpe Park resort, and pass under four existing roads, including the M3, before returning to the River Thames at Chertsey. The Spelthorne Channel will be about 3.2 kilometres long, starting at Laleham, north of the M3 and the outlet of the Runnymede Channel. It will head east, passing through three existing lakes and under two local roads and the M3 before going through open land at Sheepwalk and Manor Farm and under a further three local roads (Sheep Walk, Renfree Way and Ferry Lane) and through Ferry Lane Lake (also known as Ferris Meadow Lake; subject to consideration of alternative options described in Section 3) before re-joining the River Thames opposite D'Oyly Carte Island. The new sections of flood channel that connect the existing lakes will generally be between 20 and 50 metres wide with water levels up to four metres deep when being operated during floods and water levels of up to three metres deep in normal conditions. Plate 3 is an image of the Jubilee River, a flood relief channel for River Thames between Maidenhead and Eton, which provides an impression of how the RTS flood channel will look;
- Permanent features associated with the flood channel include flow and water level control structures (an example is provided in Plate 4), flood embankments, erosion control, bridges and permanent site compounds for operation and maintenance of the completed project. The channel and its surroundings will include planting for wildlife, recreational opportunities (with consideration being given to whether this will include water-based recreation) and improved provision for active travel;
- Capacity improvements to the River Thames through lowering the bed of the River Thames downstream of Desborough Cut, and upgrades to Sunbury, Molesey and Teddington Weirs. Plate 5 provides an image of an existing weir at Molesey.

Plate 3: An image of the Jubilee River, which provides an impression of how the RTS flood channel will look

Plate 4: An example of a water level control structure

Plate 5: An existing weir at Molesey

- New green open spaces associated with the flood channel are being considered, with access for local communities and facilities provided such as sports fields, accessible pathway networks (an example is provided in Plate 6), nature play spaces (an example is provided in Plate 7) and associated raised landforms;
- Priority areas for habitat creation (an example is provided in Plate 8), enhancement or mitigation, which link with existing and new wildlife corridors, and build upon the network of existing wildlife sites. Improved fish passage is also proposed at several weirs on the River Thames;
- New or improved opportunities for active travel (an example is provided in Plate 9), associated with the flood channel corridor in areas of enhanced public connection. Areas of enhanced public connection include areas of improved public access with improved linkages and new active travel provision between new green open space and existing networks, as well as improvements to existing Public Rights of Way (PRoW) (including the Thames Path National Trail). Two new pedestrian and cycle bridges will be built to improve connections across the River Thames at Chertsey and at Desborough Island;
- Utilities and highways alterations and diversions; and
- Temporary construction features such as site compounds and materials processing and storage sites.

Plate 6: An example of an accessible pathway over a wetland

Plate 7: An example of nature play spaces

Plate 8: An example of habitat creation

Plate 9: An example of improved active travel provision

2.3 Construction

2.3.1 We expect construction to take place from winter 2026 to 2032. For the PEIR, the assessment of potential environmental effects assumes, as a worst case, that all construction works take place throughout this period. This will be further refined for the ES, with the current expectation being as follows:

- Prior to the main works at each construction working area, enabling activities will be carried out. These will include activities such as additional surveys, services diversions (such as electricity, gas and water), footpath diversions and building demolition. The proposed demolition of four dwellings and one outbuilding at the northern end of the Runnymede Channel are required, as well as the potential demolition of buildings within the Sheepwalk new green open space (all relevant landowners have been notified);
- Works at the priority areas for habitat creation, enhancement or mitigation and new green open spaces would start as early in the construction programme as feasible;
- The flood channel will be operational from 2030; and
- Maintenance work is expected to commence from early 2032.

2.3.2 Design work and associated assessments are currently ongoing; these have helped us to prepare assumptions for the PEIR in relation to the management of material that will be dug out to create the flood channel. It is expected that this material will be re-used or removed off site according to its suitability. Should the design require it, suitable materials will be reused for landscaping, flood defence or channel improvement works for the project. Remaining material will either be sold or taken off site for recycling or disposal. A small amount of the material is expected to be hazardous waste from digging through historic landfills in the area. Management plans will be put in place from the start to ensure materials will be reused, recycled or disposed of in accordance with relevant legislation (see also Section 6).

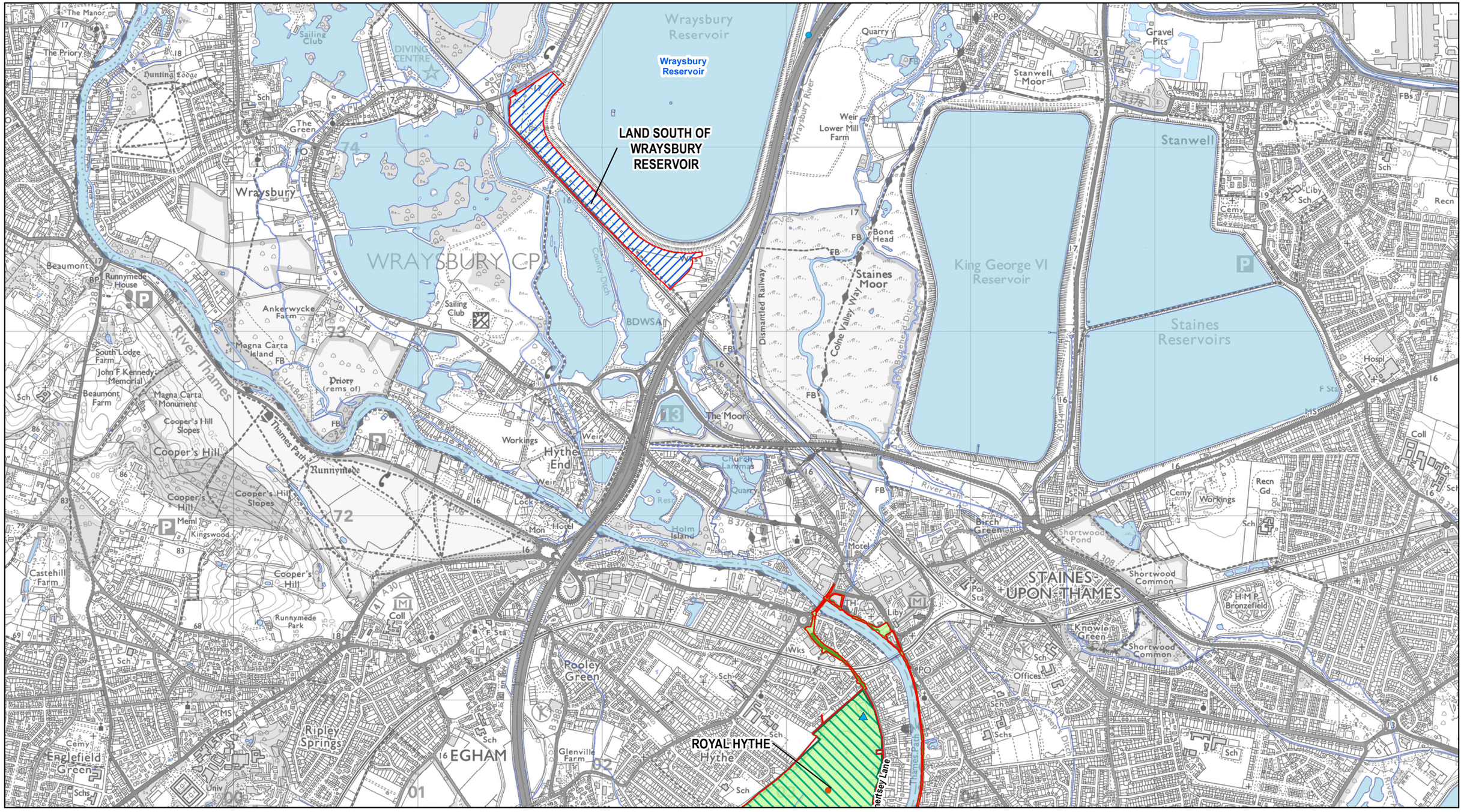
2.3.3 Several temporary compounds will be used during construction. These will include site compounds that will store plant, materials, office space, welfare facilities and provide limited parking. There will also be temporary material processing and storage sites, which will contain large, temporary stockpiles of dug materials for processing before this is reused on site or removed. In addition, there will be temporary storage of construction

materials before use (e.g. steel sheet piles that will form the sides of some parts of the flood channel). Temporary compounds will be reinstated once construction is complete. Locations of temporary compounds, as they are currently understood, are shown on Figure 0-1.

2.3.4 Vehicles used for earthworks and piling will be heavy and large and we will use haul roads within the construction area where possible and / or other means of transportation, such as by boat on the River Thames. However, there will be unavoidable use of the public road network. Several Heavy Goods Vehicle (HGV) routes are under consideration for transporting dug out material between construction sites or off-site for recycling or disposal. Temporary wharves (areas where boats can be moored to load and unload) are also being considered if river transport is used for some construction works; potential locations of these are shown on Figure 0-1.

2.3.5 Off-site car parks for construction workers are also being investigated. There are currently six off-site car parks being considered, these are being consulted on to help confirm the most suitable and will be refined for the ES. The six potential off-site car parks under consideration are all located close to main roads and within a 30 minute drive of the project. The six locations under consideration are shown on Figure 0-2 and are at the following locations:

1. Ashford Cricket and Hockey Club;
2. Land off Ascot Road off B3003;
3. Kempton Park Racecourse;
4. Longcross Studios;
5. Land south of St Peters Way and west of M25; and
6. Land south of the A30, to the right of Mapcargo International.



Legend

- PROJECT BOUNDARY FOR EIA PEIR
- WATERBODY

FLOOD CHANNEL

- RUNNYMEDE CHANNEL
- SPELTHORNE CHANNEL
- CHANNEL THROUGH NATURAL GROUND / MADE GROUND
- CHANNEL THROUGH KNOWN OR EXPECTED LANDFILL
- SPILLWAY
- ABBEY MEADS FLOODWAY

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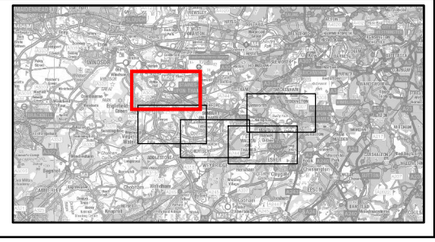

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RIVER THAMES SCHEME (RTS)

EIA PEIR NON-TECHNICAL SUMMARY - FIGURE 0.1:
DESIGN OF FLOOD CHANNEL, ASSOCIATED FEATURES AND RIVER THAMES CAPACITY IMPROVEMENTS
SHEET 1 OF 5

Rev.	Drawn	Chkd	Rvwd	Apprvd	Date	Description
C01	MA	DB	VL	EB	23/11/2023	FOR PUBLIC CONSULTATION
P02	MA	DB	VL	EB	10/11/2023	FOR REVIEW AND COMMENT
P01	MA	DB	VL	EB	30/10/2023	FOR REVIEW AND COMMENT

Status: S10
Designed by: MA Date: 11/23 Revision: C01
Scale: 1:20,000 Project Number: 40212225 Drawing Number: ENVIMSE500260-CBI-ZZ-3ZZ-DR-EN-00144

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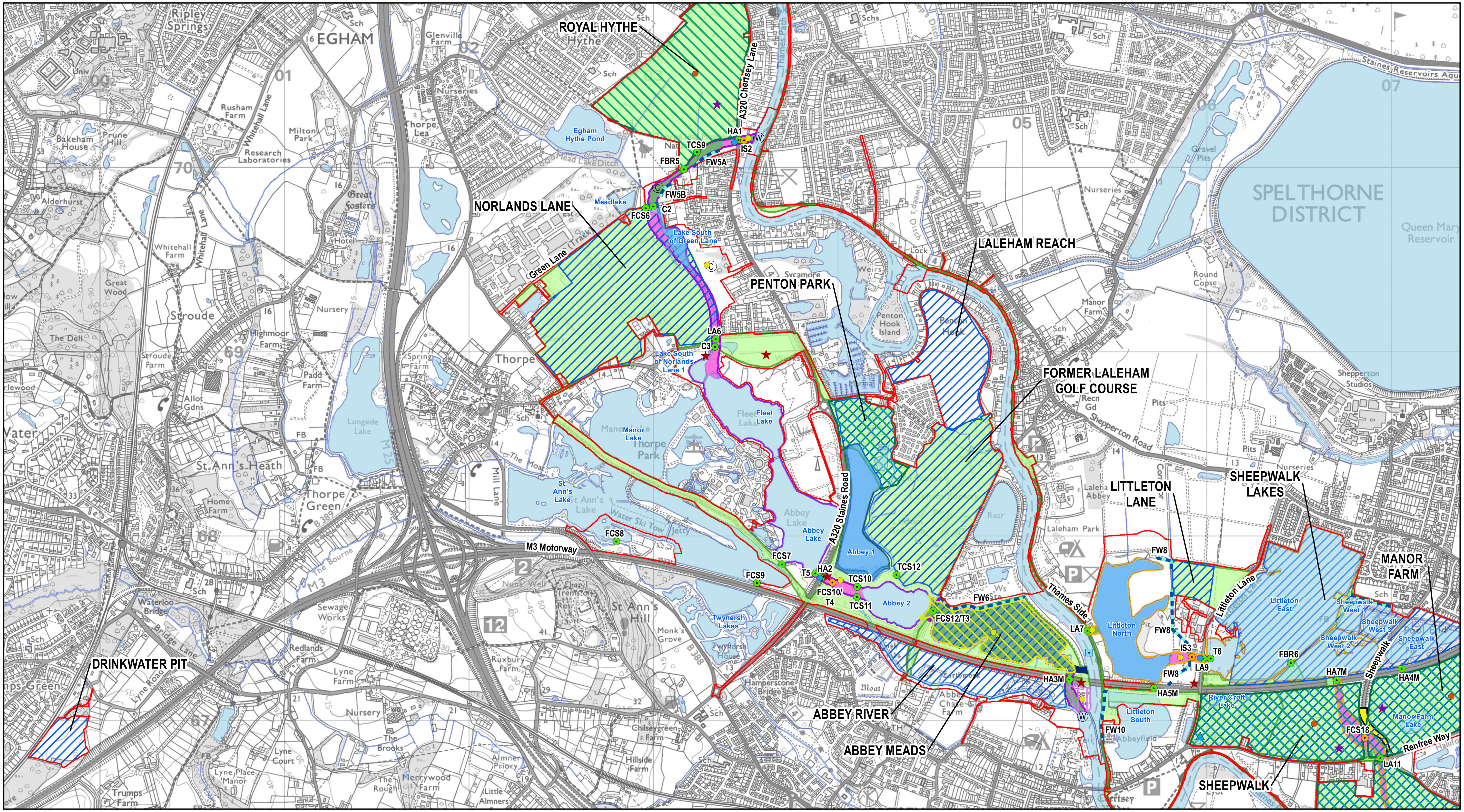

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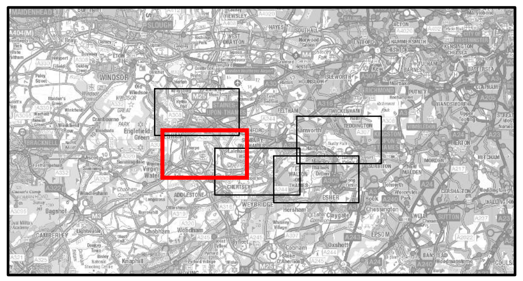

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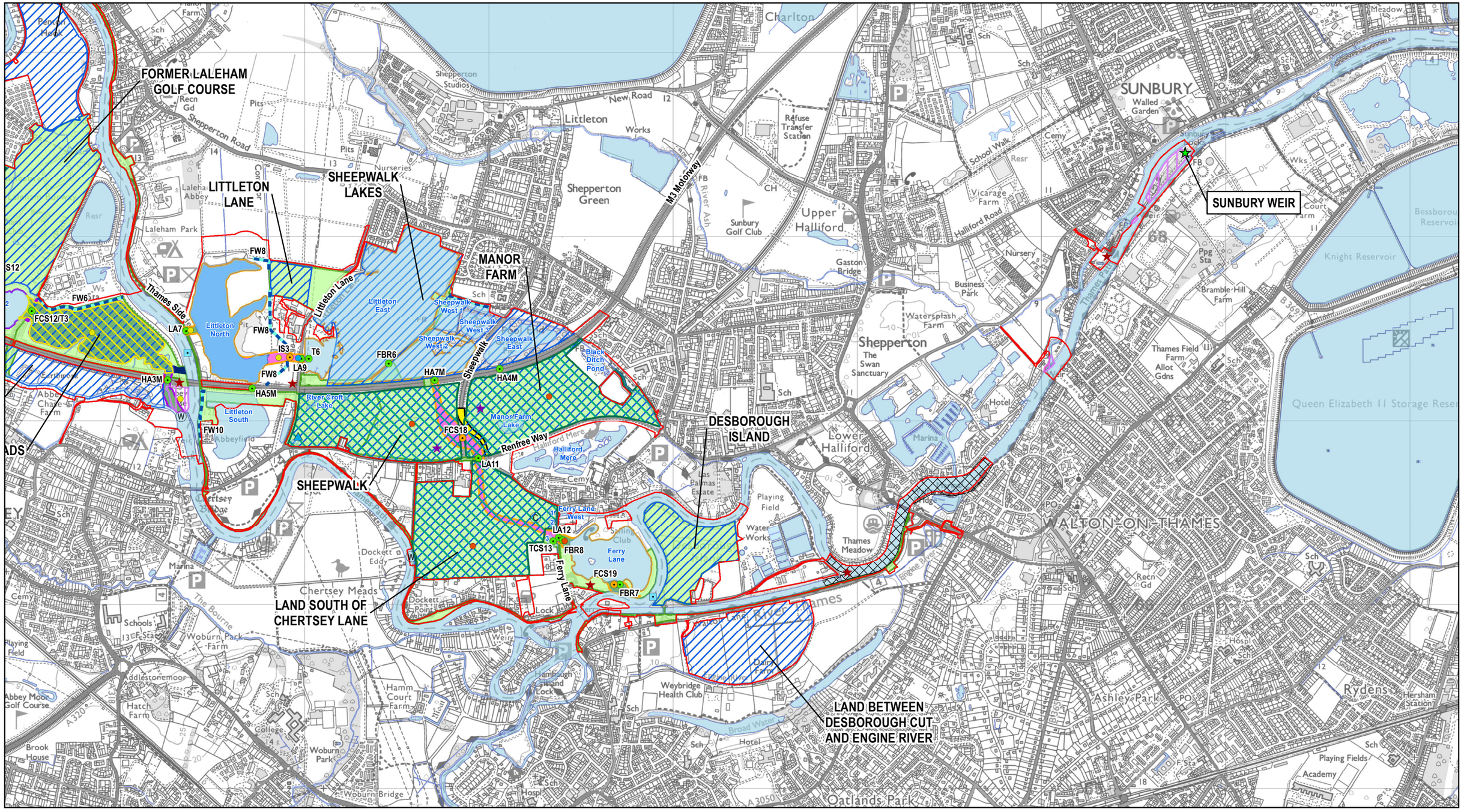

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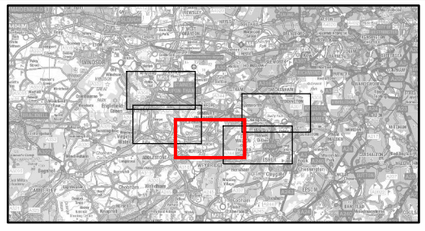

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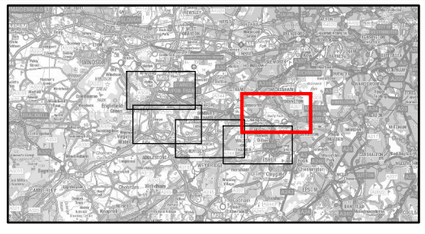

River Thames Scheme

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RIVER THAMES SCHEME (RTS)

EIA PEIR NON-TECHNICAL SUMMARY - FIGURE 0.1:
DESIGN OF FLOOD CHANNEL, ASSOCIATED FEATURES AND RIVER THAMES CAPACITY IMPROVEMENTS
SHEET 4 OF 5

Rev.	Drawn	Chkd	Rvwd	Apprvd	Date	Description
C01	MA	DB	VL	EB	23/11/2023	FOR PUBLIC CONSULTATION
P02	MA	DB	VL	EB	10/11/2023	FOR REVIEW AND COMMENT
P01	MA	DB	VL	EB	30/10/2023	FOR REVIEW AND COMMENT

Status: S10

Designed by: MA Date: 11/23 Revision: C01

Scale: 1:20,000 Project Number: 40212225 Drawing Number: ENVIMSE500260-CBI-ZZ-3ZZ-DR-EN-00144

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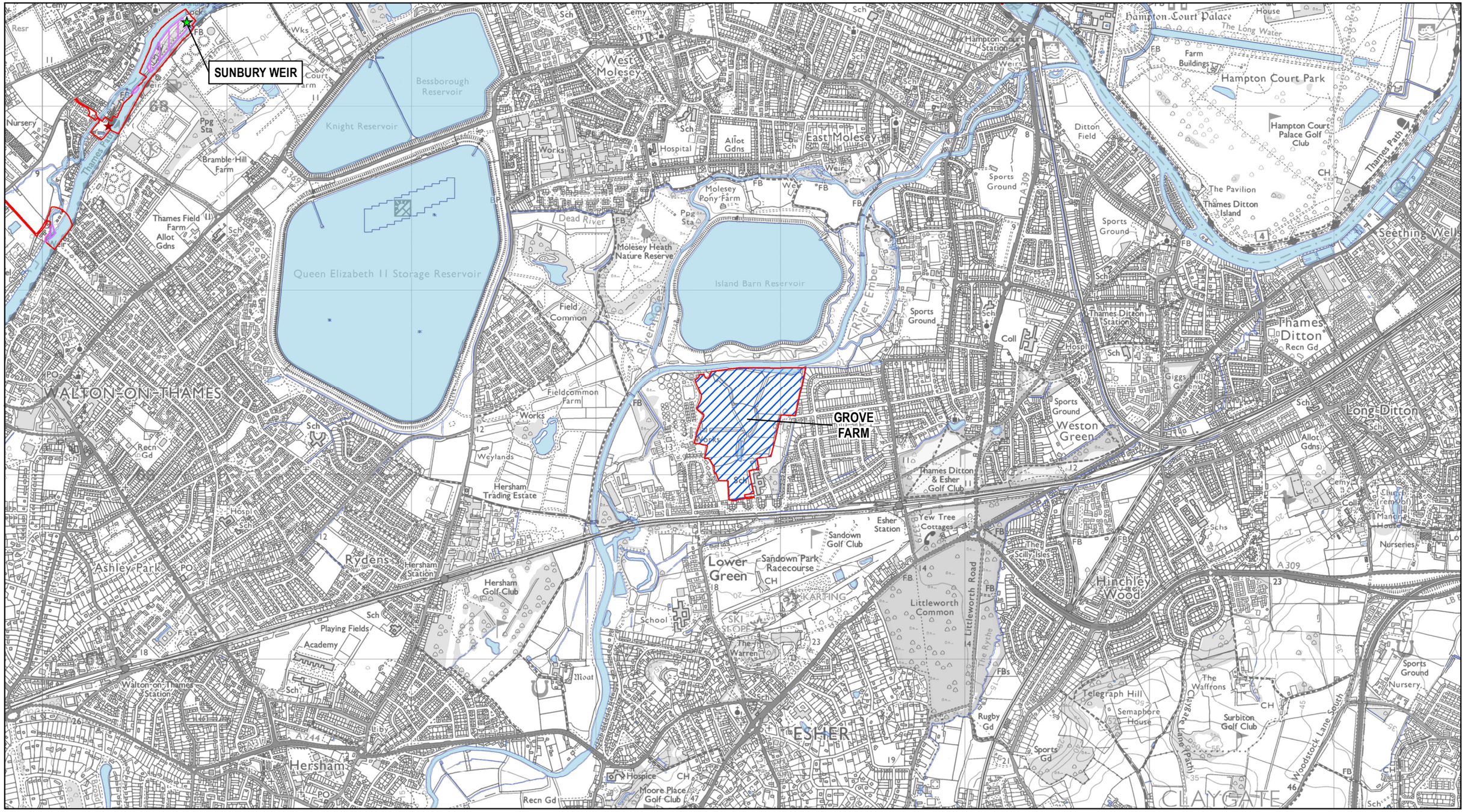


Legend

- PROJECT BOUNDARY FOR EIA PEIR
- WATERBODY

FLOOD CHANNEL

- RUNNYMEDE CHANNEL
- SPELTHORNE CHANNEL
- CHANNEL THROUGH NATURAL GROUND / MADE GROUND
- CHANNEL THROUGH KNOWN OR EXPECTED LANDFILL
- SPILLWAY
- ABBEY MEADS FLOODWAY

FLOOD CHANNEL ASSOCIATED FEATURES

- FLOOD EMBANKMENTS AND EROSION PROTECTION
- FISH PASSES
- PRIORITY AREAS FOR HABITAT CREATION / ENHANCEMENT / MITIGATION UNDER CONSIDERATION
- AREAS OF ENHANCED PUBLIC CONNECTION
- PROPOSED ROAD RE-ALIGNMENT AT SPELTHORNE CHANNEL
- NEW GREEN OPEN SPACE UNDER CONSIDERATION
- NEW BLUE OPEN SPACE UNDER CONSIDERATION
- MAJOR STRUCTURE WITH FISH PASSAGE AND STRUCTURE ID (SEE PEIR CHAPTER 2 FOR DETAIL OF STRUCTURE IDs)
- MAJOR STRUCTURE WITHOUT FISH PASSAGE AND STRUCTURE ID (SEE PEIR CHAPTER 2 FOR DETAIL OF STRUCTURE IDs)
- APPROXIMATE LOCATIONS OF PEDESTRIAN AND CYCLE BRIDGES
- PERMANENT OPERATIONAL COMPOUND
- PERMANENT OPERATIONAL AND MAINTENANCE COMPOUND

THAMES WEIR CAPACITY IMPROVEMENTS

- RIVER THAMES WEIR CAPACITY IMPROVEMENTS
- BED LOWERING DOWNSTREAM OF DESBOROUGH CUT

CONSTRUCTION REQUIREMENTS

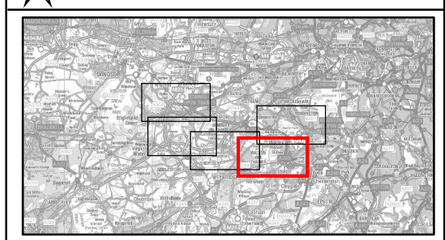
- TEMPORARY CONSTRUCTION MAIN COMPOUND
- TEMPORARY CONSTRUCTION SATELLITE COMPOUND
- TEMPORARY CONSTRUCTION MOBILE CABIN
- TEMPORARY WHARF
- TEMPORARY MATERIAL PROCESSING AND TREATMENT SITES UNDER CONSIDERATION
- TEMPORARY CONSTRUCTION MATERIAL STORAGE SITE UNDER CONSIDERATION

Main Plan Scale:

N

0 200 400 600 800 Metres

Scale 1:20,000



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RIVER THAMES SCHEME (RTS)

EIA PEIR NON-TECHNICAL SUMMARY - FIGURE 0.1:
DESIGN OF FLOOD CHANNEL, ASSOCIATED FEATURES AND RIVER THAMES CAPACITY IMPROVEMENTS
SHEET 5 OF 5

Rev.	Drawn	Chkd	Rvwd	Apprvd	Date	Description
C01	MA	DB	VL	EB	23/11/2023	FOR PUBLIC CONSULTATION
P02	MA	DB	VL	EB	10/11/2023	FOR REVIEW AND COMMENT
P01	MA	DB	VL	EB	30/10/2023	FOR REVIEW AND COMMENT

Status: S10

Designed by: MA Date: 11/23 Revision: C01

Scale: 1:20,000 Project Number: 4021225 Drawing Number: ENVIMSE500260-CBI-ZZ-3ZZ-DR-EN-00144

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Legend

- PROJECT BOUNDARY FOR EIA PEIR
- POTENTIAL CONSTRUCTION CAR PARK LOCATIONS

Main Plan Scale:

N

0 0.5 1 1.5 2 Kilometres

Scale 1:75,000

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RIVER THAMES SCHEME (RTS)

EIA PEIR NON-TECHNICAL SUMMARY - FIGURE 0.2:
POTENTIAL CONSTRUCTION CAR PARK LOCATIONS

Rev.	Drawn	Chkd	Rvwd	Apprvd	Date	Description
C01	MA	DU	VL	EB	17/11/2023	FOR PUBLIC CONSULTATION
P01	MA	DU	VL	EB	30/10/2023	FOR REVIEW AND COMMENT

Status: S10
Designed by: MA Date: 11/23 Revision: C01
Scale: 1:75,000 Project Number: 4021225 Drawing Number: EN\IMSE500260-CBI-ZZ-3ZZ-DR-EN-000145

Print Version: Print Quality (300dpi @ A3)

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2.4 Operation

2.4.1 The capacity improvements in the River Thames at each weir and downstream of Desborough Cut will be ready for use once construction has been completed at each of these sites. The capacity improvements ensure that there is no increase in flood risk from the River Thames downstream of the RTS. The flood channels will not be operated until the capacity improvements are in place.

2.4.2 We will operate the flood channel for flood relief once flow in the River Thames is higher than a certain value. This value is expected to be reached once a year on average based on current conditions. Water level control structures will ensure most of the flood channel will always contain water, even in non-flood conditions when this value is not reached. This small flow of water will be maintained to prevent the build-up of nutrients and to allow fish to continue to move along the channel.

2.4.3 We anticipate that the need for the flood channel to operate is likely to increase over time and therefore it is unlikely that a point in time will be reached when the project is no longer required. Environmental effects associated with stopping use and removing (decommissioning) the project are therefore scoped out and will not be considered further. Ongoing maintenance will however, be required. This will include general maintenance works such as vegetation maintenance, debris removal, inspections and maintenance of structures and mechanical parts. We also anticipate that most years, we will be required to remove material that sinks to the bottom of the channel (known as sediment) at the structures on the entrance to the Runnymede and Spelthorne channels. We may also need to remove sediment after large floods have washed it in. This will keep the size and shape of the flood channel as it was designed to be, and will ensure it continues to function effectively.

3 Consideration of Alternatives

3.1.1 Our EIA Scoping Report summarises the project alternatives considered through its history. This includes strategic options to reduce flood risk between Datchet and Teddington, through to the design work up to EIA Scoping.

3.1.2 Our PEIR describes design changes since EIA Scoping. These are also summarised here.

Spelthorne flood channel realignment

3.1.3 The proposed route of the Spelthorne Channel at Sheepwalk has been amended over a length of approximately 600 metres. This will also involve a section of road realignment and allow us to maximise green infrastructure and ecological opportunities within the area, to allow for a possible pathway upgrade and possible improvements to road junctions.

Landscape and Green Infrastructure

3.1.4 This element of the project is ongoing. Detailed appraisal of options has included consideration of planning policy, flood risk, buildability, affordability, carbon generation/mitigation, biodiversity and compliance with the project Environmental Design Principles. This has led to a solution presented in the design for Statutory Consultation that allows for ecological enhancements and a range of possible facilities and opportunities for active travel, including for example new bridge crossings over the River Thames at Chertsey and at Desborough Island, new green open spaces under consideration at Royal Hythe, Penton Park (including a new blue open space under consideration at Abbey 1 lake), Sheepwalk and part of Land South of Chertsey Road. This design will be developed further in response to statutory consultation feedback and with inputs from stakeholders, construction partners and technical teams. This approach has required changes to the project boundary for the EIA PEIR compared to that used for EIA Scoping. For example, locations have been added that allow for proposed upgrades to paths.

Other changes to the project boundary for our EIA PEIR

3.1.5 Design development and consideration of environmental, technical and construction requirements since the EIA Scoping stage has led to a few areas being removed from the project boundary for EIA PEIR (such as the protected habitat of Thorpe Hay Meadow and land to the west of this to avoid disturbance) and some areas added (including a 3.5 hectare area at Laleham Reach for habitat improvements).

Flow in the flood channel during normal conditions

3.1.6 The proposed maximum rate of water flow in the flood channel in normal (non-flood) conditions has been reduced following a water environment study. This reduction is to reduce possible effects on water resources,

water quality and biodiversity within the section of the River Thames that is bypassed by the flood channel.

Off-site car parking for construction workers

3.1.7 To mitigate for construction disturbance to traffic on roads local to the project boundary for the EIA PEIR, a study is being undertaken to consider off-site car parks for construction workers. This study does not yet account for likely travel plan mitigation measures that we will develop for the DCO Application, which will likely reduce the amount of car parking spaces needed. A short list of six potential car park sites are being considered. These sites are being consulted on as part of statutory consultation and are shown on Figure 0-2.

Spelthorne Channel at Ferry Lane Lake

3.1.8 Our PEIR assumes that the Spelthorne Channel passes through Ferry Lane Lake. However, this lake is highly valued by the community for open water swimming. As a result, we are undertaking assessments to understand the effects on water quality to the lake and, pending the results of those, undertaking a study to consider alternative options for the flood channel at this location if an alternative is required.

4 Approach to the Environmental Assessment

4.1 Introduction to the EIA Process

4.1.1 This Non-Technical Summary provides a summary of our PEIR, which forms part of the EIA process under the Infrastructure Planning (EIA) Regulations 2017. EIA is the process that identifies the key environmental effects of a development and confirms ways that these effects can be avoided, reduced or managed. It is a requirement of UK law for certain developments that are likely to cause significant environmental effects.

4.1.2 The key milestones when completing an EIA under the Infrastructure Planning (EIA) Regulations 2017 are:

Screening

4.1.3 Screening in the EIA process involves determining whether a development is likely to have a significant effect on the environment. If the

development is not likely to have a significant effect no further stages of the EIA process are required.

4.1.4 In October 2022, alongside our EIA Scoping Report (see 4.1.6), we confirmed that the RTS is likely to have a significant effect on the environment, and that an EIA would be carried out.

Scoping

4.1.5 If the screening process identifies the development is likely to have a significant effect on the environment, the next stage is scoping. This identifies the environmental topics that are likely to experience significant effects. These effects are described as being ‘scoped in’. Any environmental topics that are not likely to experience significant effects are ’scoped out’. The EIA Regulations set out the environmental topics that need to be considered during the process.

4.1.6 For the RTS, the environmental topics likely to experience significant effects were identified in our EIA Scoping Report in October 2022. These are: air quality, biodiversity, cultural heritage, archaeology and built heritage, climatic factors, flood risk, health, landscape and visual amenity, materials and waste, noise and vibration, socio-economics, soils and land, traffic and transport, water environment and cumulative effects. Our Scoping Report supported our written request for a Scoping Opinion from PINS on behalf of the Secretary of State, which was received in November 2022.

PEIR

4.1.7 The PEIR is produced as a key consultation tool for the DCO statutory consultation stage. It provides an update on the ongoing EIA (including consideration of the PINS Scoping Opinion), consultation and design of the RTS. It provides the information reasonably required for consultees, including the public, to develop an informed view of the likely significant environmental effects of the project, as understood at this stage.

Environmental Statement

4.1.8 The ES accompanies the DCO application and describes the full assessment of the likely significant effects that have been scoped in. It provides the information reasonably required to reach a conclusion on the

significant environmental effects of the proposed development, which takes account of current knowledge and assessment methods.

4.2 The EIA for the RTS

4.2.1 As noted in Section 2.1, assessments reported within our PEIR consider a reasonable 'worst case' scenario. This precautionary approach has been taken for this stage as there is some information on the project that is currently incomplete. For example, some designs, construction details or baseline information is still required from further surveys, assessments and/or consultation feedback. As our understanding develops, this will be refined for the ES.

4.2.2 As noted in Section 2.3.4 of this Non-Technical Summary, off-site car parking for construction workers is being investigated. Effects associated with these car parks are scoped into the EIA and, as a precaution, have been assessed in our PEIR as significant for all topics, as there is limited baseline information currently available to make an assessment of effects at the PEIR stage. These will be assessed for the ES.

4.2.3 As noted in Section 1.1, the effects scoped into the EIA have been updated following the PINS Scoping Opinion plus changes to design and footprint of the project; for example PINS required that noise from activities in new green open spaces during operation and flood risk during construction should be considered within the EIA. Our PEIR makes clear which additional potential effects have been scoped into the EIA. In contrast, since EIA Scoping we have been able to confirm that there is sufficient capacity at licenced waste disposal or recovery sites near the project. The previously scoped in effects of transporting non-hazardous materials from major roads and placing it off-site is now proposed to be scoped out of the EIA. This is because this activity would have been considered as part of each licenced waste disposal or recovery site's permitting processes.

4.2.4 The two main categories of effect that are considered within our PEIR are construction effects and operation effects. This Non-Technical Summary classes effects upon a receptor (being a feature of the environment, such as a person, that responds to change, such as noise) as either positive or negative and either temporary or permanent. In summary, the sensitivity of a receptor and magnitude (i.e. size) of change are both considered in

determining the significance of effects. The methodology for doing this varies between environmental topics.

4.2.5 Mitigation measures are proposed and will follow the mitigation hierarchy to avoid, mitigate or compensate for potential negative likely significant effects on receptors (see Plate 10). Mitigation measures have been proposed to reduce the size of change caused by the project (examples of which are in Section 6 of this Non-Technical Summary) and fall into three broad categories:

- Primary mitigation (i.e. modifications to the location or design of the project and are therefore embedded within the project and have a greater ability to avoid effects);
- Tertiary mitigation (i.e. actions that are considered standard construction practice or are required to meet legislative requirements and would occur even without input from the EIA); and
- Secondary mitigation (i.e. additional actions that are required to reduce the significance or likelihood of effects. They may need to be put in place as part of the DCO consenting process).

4.2.6 As noted in Plate 10 and discussed further in Section 6, the preliminary assessment of likely significant effects on the environment we report in this Non-Technical Summary and in our PEIR do not assume full achievement of certain primary and tertiary mitigation as these are still being developed. Similarly, effects have been assessed without applying secondary mitigation measures. Effects that remain after carrying out all mitigation, including secondary, are referred to as ‘residual effects’, and these will be reported in the ES. The assessment of the significance of residual effects is a key outcome of the EIA process.

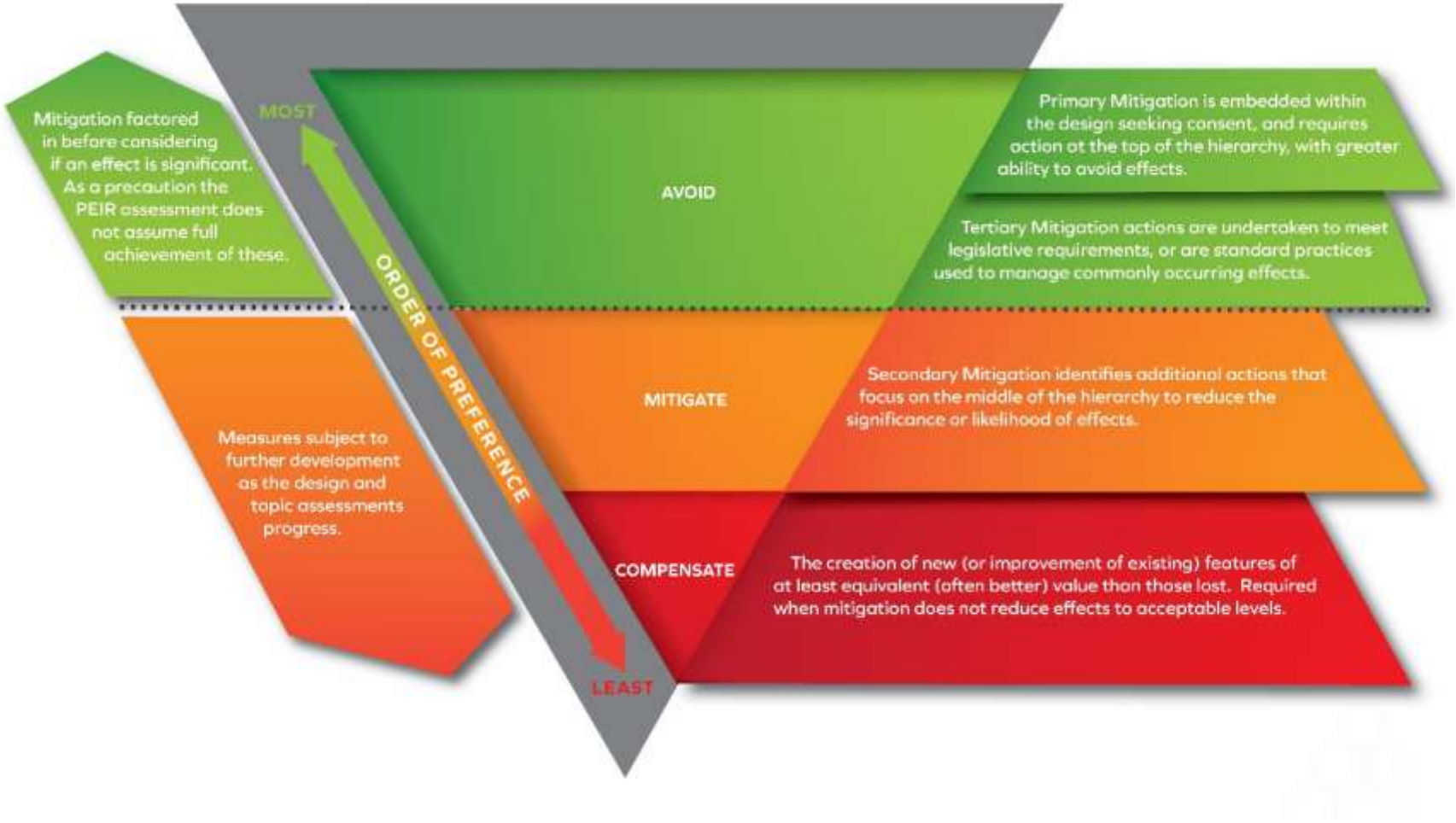


Plate 10 : Illustration of the mitigation hierarchy, categories of mitigation and achievement of these for the PEIR

5 Site Description

5.1.1 We have identified the baseline environment within the project boundary for EIA PEIR through a combination of the collation and review of information already available (known as a desk study) and site surveys. We have also consulted with relevant stakeholders such as Local Planning Authorities (LPAs) to obtain additional baseline information.

5.1.2 The project will be located within the River Thames valley, historically an open floodplain of flat grazing lands with scattered historic parkland on the higher ground but now increasingly dominated by settlements, transport links and land uses such as lakes left from past mineral workings, landfills and raised reservoirs. The baseline conditions are provided below, for each environmental topic:

- Air Quality: Current air quality in the area is generally expected to comply with national objectives, however, some isolated hotspots around roads may experience nitrogen dioxide (NO_2) levels that breach these objectives due to traffic emissions. Numerous Air Quality Management Areas have been put in place by the LPAs to address this. It is expected that the future air quality baseline will largely improve over time as newer, cleaner vehicles are used.
- Biodiversity: The area is very important for biodiversity (referring to all the different kinds of animal and plant life found in an area), containing many protected and important animals and plants (species) that are both land and water based. Several of the lakes within the project boundary for the EIA PEIR are internationally important for overwintering birds, and Thorpe Hay Meadow next to the project boundary for EIA PEIR is nationally designated as a Site of Special Scientific Interest (SSSI) for the rare plants and insects it supports. In the future, there is anticipated to be an overall improvement in biodiversity driven by various legislation and policies in place, although climate change may influence where different species can be found.
- Climatic Factors: The climate is influenced by continental Europe, bringing cold spells in the winter and hot, humid weather in the summer. Many of the land uses within the project boundary for the EIA PEIR release greenhouse gases (GHG), and the habitats present will sequester (i.e. remove) carbon, contributing to GHG removal. Ongoing reductions in GHG emissions are expected in the future, as measures are taken to meet UK targets.

- Cultural Heritage: The River Thames catchment is an area of high archaeological importance, varied historic landscape and contains a wealth of heritage assets dating back to the Palaeolithic (the early Stone Age). A heritage asset is an item that has value because of its contribution to a nation's society knowledge or culture. There are two scheduled monuments within the project boundary for EIA PEIR as well as several listed buildings and buried archaeology covering all periods up to present day. The future baseline for cultural heritage is expected to remain broadly similar to the current baseline.
- Flood Risk: The project boundary for EIA PEIR is within the floodplain of the River Thames and its tributaries. Sources of flooding often combine and include river (fluvial), sea (tidal), surface water (pluvial), groundwater, sewers and drainage and artificial sources, including reservoirs and canals. Floods in this area are slow to peak and remain for a long duration. Recent flood events, such as in 2013-14, have demonstrated that areas can stay flooded for several days to weeks. There are around 45,000 homes and 50 places of education at risk of flooding in the area, plus other infrastructure which are classed as 'more vulnerable' to flood risk under the National Planning Policy Framework (NPPF). Future climate change and development will likely lead to greater risk of flooding.
- Health: The population living within the project boundary for EIA PEIR is generally healthier and older than national averages. The area is not deprived by national standards. The population in the area is growing, which may increase the demand for local health care, social care, and social infrastructure such as open space and community facilities.
- Landscape and Visual: There are no national landscape designations (i.e. areas defined as having remarkable natural beauty and/or a distinctive character) within the Thames Valley; although much of it lies within Green Belt, Metropolitan Open Land (MOL) and open access land. Many PRoWs cross the area including the Thames Path National Trail that follows the route of the river. The landscape of the area is not expected to change much in the future, although there may be increased green infrastructure, such as tree planting and habitat improvements to meet government targets to tackle tree disease and climate change.
- Materials and Waste: The River Thames floodplain has valuable reserves of materials. Removal of sand and gravel is one of the primary industries in the area, with several designated Mineral Safeguarding Areas present. These areas aim to secure valuable

mineral resources to avoid their removal being prevented now and in the future. Many of the areas where material has been dug out are now existing authorised or historic landfill sites, some of which will be sources of contamination and hazardous waste. The demand for construction materials is likely to continue in the future. However, there is not sufficient existing landfill capacity to meet the forecast future demand.

- Noise and Vibration: Noise levels in the project boundary for EIA PEIR largely result from road noise, railways and air traffic, with vibration likely to be experienced at locations close to these. Baseline levels are not expected to change notably in the future.
- Socio-economics: The majority of the project boundary for EIA PEIR is within the county of Surrey; major residential areas nearby include Staines, Egham, Chertsey, Shepperton, Walton-on-Thames, East Molesey, Teddington and Kingston upon Thames. Examples of commercial developments within the project boundary for EIA PEIR include offices, hotels, retail and recreational businesses, including Thorpe Park and those associated with lakes and the River Thames (such as for angling, sailing, and swimming). Areas of floodplain are used for walking or other recreation where open to the public or grazing of livestock where privately owned. Surrey has a strong economy and a wide selection of social facilities. The population is expected to grow over time, putting increased pressure on facilities in the area.
- Soils and Land: Much of the ground in the project boundary for EIA PEIR has been altered by human activity, such as digging out materials and subsequent landfilling. Within the project boundary for the EIA PEIR there is a lot of urban land use, although there are a few areas of very good quality agricultural land. Increased future development and human activity may cause changes to soils, geology, or agriculture.
- Traffic and Transport: Traffic in the project boundary for EIA PEIR is characteristic of the urban landscape, with numerous railway stations linking to important London transport hubs, bus services, footpaths, cycle and equestrian routes, and the nationally significant M25, M4 and M3 motorways. The River Thames is also a popular commercial navigation route. Traffic and transport use is anticipated to increase in the future in response to likely population growth and new infrastructure.
- Water Environment: There are many rivers, streams and lakes within the project boundary for EIA PEIR, several of them legally protected

for their water quality and biodiversity status. There are also several important drinking water sources from groundwater and from the River Thames. Future improvements to the water environment may occur through legally binding environmental objectives, but climate change will make river flows and groundwater levels more variable and reduce the availability of water supply.

6 Mitigation

6.1.1 As explained in Section 4 of this Non-Technical Summary, there are three categories of mitigation: primary (embedded mitigation), tertiary (standard practice) and secondary (additional mitigation).

6.1.2 Both primary and tertiary mitigation are considered to form part of the RTS for the purpose of this PEIR. Several of these mitigation measures are still being developed, and therefore as a precaution, our preliminary assessment of effects for the PEIR does not assume full achievement of these in considering if a project effect is likely to be significant (Appendix 4.2 of our PEIR identifies the implementation status of primary and tertiary mitigation for the PEIR assessment).

6.1.3 We have included certain primary (embedded) mitigation measures in the project design to date. Some examples include:

- Locating both the temporary (e.g. materials processing sites) and permanent project components in the areas of lowest flood risk where feasible, and in accordance with the NPPF;
- Providing five fish passes that give fish a way to move around the flow control structures along the new flood channel;
- Pursuing an integrated landscape design process that aims to sensitively integrate project components within the existing landscape, including early planting where possible;
- Ensuring a small flow of up to one cubic metre per second along the flood channel (when not being operated with a larger flow during major flooding), which aims to avoid increasing nutrients in lakes and allow for fish passage over water level control structures on the channel;
- Applying the mitigation hierarchy in design to reduce negative effects, for example in relation to waste, biodiversity and carbon; and
- Avoiding work within the Thorpe Hay Meadow SSSI.

6.1.4 Some examples of tertiary (standard practice) mitigation measures that will form part of the RTS include:

- Best practicable means of noise and vibration mitigation, for example selection of quieter equipment or working methods and temporary screening of construction work;
- A Site Waste Management Plan; this will set out the amounts and types of waste and how it will be reused, recycled or disposed of in accordance with legislation;
- A Construction PRoW Management Plan to include details of temporary PRoW diversions; and
- An Air Quality Management Plan; this will include measures to manage; dust and air quality during earthworks, demolition, construction activities; vehicle movements; odour; and monitoring.

6.1.5 Tertiary mitigation is typically expected to be secured through relevant consents and permits. For example, our preliminary assessment assumes that environmental permits for waste management will be secured, which will include conditions (and associated measures) to limit effects on human health and the environment (for example through spread of contaminants from landfill) and ensure that activities are subject to suitable controls.

6.1.6 The potential likely significant effects reported within this Non-Technical Summary and in our PEIR have been assessed prior to applying secondary (additional) mitigation, as the details of these are not yet confirmed. Some examples of secondary mitigation measures that we are currently considering in the environmental topic assessments to reduce effects include:

- The development of aquatic (i.e. relating to water) invasive non-native species (INNS) and pathogen (such as bacteria that causes disease) management plans to avoid or limit their spread;
- Investigating the use of alternative piling methods to reduce noise and vibration where practicable;
- Water quality monitoring and any necessary follow up measures during construction and operation; and
- Junction and highway improvements.

6.1.7 The environmental topic chapters of our PEIR each identify relevant mitigation specific to that topic and the effects that each one will address. We will develop primary, tertiary and (where required) secondary

mitigation measures further through ongoing design, assessment and stakeholder consultation (including this Statutory Consultation) to avoid, reduce or compensate for negative effects. This will be reported in the ES. It is expected that most of the negative environmental effects reported in our PEIR can be reduced through the full development of primary and tertiary mitigation and the application of secondary mitigation.

7 Potential Likely Significant Environmental Effects

7.1 Introduction

7.1.1 Our preliminary environmental appraisal of effects is precautionary (i.e. reasonable worst case) as project details, baseline information and supporting assessments are incomplete. It does not apply secondary (additional) mitigation and reflects that certain primary (embedded) and tertiary (standard practice) mitigation that we are developing is not fully complete (as noted in Section 6.1.2 and set out in Appendix 4.2). For the majority of the identified likely significant effects we consider that project information and mitigation will be sufficiently developed at the ES stage such that most negative environmental effects can be reduced. The below sections provide a summary of the likely significant effects identified through our preliminary environmental appraisal. Further detail of these and our mitigation for identified effects are provided in the environmental topic chapters of our PEIR.

7.2 Air Quality

7.2.1 Our preliminary environmental appraisal has identified the potential for temporary and permanent negative effects to close-by sensitive ecological sites due to the release of emissions from construction vehicles, or for example from traffic accessing areas of enhanced public connection during operation. Potential negative effects on human health as a result of air quality effects are discussed in Section 7.7.

7.3 Biodiversity

7.3.1 Effects from construction are anticipated from a range of activities, particularly construction of the flood channel and material processing. These are likely to range between temporary and permanent depending on their nature.

7.3.2 Identified negative likely significant effects from construction are listed below:

- Potential spread of INNS and pathogens reducing habitat quality;
- Potential loss, damage, pollution and fragmentation of habitats;
- Potential nutrient deposition from construction traffic settling on habitats;
- Potential changes to land drainage, surface water quality, flows, and sediment; and
- Potential disturbance (from noise, vibration, lighting and changes in air quality) and displacement of species and their resting, feeding, commuting and breeding sites; and direct injury or death.

7.3.3 Identified negative likely significant effects from operation include those listed under Section 7.2.1 plus:

- Potential increased public disturbance to habitats and species;
- Potential habitat damage and disturbance from channel maintenance;
- Potential changes in existing flood depths and frequency from the operation of the flood channel, affecting habitat quality; and
- Potential operation lighting and migration barriers caused by flow control structures affecting species distribution.

7.3.4 Potential positive permanent likely significant effects on biodiversity during operation are expected, as listed below:

- Reduced flood risk on designated sites and contaminated land (thereby reducing spread of pollutants);
- Habitat enhancements to promote improvements in species communities within these;
- Improved fish passage; and
- Provision of quality habitats and net gain in biodiversity.

7.3.5 Key biodiversity receptors expected to be affected by the RTS include:

- Statutory designated nature conservation sites – including part of the South West London Waterbodies Special Protection Area (SWLW SPA) and Ramsar site, SSSIs associated with this, plus four other SSSIs;
- Non-statutory designated nature conservation sites – including several LWSs along the River Thames, seven Sites of Nature Conservation Importance (SNCI) that are supporting waterbodies to the SWLW SPA and Ramsar, plus three other SNCIs;

- Notable habitats such as lakes, watercourses, Habitats of Principal Importance (UK habitats that are most threatened, in greatest decline, or where the UK holds a significant proportion of the world's total population), woodland, trees and neutral grassland; and
- Numerous protected and notable species of plants and animals.

7.3.6 We will continue to develop mitigation to ensure that negative effects on biodiversity are avoided or reduced as much as possible, informed by ongoing surveys and technical assessments including a full Ecological Impact Assessment. This will identify species-specific measures to be included, for example, as part of the design or within the Construction Environmental Management Plan.

7.4 Climatic Factors

7.4.1 The identified likely significant effect is the potential increase in GHGs in the atmosphere as a result of both construction and operation activities generating these, in particular traffic movements. This negative effect is anticipated to be temporary in relation to construction and permanent for operation activities.

7.4.2 The project is also expected to provide benefits to climate, most notably a reduction in flood risk from operation, reducing the GHG emissions associated with extensive clean up operations.

7.4.3 Project designs will also be developed with an overall view to reduce carbon emissions and maximise opportunities to remove carbon dioxide from the atmosphere (i.e. through habitat planting). As such, the likely significant effects on GHGs reported in our PEIR are expected to be reduced at the ES stage.

7.5 Cultural Heritage, Archaeology and Built Heritage

7.5.1 Identified negative likely significant effects from construction are listed below:

- Potential permanent damage to buried archaeology at designated and undesignated known and unknown historic sites;
- Potential permanent damage to buried or riverbed archaeology, waterlogged deposits and organic remains particularly from digging of the flood channel, changes in drainage and bed lowering downstream of Desborough Cut; and

- Potential temporary effects on historic landscapes and settings at designated historic sites from the addition of new features of the RTS.

7.5.2 Identified likely significant effects from operation (particularly landscape and green infrastructure features) are listed below:

- Potential permanent negative effect through damage to buried archaeology due to changes in groundwater levels;
- Potential permanent negative effects on setting of designated historic sites, but potential permanent positive effects on some sites e.g. through habitat enhancement; and
- Potential permanent positive effects on users from an increased understanding and appreciation of the heritage value of the area.

7.6 Flood Risk

7.6.1 Identified likely significant effects are listed below:

- Potential temporary negative effects from construction on all NPPF classes of vulnerability. Negative effects to flooding are expected to result from changes to floodplain storage and flow paths, thus potentially changing the risk to levels and extents of flooding from rivers and surface water. NPPF classes of vulnerability to flooding include essential infrastructure, highly vulnerable uses (such as basement homes and police stations), more vulnerable (such as hospitals, houses and places of education), less vulnerable (such as shops and restaurants) and water compatible development (such as recreational areas and wildlife sites).
- Potential permanent positive effects on all NPPF classes of vulnerability to flooding from an overall reduction in flood risk from all sources as a result of operating the RTS; and
- Potential permanent negative effects on all NPPF classes of vulnerability to flooding. These are due to potential permanent changes to groundwater flows resulting in an increase in flood risk due to permanent barriers as part of the RTS, including sheet piling.

7.6.2 We will continue to embed flood risk reduction measures into the design of the project, with consideration of all relevant sources of flooding posed to and from the project. This will include mitigating for potential increases in flood risk during different phases of construction.

7.7 Health

7.7.1 Identified negative likely significant effects of construction are listed below:

- Potential temporary effects from construction activities as a result of traffic emissions, dust and noise, lighting and limited access to open space. It is considered such activities could cause or exacerbate health risks including asthma, respiratory disease, stress, anxiety, low mood, obesity, sleep deprivation, fatigue and changed blood pressure;
- Potential temporary effects from possible increased flood risk during construction, causing or increasing anxiety and physical harm; and,
- Potential changes to lake processes and water quality causing or increasing water-borne illness and other negative physical effects.

7.7.2 Identified likely significant effects of operation are listed below:

- Potential permanent positive effects on health from improved flood protection, improved public access and improved provision of recreational facilities and open space. These improvements may remove or reduce health risks including anxiety, physical harm, inadequate physical activity and obesity. There are also potential health benefits during flooding due to the reduced flood risk to public amenities.
- Potential permanent negative effects on health from operational activities such as operation of the flood channel, traffic on local roads accessing new open spaces, the potential for fluctuations in water quality (from the introduction of River Thames water and from channel maintenance) and other lake processes could cause health risks. These include water-borne illness and other physical effects, anxiety, inadequate physical activity, obesity, stress and anxiety.

7.7.3 Primary, tertiary and secondary mitigation will continue to be developed to ensure negative effects on human health are avoided, or reduced as far as possible. This is likely to include measures such as water quality monitoring, transport improvements, ongoing ground investigations and resulting plans to reduce the risk to human health.

7.8 Landscape and Visual Amenity

7.8.1 Identified likely significant effects are listed below:

- Potential negative temporary effects on views from certain locations, including PRoWs and properties due to the presence of construction activities, particularly work on the flood channel, pedestrian and cycle bridges across the River Thames and material processing and storage;
- Potential negative effects on three Landscape Character Areas and views from PRoWs and properties during early years of operation. This negative effect would reduce over time; and
- Positive effect approximately 15 years after the start of operation when planting becomes established and the flood channel, landforms and structures such as the pedestrian and cycle bridges across the River Thames have settled into their landscape.

7.9 Materials and Waste

7.9.1 Identified likely significant effects are listed below:

- Potential negative effects resulting from a potential reduction in the capacity and availability of waste recovery sites (temporary effect) and licenced disposal sites for non-hazardous materials in Surrey and for hazardous waste in the South East and wider UK (permanent effect) after materials generated from construction of the RTS have been accounted for;
- Potential permanent negative effects resulting from a potential future loss of the former Shepperton quarry as a possible landfill site, as it is located on the path of the Spelthorne Channel;
- Potential permanent positive effects from digging the flood channel through landfill, enabling this land to be claimed for change of use; and
- Once operational, potential permanent negative effects on materials and waste may result from the project components being located in Mineral Safeguarding Areas that contain sand and gravel reserves. This will prevent future extraction of these mineral resources in some locations.

7.10 Noise and Vibration

7.10.1 Identified negative likely significant effects are listed below:

- During construction, potential effects of noise and vibration are anticipated as a result of the temporary disturbance caused to residential and non-residential receptors located near construction

areas. Sources include airborne noise from general construction activities and vibration effects from piling and demolition.

- Once operational, the use of weirs and flow control structures as well as new open spaces and areas of enhanced public connection (including associated traffic) could result in airborne noise and potential permanent negative effects on those nearby. Operational noise mitigation will be developed to mitigate and minimise negative effects where feasible. This may include measures such as restricted hours of operation and limitations on noise generating activities.

7.11 Socio-Economics

7.11.1 Identified temporary negative likely significant effects from construction are listed below:

- Potential disruption and reduced accessibility to businesses and communities due to temporary road and PRoW closures and diversions near construction working areas, plus increased HGV movements;
- Potential effects on businesses from loss of land or waterbodies, plus effects to lake-based businesses where changes to the water environment as a result of the project may affect operation of these;
- Potential increased flood risk in areas close to construction, particularly in areas where land levels may change for site compounds and material processing and storage sites;
- Potential effects on residences from loss of land required for construction, and temporary disturbance (e.g. air quality, noise, visual) to residences, social and community infrastructure and businesses;
- Potential effects on how well communities interact with each other (community cohesion) and the nature of communities. This could result from changes in population resulting from the influx of site workers, causing increased demand for local housing and public services; and
- Potential effects during construction on access to land and water-based recreational facilities (used for walking, cycling, equestrian use, angling, boating or open water swimming for example) and resulting in reduced visibility of resources, severance of communities and/or reduced access to public amenities.

7.11.2 Identified temporary positive likely significant effects from construction are listed below:

- Potential positive effect to the local economy through use of raw materials (sands and gravels);
- Potential employment opportunities for local workforce, including the potential for social development through new skills and training; and
- Potential benefits to local businesses due to the influx of site workers.

7.11.3 Identified permanent negative likely significant effects from operation are listed below:

- Potential changes to the water environment in lakes, affecting the commercial viability of businesses operating at these and/or recreational use;
- Potential effects on businesses from loss or disturbance of land or waterbodies, and changes to land drainage; and
- Potential changes in the availability of water for surface or groundwater abstraction.

7.11.4 Identified permanent positive likely significant effects from operation, as a result of the benefits the project will deliver, are listed below:

- The reduction in flood risk and associated economic damages will potentially allow businesses to continue operating, and will provide improved safety and wellbeing of local communities; and
- The provision of potential new green and blue open spaces, areas of enhanced public connection, provision of active travel connections and improved recreational facilities potentially creating opportunities for local businesses and benefits for local communities.

7.12 Soils and Land

7.12.1 Identified likely significant effects are listed below:

- Potential permanent negative effect from loss of arable and pasture land to create project features; and
- Reduced flood risk on contaminated land will have a potential permanent positive effect by reducing the risk of contaminants spreading into uncontaminated land and aquifers.

7.13 Traffic and Transport

7.13.1 Identified temporary negative likely significant effects from construction are listed below:

- Potential effects on traffic from movement of construction vehicles causing increased highway traffic congestion, delay and severance, plus pedestrian, cyclist and equestrian delay and effects on amenity, accidents and safety. Potential effects are particularly noted on potential HGV routes for excavated materials along Staines Road, Chertsey Road and Renfree Way;
- Potential effects on traffic and pedestrians, cyclists and equestrians from construction of new road bridges and certain PRoW closures and diversions causing delay to journeys;
- Potential delays to commercial and recreational navigation on the River Thames due to using the river to transport materials via barge for the bed lowering downstream of Desborough Cut plus other possible movements of materials to and from temporary wharves; and
- Potential increase in flood risk to local and regionally important roads and railways during construction due to temporary changes to land levels and drainage patterns.

7.13.2 Identified permanent likely significant effects from operation are listed below:

- Public use of the new green open spaces and blue open spaces under consideration and areas of enhanced public connection has the potential to cause negative effects through increased traffic movements on roads and increased demand for existing parking facilities;
- Positive effects on traffic and transport through reduced flood risk to roads and railways (thereby reducing journey delays); and
- Potential positive effects to traffic movements, public transport services and parking facilities due to the provision of active travel connections and an enhanced PRoW network.

7.13.3 We will continue to develop mitigation to ensure negative effects relating to traffic and transport are avoided or reduced as much as possible. This will include undertaking a detailed Transport Assessment and development of project-specific mitigation measures to be included in our traffic and travel management plans.

7.14 Water Environment

7.14.1 Identified temporary negative likely significant effects from construction are listed below:

- Potential negative effects to some rivers and other watercourses and lakes, particularly those that will be connected to the flood channel. These effects would potentially occur in terms of their physical nature, dependent biodiversity, water quality, water supply, and support to recreation, in particular, from the management of water-based INNS and pathogens, disturbance to habitat from digging of the flood channel and storing materials; and
- Potential negative effects to groundwater in terms of water quality, water supply, and recreation and biodiversity that relies on the current groundwater conditions. Effects could occur as a result of contamination and changes in groundwater flows and levels caused by digging out materials and sheet piling through landfill.

7.14.2 Identified permanent likely significant effects from operation are listed below:

- Potential positive effects to water quality and dependent habitat of some main rivers from installing fish passes and improving habitats;
- Potential positive effects to dependent habitat of some lakes from improving habitats;
- Potential negative effects to some main rivers, other watercourses and lakes, particularly those connected to the flood channel. These would be in terms of their physical nature, dependent biodiversity, water quality and supply, and support to recreation due to the presence of the flood channel, maintenance of this and the small flow in it in normal conditions; and
- Potential negative effects to two groundwater bodies in terms of water quality and supply, and groundwater dependant biodiversity as a result of contamination and changes in groundwater movement and levels due to the presence of the flood channel and other project components.

7.14.3 We will continue to develop mitigation to ensure negative effects on the water environment are avoided or reduced as much as possible, informed by ongoing monitoring, surveys and technical assessments. This will include any mitigation measures identified by our Water Framework Directive (WFD) compliance assessment, as well as measures identified within species-specific management plans.

8 Assessment of Cumulative Effects

8.1.1 We will assess the potential for significant cumulative (i.e. combined) effects as a result of the RTS in the EIA.

8.1.2 Cumulative effects are classified as being either inter-project effects or intra-project effects, which are defined as follows:

- Inter-project effects: occur as a result of the likely impacts of the proposed development (i.e. the RTS) interacting with the impacts of other developments in the vicinity; and
- Intra-project effects: occur between different environmental topics within the same proposal (i.e. within the RTS), as a result of that development's direct effects.

8.1.3 The methodology for the Cumulative Effects Assessment (CEA) is set out in detail in the EIA Scoping Report. Given that full assessment of effects relating to individual topics has not been completed for the PEIR, a full CEA cannot be done at this stage. A full CEA will be done as part of the EIA and reported in the ES.

8.1.4 For the preliminary CEA for the PEIR we have defined the RTS' 'Zone of Influence' and used this to update the long list of other developments' that will inform the inter-project assessment (30 projects have currently been identified) for comment by consultees. For the intra-project assessment we have identified a preliminary list of shared receptor groups' that are affected by more than one environmental topic.

9 Next Steps

9.1 Consultation during the DCO Process

9.1.1 It is a statutory requirement to prepare a Statement of Community Consultation (SoCC) to state how we intend to publicise and consult on our PEIR and carry out our statutory consultation activities more generally. Following consultation on it with LPAs, we have published a SoCC, which sets out how we propose to carry out our Statutory Consultation.

9.1.2 We have prepared this Non-Technical Summary and our PEIR to provide consultees (both specialist and non-specialist) with the information they need to develop an informed view of the project and its potential likely

significant environmental effects, when they are commenting on the proposals, as part of consultation at the pre-application stage of the DCO application process.

9.1.3 We will prepare a Consultation Report following the consultation, recording the feedback received and our responses for how this feedback will be taken into consideration. This report will be published with our DCO application.

9.1.4 If our application for a DCO is accepted by PINS, on behalf of the Secretary of State, an Examining Authority will review the application. During the six-month examination stage, anybody with an interest in the project can participate and make representations in writing, or verbally at hearings.

9.1.5 After the end of examination, the Examining Authority will have three months to report its recommendation to the Secretary of State, who has a further three months to make a final decision whether or not to grant a DCO for the project.

9.1.6 Further information about the DCO application process can be found on the PINS website: The process | National Infrastructure Planning

9.1.7 The PINS website will also provide updates on the project's application process, including providing access to the submitted DCO application documents.

9.2 EIA

9.2.1 Feedback from consultation and ongoing engagement with stakeholders and the public will inform our continuing development of the project design and EIA.

9.2.2 In addition, the EIA will be supported by several further detailed studies, including for example (this is not an exhaustive list):

- Habitats Regulations Assessment;
- WFD compliance assessment;
- Lighting Impact Assessment;
- Completing a study of project effects upon the setting of historic assets;
- Use of results from ground investigations to refine predicted amounts and types of materials to be dug;

- Computer modelling of water quality effects;
- A flood risk assessment; and
- A transport assessment.

9.2.3 The collection of baseline data will also continue in 2023 and 2024 to inform the EIA, including for example (this is not an exhaustive list):

- Archaeological investigations;
- Traffic surveys;
- Air quality monitoring;
- Water quality monitoring;
- Habitat and species surveys;
- Summer and winter viewpoint photography; and
- Ground investigations.

9.2.4 The detailed studies and continued baseline data collection will inform the detailed environmental topic assessments within the ES. The ES will be prepared through 2024 and early 2025, and this will be submitted as part of the DCO application.

9.3 Find out more and have your say

9.3.1 You can find out more information about our proposals through the following consultation materials that have been developed to help people understand the proposals for the project and provide their feedback:

- **Consultation brochure** - The consultation brochure provides an overview of the proposals, including maps and information on key design elements of the project.
- **Preliminary Environmental Information Report (PEIR)** – Our PEIR provides information on our preliminary assessment of the likely significant environmental effects of the project.
- **Non-technical summaries** - The suite of consultation documents includes non-technical summaries of the PEIR and flood modelling report.
- **Map book and flood maps** - Supporting paper and online interactive maps detailing the project and key elements. These maps are available in their full technical formats sourced from the technical reports and simplified formats.
- **Project website** - The project website the River Thames Scheme has been updated with the Statutory Consultation materials.

- **Feedback form** - The consultation feedback form allows stakeholders and the public to formally respond to the consultation.

9.3.2 We are providing information on our project website, and also in hard copy, available at deposit locations and also on request. We are also hosting in-person and virtual events to allow attendees to explore the proposals and ask questions.

9.3.3 Copies of selected consultation documents are available for reference at Information Points (local libraries and community centres).

9.3.4 A series of around 10 public information events are being held for communities to find out information about the project and the consultation and talk to representatives from the project team in person.

9.3.5 We are seeking feedback on the proposed design and approaches. The feedback form provides a series of questions that request information on particular elements of our proposals. However, all feedback will be considered.

9.3.6 Your feedback is important to us and will help us determine our final proposals, which we will submit in our DCO application. You can tell us what you think by providing your response in one of the following ways:

- **Online feedback form**: hosted on Citizen Space with a direct link included in the project website The River Thames Scheme.
- **Paper feedback form**: available for collection at information events, information points or upon request. Completed forms are to be sent to the address set out below.
- **Written feedback**: other written feedback can be sent to either the freepost address or email address set out below.
- **FREEPOST address**: FREEPOST RTUK – RBLY – XUBT, RIVER THAMES SCHEME.
- Email address: enquiries@riverthamesscheme.org.uk

9.3.7 The deadline for submitting responses to this consultation is 11:59pm on the last day of the consultation on Monday 4th March 2024.

Abbreviations

Abbreviation	Full Text/ Term
CEA	Cumulative Effects Assessment
DCO	Development Consent Order
EIA	Environmental Impact Assessment
ES	Environmental Statement
GHG	Greenhouse Gas
HGV	Heavy Goods Vehicle
INNS	Invasive Non-Native Species
LPA	Local Planning Authority
LWS	Local Wildlife Sites
NO_2	Nitrogen Dioxide
NPPF	National Planning Policy Framework
PEIR	Preliminary Environmental Information Report
PINS	Planning Inspectorate (for England and Wales)
PRoW	Public Right of Way
RTS	River Thames Scheme
SNCI	Site of Nature Conservation Importance
SoCC	Statement of Community Consultation
SPA	Special Protection Area
SSSI	Site of Special Scientific Interest
SWLW	South West London Waterbodies
UK	United Kingdom
WBi	WSP Binnies Joint Venture

Glossary

Term	Definition
Active travel	Physically active methods of travel such as walking, running or cycling.
Air Quality Management Area (AQMA)	Area defined by the local authority as an area requiring management because air quality levels do not meet national air quality objectives.
Air Quality Management Plan	A comprehensive document describing the motivations for air quality management, qualitative and quantitative findings on the impacts of air pollution on the megacity, and most importantly, targeted actions and a path forward for mitigating sources of air pollution.
Aquifer	An underground layer of rock with water storage capability.
Area of High Archaeological Potential (AHAP)	Areas where archaeological artefacts and remains are likely to survive.
Areas of enhanced public connection	Designated areas where new or improved active travel provisions, for pedestrians and cyclists, are proposed. These areas, situated across the flood channel corridor and new green open spaces, are designed to connect with the existing network.
Baseline	A description of the present state, used as a starting point for making comparisons, for example in relation to the assessment of environmental or economic impacts.
Bed lowering	A technique which excavates the river bed in a localised area. Because it works to a greater depth than dredging, which only removes silt material from the riverbed, it is a longer term solution that requires less regular maintenance.
Best Practicable Means	Part III of the Environmental Protection Act 1990 defines Best Practicable Means as: ‘Practicable’ means reasonably practicable in terms of local conditions/circumstances, the current state of technical knowledge, and financial implications. ‘Means’ refers to the ‘design, installation, maintenance and manner and periods of operation of plant and machinery,

Term	Definition
	and the design, construction and maintenance of buildings and structures'.
Biodiversity	Biodiversity is the variety of all life on Earth. It includes all species of animals and plants – everything that is alive on our planet (Biodiversity 2020 Strategy).
Biodiversity Net Gain (BNG)	An approach to development and/or land management, that aims to leave the natural environment in a measurably better state than it was beforehand. It delivers measurable improvements for biodiversity by creating or enhancing habitats in association with development. It can be achieved on-site, off-site or through a combination of on/off-site measures.
Catchment	A surface water catchment is the total area that drains into a river. A groundwater catchment is the total area that supplies the groundwater part of the river flow.
Climate change	A change in the state of the global climate, which can be identified by changes in average climate characteristics (e.g. temperature, precipitation, and wind speed) that persist for extended periods - typically decades or longer.
Construction	Any activity involved with the provision of a new structure (or structures), its modification or refurbishment. A structure may include a residential dwelling, office building, embankment, road, etc.
Cumulative effects	The result of multiple activities whose individual direct impacts may be relatively minor but in combination with others, may result in significant environmental effects. Cumulative effects can either be inter-project or intra-project, see definition for these terms below.
Decommissioning	To officially stop using / to remove from service a structure.
Demolition	Any activity involved with the removal of an existing structure (or structures). This may also be referred to as de-construction, specifically when a building is to be removed a small part at a time.
Deposition (air quality)	Compounds of various types of air pollution are deposited on the earth's surface through rain, clouds, snow, fog, or as dry particles.

Term	Definition
Desk study	A desk study collates, analyses and presents existing published data from various sources on a subject to inform baseline assessments and identify the need for further assessment and / or survey. The desk study may involve a simple site walkover survey to confirm and enhance the findings of the research exercise.
Development Consent Order (DCO)	The form of consent that is granted under the Planning Act 2008 for NSIPs and projects of national significance brought into the regime by a Section 35 Direction. Application for a DCO is made to the Planning Inspectorate (PINS) who will consider the application and make a recommendation to the Secretary of State (SoS), who will decide on whether development consent should be granted for the proposed scheme.
Earthworks	The removal or placement of soils and rocks such as in cuttings, embankments and environmental mitigation, including the in-situ improvement of soils/ rocks to achieve the desired properties. This also covers the processes of soil-stripping, ground-levelling, excavation and landscaping.
Effects from construction	Both positive and negative consequences for receptors from the construction of the project.
Effects from operation	Both positive and negative consequences for receptors from the operation of the project when the development is fully built.
EIA Scoping	The process of deciding the scope or level of detail of an EIA and reported in a Scoping Report. During this stage the key environmental issues (likely significant effects) of a project are identified so that the rest of the process can focus on these issues. Issues may result from the proposal itself or from sensitivities of the site.
EIA Scoping Opinion	Statutory opinion from the competent authority (in this case PINS) as to the effects that should be reported in the Environmental Statement.
Embankment	A wall or bank of earth or stone built to prevent a river flooding an area.

Term	Definition
Enabling works	Preparations to make a site ready for construction or redevelopment.
Environmental Impact Assessment (EIA)	An assessment process applied to development proposals that are likely to have significant effects on the environment. EIA provides a mechanism by which the interaction of environmental effects resulting from development can be predicted, allowing them to be avoided or reduced through the development of mitigation measures.
Environmental Statement (ES)	The document produced to describe the environmental impact assessment process and results where statutory EIA is required.
Equestrian	Relating to horse riding.
Fish passage	A structure on or around artificial and natural barriers to facilitate fish movements up and downstream.
Flood channel	A section of engineered channel designed to alleviate flood waters within the River Thames.
Flood Risk Assessment (FRA)	A document that reviews a development project proposal and assesses the flood risk implications of the proposed project risk on all sources of flooding including from groundwater, river (fluvial), tidal surface water (pluvial), estuary/coastal (tidal), or sewers or artificial sources (e.g., canals and reservoirs) during construction, operation, and decommissioning phases of the project. The document will demonstrate how flood risk will be managed now and over the development's lifetime.
Flooding	Refers to inundation by water whether this is caused by breaches, overtopping of banks or defences, or by inadequate or slow drainage of rainfall or underlying ground water levels.
Flow Control Structures (FCS)	Devices that will alter the flow of water in the flood channel.
Fluvial	A term that relates to river and streams and the processes that occur within them.
Future baseline	The likely evolution of the baseline environment without implementation of and prior to implementation of the project.

Term	Definition
	Future baseline may differ from the existing baseline as a result of changes to relevant local plans or policies, development that become operational before an assumed construction start date for the project, new legal obligations that may drive change or wider changes to the environment, such as changes in population or climate change.
Green and blue infrastructure	Green infrastructure includes connected networks of green space, such as parks, open space and woodlands. Blue infrastructure includes ponds, lakes, rivers and streams.
Green belt	A designation for land around some cities and large built-up areas, which aim to keep this land permanently open or largely undeveloped.
Groundwater	Water contained in the void spaces in pervious rocks and also within soil.
Habitat	A place where an organism lives; a type of environment inhabited by a particular species and/or communities; often characterised by dominant plant forms, physical characters, or a combination of these.
Habitats Regulation Assessment (HRA)	The process for assessing the potential impacts of a plan or project on a European Site. The process has three stages: 1. Screening - to check if the proposal is likely to have a significant effect on the site in view of its conservation objectives (test of Likely Significant Effect; LSE). If there is no LSE then there is no need to go through any further stages 2. Appropriate assessment - to assess the likely significant effects of the proposal in more detail, to identify ways to avoid or minimise any effects, and to determine whether the proposal will have an Adverse Effect on the Integrity (AEoI) on a European Site in view of its conservation objectives. 3. Derogation - to consider if proposals that would have an adverse effect on the integrity of a European Site qualify for an exemption. This comprises three tests: alternative options; whether there are imperative reasons of overriding public interest why the proposal should go ahead; secure compensatory measures.
Haul roads	Temporary roads provided within the project boundary to allow for the movement of construction materials,

Term	Definition
	construction machinery and/or construction labour around the site.
Hazard	A property (of a substance) or situation with the potential to cause harm.
Heavy Goods Vehicle (HGV)	A commercial carrier vehicle with a gross vehicle weight of more than 3.5 tonnes.
Hectare (ha)	A metric unit of measurement, equal to 2.471 acres or 10,000 square metres.
Historic England (HE)	Government statutory advisor on the historic environment, funded by the government.
Historic landfill	Sites where records exist of waste being received and buried that are now closed or covered.
Integrated landscape design process	Integrated landscape design process serves to sensitively integrate all project activities within the existing landscape, with attention to material finishes, form of raised earthworks and green infrastructure planting including screening of elements.
Inter- and intra-project effects	Inter-project effects: occur as a result of the likely impacts of the proposed development (i.e. the RTS) interacting with the impacts of other developments in the vicinity; and Intra-project effects: occur between different environmental topics within the same proposal (i.e. within the RTS), as a result of that development's direct effects.
Invasive Non-Native Species (INNS)	Under Part II of Schedule 9 of the Wildlife and Countryside Act 1981, species for which it is a criminal offence in England and Wales to plant or cause to grow in the wild due to their impact on native wildlife.
Landscape Character Area	Distinct and recognisable pattern of elements, or characteristics in the landscape that make one landscape different to another.
Left / right bank	The descriptive terms ‘left bank’ and ‘right bank’ are relative to an observer looking downstream, in which the right bank is to the observer’s right and the left bank is to their left.

Term	Definition
Listed Building	Buildings (including any object or structure fixed to the building and any object or structure within the curtilage of the building which, although not fixed to the building, forms part of the land and has done so since before 1st July 1948) with special architectural and historic interest that have been listed for protection by Historic England. This is protected under the Planning (Listed Buildings and Conservation Areas) Act 1990.
Local Planning Authority (LPA) Project Group	A group of planning officers representing Runnymede, Spelthorne and Elmbridge Borough Councils and Surrey County Council who the project is engaging with in a regulatory capacity.
Local Wildlife Site (LWS)	Wildlife-rich sites selected for their local nature conservation value. They vary in shape and size and can contain important, distinctive and threatened habitats and species. Their designation is non-statutory and their protection comes via the planning system.
Main River	A watercourse designated by Defra. The Environment Agency has permissive powers to carry out flood defence works, maintenance and operational activities on main rivers. It is intended that the RTS flood channel (including the lakes that form part of it) will be a Main River.
Metropolitan Open Land	Metropolitan Open Land is specific to London, and can be applied to open space that contributes to the structure of the city, provides open air facilities for sport and recreation, contains features of historic or biodiversity value, and/or forms part of the green infrastructure network.
Mineral Safeguarding Area (MSA)	An area designated by the Minerals Planning Authorities which covers known deposits of minerals which are desired to be kept safeguarded from unnecessary sterilisation by non-mineral development.
Mitigation hierarchy	This is an approach to applying mitigation measures (see ‘Mitigation measures’ below) that follows three main steps. The first step seeks to avoid significant effects (e.g. by avoiding works in sensitive sites). Where this is not achievable, then impacts will be minimised (e.g. by only undertaking essential works in sensitive sites). Any unavoidable impacts are then mitigated (e.g. measures

Term	Definition
	applied on site) or compensated for (e.g. improvement measures applied elsewhere).
Mitigation measures	Actions that are taken to minimise or prevent negative effects of the project.
National Planning Policy Framework (NPPF)	A national policy framework which sets out the Government's economic, environmental and social planning policies for England.
Nationally Significant Infrastructure Project (NSIP)	Nationally Significant Infrastructure Projects (NSIPs) are large projects consented by way of a Development Consent Order (DCO). Usually involving energy, transport, water or waste these projects are automatically within the Planning Act 2008 regime.
Nature Recovery	Restoring, enhancing, and protecting natural habitats, their plant and animal communities and biodiversity.
Negative effects	Effects that have an adverse influence on receptors or resources.
New green / blue open space	New areas of recreational value for the public that are either land-based (green) or water-based (blue).
Ordinary Watercourse	A watercourse not designated as Main River. The local authority or Internal Drainage Board has permissive powers to maintain them.
Permanent effects	Due to the subjectivity of human receptors to timeframes, those effects that continue for greater than 10 years following construction can be defined as permanent.
Piling	Pilings are wooden, concrete, or metal posts which are pushed into the ground to help form the foundations on which structures are built.
Planning Inspectorate (PINS)	The national authority that deals with planning appeals, nationally significant infrastructure project applications, projects of national significance applications, examinations of local plans and other planning-related and specialist casework in England.
Positive effects	Effects that have a beneficial influence on receptors and resources.

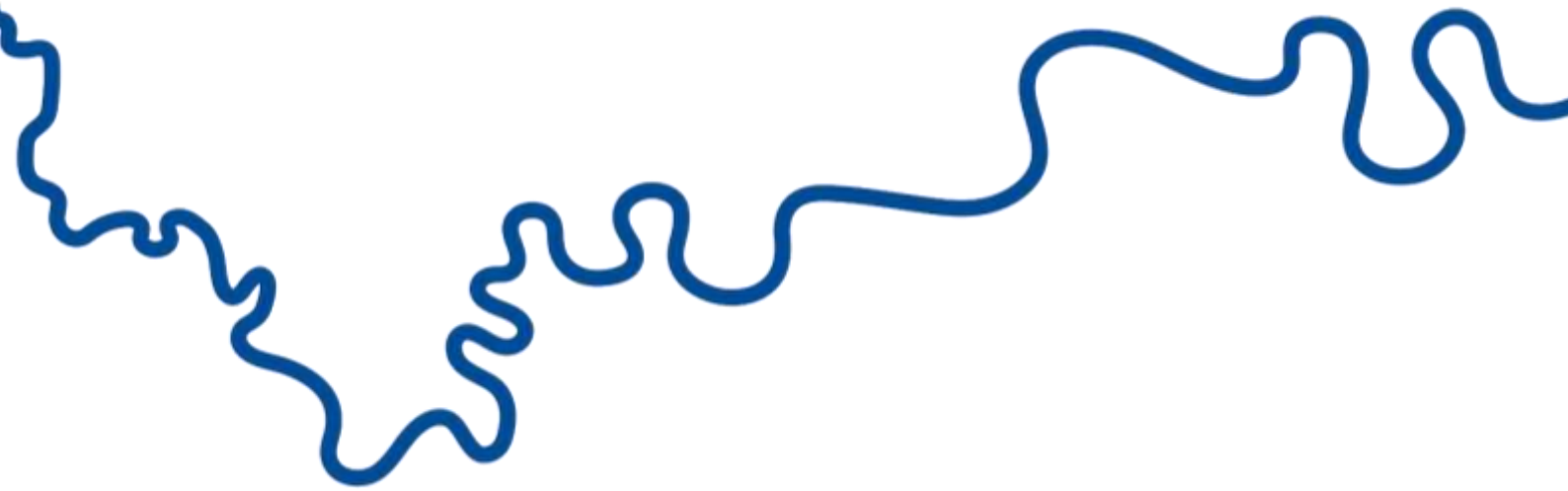
Term	Definition
Preliminary Environmental Information Report (PEIR)	A report which is prepared to inform consultation with the public and other stakeholders about the likely significant effects of the scheme. The PEIR supports the statutory consultation process under the Planning Act 2008 to comply with Regulation 12 of the Infrastructure Planning (Environmental Impact Assessment) Regulations 2017.
Primary (embedded) mitigation	Modifications to the location or design of the development made during the pre-application phase that are an inherent part of the project, and do not require additional action to be taken.
Priority areas for habitat creation, enhancement or mitigation	These areas will favour the enhancement of existing habitats such as neutral grassland, mixed scrub, broadleaved woodland, ponds, wet woodland and open mosaic. Areas will also seek to create additional high quality habitats such as reedbeds, ditches, hedgerows and lowland meadows.
Project Boundary for EIA PEIR	The boundary within which all construction works will take place and within which the operation of the project will take place. It is based on the design parameters detailed in Chapter 2: Project Description.
Project of national significance	The project has been designated a project of national significance and will be consented by way of a Development Consent Order (DCO). Projects of national significance are large scale developments that are brought within the Planning Act 2008 regime by a Section 35 direction given by the Secretary of State.
Public Right of Way (PRoW)	A highway where the public has the right to walk. It can be a footpath (used for walking), a bridleway (used for walking, riding a horse and cycling), or a byway that is open to all traffic (including motor vehicles).
Ramsar Site	A wetland site of international importance listed under the Convention on Wetlands of International Importance under the Conservation of Waterfowl Habitat (Ramsar) Convention 1973. It is UK Government policy that Ramsar sites are extended the same protection at a policy level as Special Areas of Conservation and Special Protection Areas.

Term	Definition
Receptor	A feature of the environment, such as a person, that responds to change as a result of the proposed development, such as noise.
Residual effect	Residual effects are those that remain following the implementation of secondary mitigation measures.
Runnymede Channel	The channel section proposed in the project that will start at Egham Hythe and end at Chertsey. The intake to the channel will be on the right bank of the River Thames. It will pass through agricultural fields before heading south across Green Lane and joining the existing course of the Mead Lake Ditch. Passing through five existing lakes, including the Thorpe Park lakes, it will pass under Chertsey Lane (A320) towards Abbey Meads and through the existing Burway Ditch M3 flood culverts, returning to the River Thames just south of the M3 motorway and downstream of Chertsey Weir.
Scheduled Monument	Nationally important historic sites, buildings or monuments identified by Historic England and designated by the Secretary of State for Culture, Media and Sport.
Scoped in	A term used to describe an effect that will be assessed further as part of the EIA process.
Scoped out	A term used to describe an effect that will not be assessed further as part of the EIA process.
Secondary (additional) mitigation	Additional actions that are required to reduce the significance or likelihood of effects where an assessment has indicated they may arise following the application of primary and tertiary mitigation. These may be imposed as part of the DCO consenting process or be identified as necessary through the EIA and therefore included within the ES.
Secretary of State (SoS)	The Secretary of State for Environment, Food and Rural Affairs.
Sediment	A solid material that settles at the bottom of a liquid, especially earth and pieces of rock that have been carried along and then left by water.

Term	Definition
Shared receptor groups	A preliminary list identified for evaluating effects within the project. These groups experience impacts from different parts of the assessment. The identification of these shared receptor groups aids in recognising potential impacts and determining how they might be mitigated.
Site of Special Scientific Interest (SSSI)	Nationally important sites designated for their flora, fauna, geological or physiographical features under the Wildlife and Countryside Act (1981) (as amended) and the Countryside Rights of Way (CRoW) Act (2000).
Site Waste Management Plan	A plan that details the amount and type of waste that will be produced on a construction site and how it will be reused, recycled or disposed of.
Site of Nature Conservation Interest (SNCI)	These are sites identified at a local level for their conservation value. They do not have statutory status and their protection relies on local government policy.
Special Protection Area (SPA)	An area designated for the protection of one or more species of bird listed in Annex I of the Birds Directive, and/or for the protection of other migratory birds. They form part of a network of protected sites across the UK known as the 'UK national site network'.
Spelthorne Channel	The channel proposed in the project that will leave the left bank of the River Thames at Laleham, approximately 0.4km upstream of the outlet of the Runnymede Channel, and north of the M3 motorway. The flood channel will follow in an easterly route through three existing lakes and pass under two local roads before turning south underneath the M3 motorway. The flood channel route continues through areas of grassland and scrub at Sheepwalk and Manor Farm and will pass under a further three local roads and through a lake before re-joining the River Thames opposite D'Oyly Carte Island, just upstream of Desborough Island, and downstream of Shepperton Weir.
Stakeholder	An individual, group or organisation that's impacted by the outcome of a project or a business venture.
Study Area	Each environment topic chapter within our PEIR (Chapters 6 to 19) have defined a specific 'study area' that has been considered in the assessment of likely significant effects.

Term	Definition
	The extent of these study areas differ primarily as a result of the manner and extent to which effects are likely to be propagated for individual topics. Where relevant these include expanded areas such as the areas that will experience a change in flood risk as a result of the project.
Surface water	Rainwater which is on the surface of the ground and has not entered a watercourse or a drainage system. Includes surface runoff which is the unconfined flow over water over the ground.
Temporary effects	Temporary effects can be defined as follows: Short-term: Effect continues during construction and up to one year following construction. Medium-term: Effect continues for one to five years following construction. Long-term: Effect continues five to ten years following construction.
Tertiary (standard) mitigation	Actions that would occur with or without input from the EIA feeding into the design process. These include actions that will be undertaken to meet other existing legislative requirements, or actions that are considered to be standard or best practices used to manage commonly occurring environmental effects.
Visual amenity	The analysis of the potential visual impacts to the landscape and landscape views resulting from a proposed development or land management action.
Waste	Any substance or object which the waste producer or the person who is in possession of the waste discards or intends or is required to discard.
Water Framework Directive (WFD)	Water Environment (Water Framework Directive)(England and Wales) Regulations 2017. The WFD sets out environmental objectives for water status based on ecological and chemical parameters, common monitoring and assessment strategies, arrangements for river basin administration and planning and a programme of measures in order to meet the objectives.

Term	Definition
Wharf / wharves	A platform of timber, stone, concrete, etc, built parallel to the waterfront at a harbour or navigable river for the docking, loading, and unloading of ships.
Zone of Influence (ZOIs)	The area(s) over which environmental features may be affected by changes caused by the proposed project and associated activities.



SURREY COUNTY COUNCIL

Environment Agency

The River Thames Scheme represents a new landscape-based approach to creating healthier, more resilient and more sustainable communities by reducing the risk of flooding and creating high quality natural environments.

River Thames
Scheme