

Factsheet

The Thames to Southern Transfer

(T2ST) Water Treatment Works



from
Southern
Water



A Water Treatment Works on the proposed reservoir site to supply drinking water for Southern Water, Thames Water and South East Water customers.

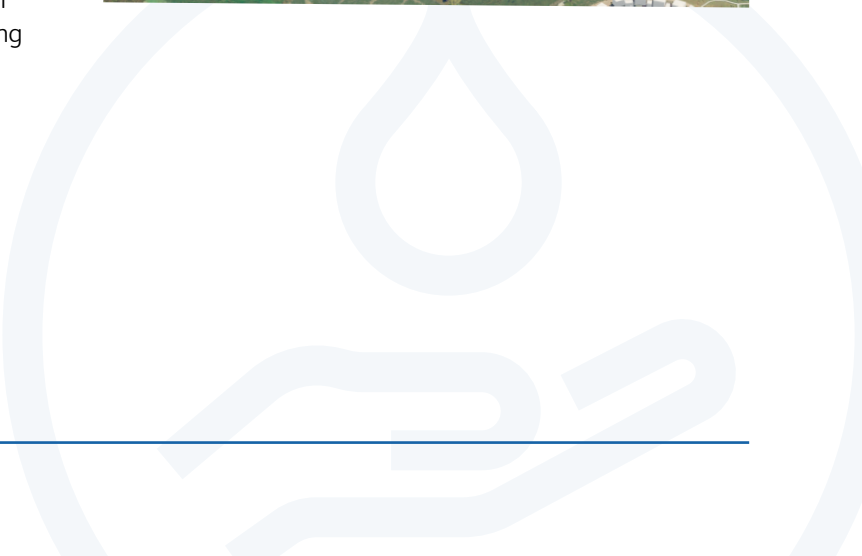
Introduction

The Thames to Southern Transfer (T2ST) scheme would transfer water from the proposed new reservoir via a buried pipeline to supply Thames Water, Southern Water and South East Water customers in Hampshire and Berkshire.

As part of the T2ST scheme, a new Water Treatment Works is planned to be built at the site of the reservoir on land to be acquired and provided by Thames Water. This would treat the water to drinking standards before onward transfer.

It is currently proposed that the T2ST scheme would be designed, consented and constructed by Southern Water. However, a final decision on the precise consenting arrangements hasn't been made yet and it will continue to be reviewed by Thames Water and Southern Water, taking into account project programmes and delivery timescales. It is expected that the consent application for the T2ST scheme would be submitted in 2030, following a decision on the SESRO application.

This factsheet provides more information on the proposed T2ST scheme and the Water Treatment Works at the reservoir site. As part of the public consultation being carried out in relation to the proposed SESRO reservoir, we are requesting feedback on preferred locations for the Water Treatment Works within the reservoir site.



What is the Thames to Southern Transfer (T2ST) scheme?

The Water Resources South East (WRSE) revised draft regional plan and individual company Water Resources Management Plans (WRMPs) set out the overall need for the T2ST scheme, which is required to improve supply-demand balance and drought resilience in the South East region. These plans identify a need for a transfer scheme of up to 120 megalitres per day (Ml/d) between the Thames Water area and the Southern Water area, to be brought into operation by 2040.

The T2ST scheme is being jointly investigated by Southern Water and Thames Water, working with South East Water. The source of water for the T2ST scheme is the proposed SESRO reservoir, which itself would be supplied by water from the River Thames. Raw water would be abstracted from the reservoir for treatment at a new Water Treatment Works and then pumped through a new buried pipeline, with spur connections, ending at an existing Southern Water operational site south of Winchester in Hampshire.

There is a direct relationship and dependency between the T2ST scheme and SESRO; in particular, the requirement for the T2ST scheme to have a capability of 120Mld has been a factor in the volumetric size of the proposed reservoir stated in the companies' draft WRMPs and hence the reservoir's footprint. As such, whilst the two projects are planned to be consented separately, they do form part of a 'system' for the South East.

What is the route of the T2ST pipeline?

From the SESRO site and the new Water Treatment Works, water would be pumped through approximately 80-85km of pipeline to an existing Southern Water operational site south of Winchester. Connections for smaller spur pipelines are also proposed at a number of locations along the T2ST pipeline. These include spur connections to provide water to the Kennet Valley area for Thames Water at Newbury, connections to the Andover and Kingsclere areas for Southern Water, and a connection to the Basingstoke area for South East Water.

The proposed pipeline route would pass predominantly through open rural countryside, crossing a number of roads, rivers and railways, and passing close to a number of existing settlements. A large part of the route would pass through the North Wessex Downs National Landscape. The main transfer pipeline would have an internal diameter of about 1100mm, and the spur connections would be smaller – ranging between 250 and 700mm. All the pipelines would be buried. Tunnelled crossings would be required for motorways and major roads, railways and main rivers located along the route. The majority of the pipeline would be constructed through open trench construction, with the land restored afterwards.

How much water would be transferred?

The Water Treatment Works and the pipeline would have a capacity of 120 Ml/d. This would be the peak amount of water that could be transferred through the pipeline, for example in a drought. Less water would be transferred under normal operating conditions. It is proposed that once commissioned, there would be a permanent flow of water in the new buried transfer pipeline, with the rate of transfer increasing and decreasing in response to demand.

What is the Water Treatment Works?

The proposed Water Treatment Works would contain buildings, tanks, plant and equipment where raw water abstracted from the reservoir would be treated to drinking water standards, for pumping through the T2ST pipeline. The Water Treatment Works would be one of the largest elements of built development on the SESRO site, alongside the reservoir itself. It would be connected to the proposed reservoir and T2ST pipeline by buried pipelines through the SESRO site.

At the current stage of design development, it is anticipated that the total footprint of buildings, tanks plant, equipment and circulation space around the Water Treatment Works would be approximately 5 to 6 hectares. This is subject to more detailed design and assessment work as part of the wider T2ST scheme development, and consideration of the detailed landscaping and other mitigation associated with the design. It is important to note that development of the preferred design solution for the Water Treatment Works, including its design principles, would be the subject of further consultation and engagement on options prior to submission of a consent application.

From experience with other similar developments there are a range of design options that could be used, ranging from green roofed buildings and structures, agricultural styled buildings, to more landmark buildings.

The Water Treatment Works would be designed within the context of the overall design solution for the SESRO site, including the design details for the proposed reservoir visitor facilities.



Why is the Water Treatment Works located at the SESRO site?

Preliminary investigations by Southern Water indicate that the preferred location for the proposed Water Treatment Works along the T2ST scheme route is at the reservoir. This is for operational, engineering, environmental and planning reasons, including the need for water treatment to be located north of the River Lambourn for water quality reasons, the landscape sensitivity of the North Wessex Downs National Landscape, the proximity to the reservoir as the source of water for the T2ST scheme and available wastewater treatment near to the reservoir site.

Within the reservoir site itself, the locations currently identified as potential areas for the Water Treatment Works – see Figure 1 below - are to the northeast of the proposed reservoir, close to the reservoir access tunnel. These location(s), noted as Option 2 and Option 4, were identified following a review undertaken by Thames Water and Southern Water. For further detail please see our Water Treatment Works Options Appraisal held in our online document library

<https://thames-sro.co.uk/document-library/>

The conclusion of that options appraisal was that Option 2 and Option 4 locations were preferred, having regard to the engineering, environmental and planning constraints at the reservoir site. It is currently assumed that Thames Water would secure the land necessary for the Water Treatment Works as part of the SESRO scheme.

As part of the public consultation being carried out in relation to SESRO, we are requesting feedback on these two preferred locations for the Water Treatment Works within the reservoir site.

How and when would applications for permission for the T2ST scheme be made?

Given its regional importance and the scale of the proposals, we consider that the T2ST scheme is a project of national significance. Southern Water is in the process of preparing a request to the Secretary of State for the Environment, Food and Rural Affairs to confirm this, which would mean that an application would need to be made to the Secretary of State to grant a development consent order (DCO) for the scheme. The SESRO project is automatically a nationally significant infrastructure project due to the scale of the proposed reservoir.

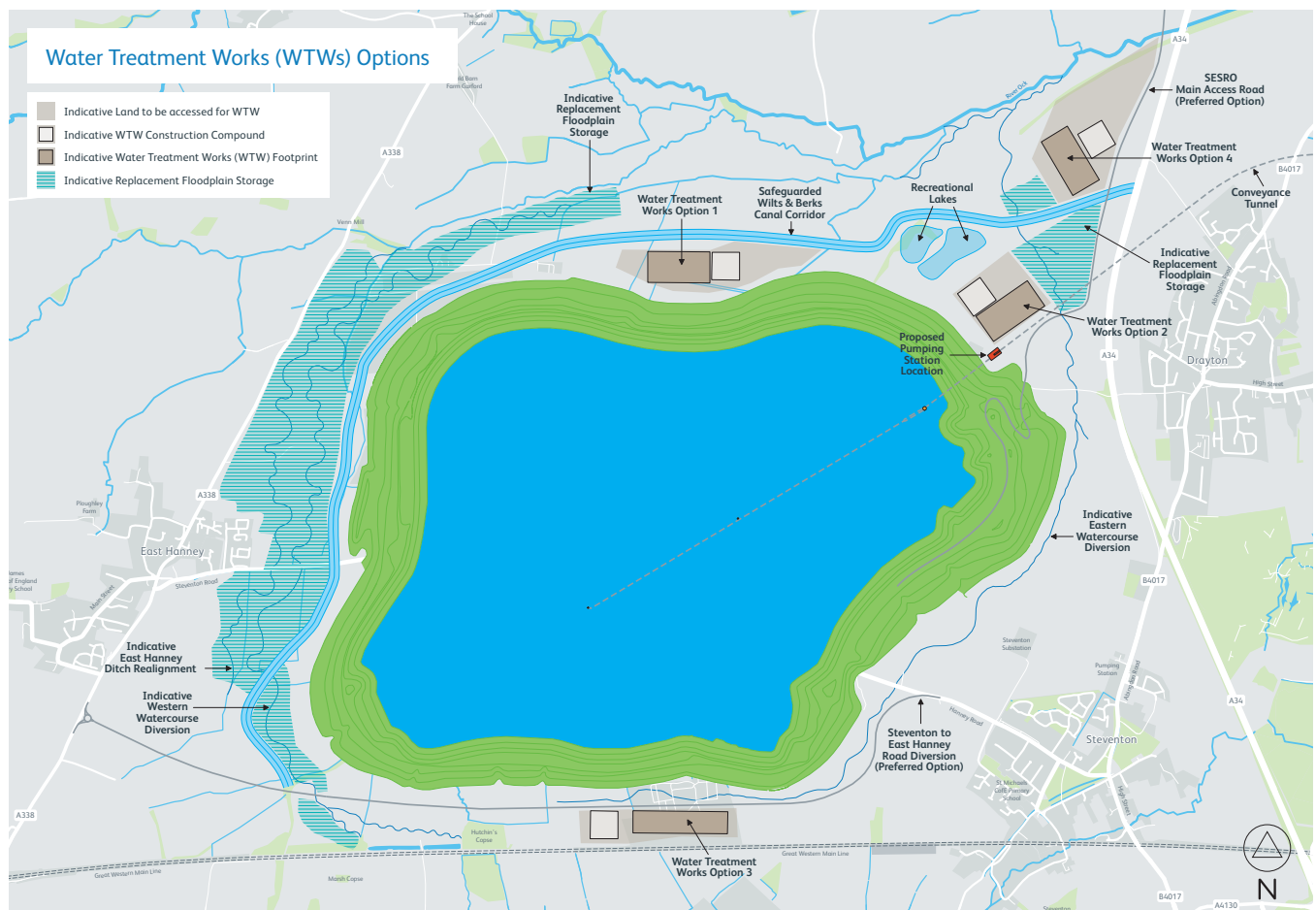


Figure 1: Water Treatment Works location options

It is expected that the consent application for the T2ST scheme would be submitted in around 2030, following a decision on the SESRO consent application. A decision would be expected on the T2ST application in 2031/32.

Thames Water and Southern Water are liaising closely on the consenting of the various infrastructure requirements for both SESRO and T2ST. The current assumption is that the Water Treatment Works for T2ST would be designed, consented and constructed by Southern Water, as part of the overall T2ST scheme. However, a final decision on this has not yet been made and it will continue to be reviewed by Thames Water and Southern Water, taking into account project programmes and delivery timescales.

More detailed design and engineering, environmental and planning assessments will be undertaken in relation to the proposed Water Treatment Works and the T2ST scheme as a whole, including an Environmental Impact Assessment and extensive consultation and engagement with stakeholders, local communities and the general public, before an application is submitted.



When would the T2ST scheme be built?

As per the revised draft regional plan and individual company WRMPs, the T2ST scheme is required to be brought into operation by 2040. This is consistent with the timing for the completion of the proposed SESRO reservoir, which will be the source of water for the T2ST scheme.

Subject to consents being granted for SESRO and T2ST, construction of the T2ST scheme is expected to be underway by the mid 2030s, and would take place alongside the SESRO construction works, with the completed schemes being brought into operation by 2040.

Thames Water, Southern Water and their respective delivery partners and contractors would work closely on integrated construction programmes and activities at the SESRO site, ensuring that necessary construction work is phased and co-ordinated to avoid and reduce potential impacts on the environment and local communities.

