



Isle of Wight Water Recycling Project

Stakeholder briefing – September 2025

Agenda

- The need for the project
- Project details - overview
- Public Consultation
- Next steps
- Q&A

The need for the project



from
Southern
Water



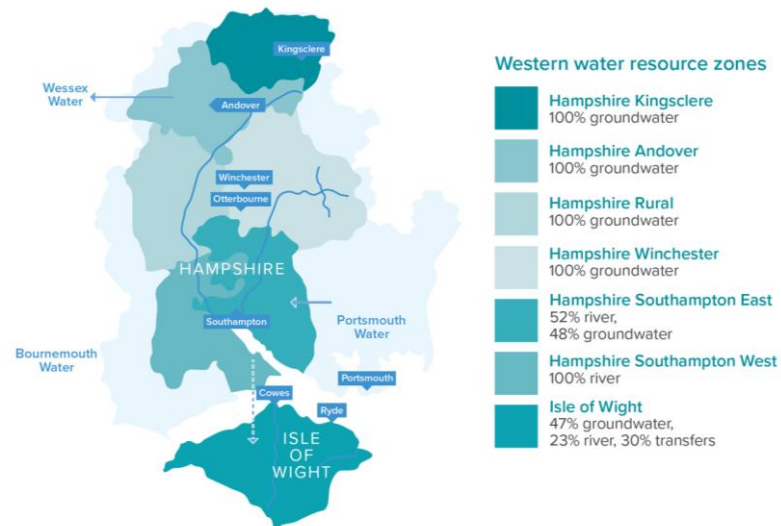
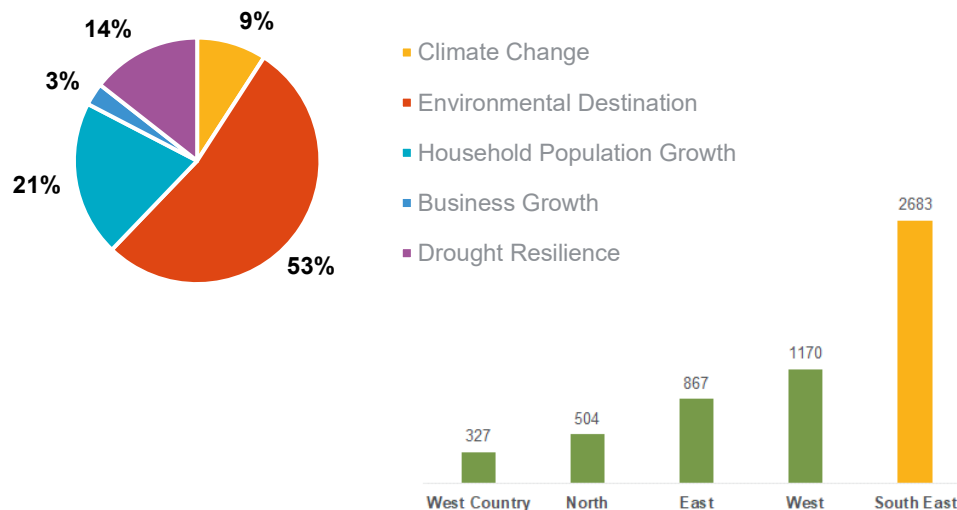
Water scarcity in the South East

The Environment Agency says that by 2050, more than 5 billion extra litres of water will be required every day, to maintain public water supplies in England.

The main driver (53%) is leaving more water in the environment – driven by abstraction licence reductions.

More than half of this need is in the South East.

Hampshire and the Isle of Wight rely on rivers and groundwater for supplies – but we need to take less.



The Test and Itchen – rare and sensitive ecosystems



- UK has 85% of the world's chalk streams.
- The Test and Itchen are two of the finest.
- They're rare and delicate ecosystems.
- Often described as “our rainforests”.



Water supply on the Isle of Wight



Isle of Wight Water Resources (current)



- IOW groundwater - 15.4 MI/d (48.5%)
- IOW rivers - 5.9 MI/d (18.7%)
- River Test - 10.4 MI/d (32.8%)

- The Island's water is drawn from rivers and groundwater sources.
- The Cross Solent Main (installed in 1980 and renewed in 2005) provides 1/3 of the Island's supply from the River Test on the mainland.
- The EA imposed abstraction licence reductions on the River Test in 2018.
- We need to develop new sources of supply – to protect the river.
- We've looked at whether some of the smaller, historic groundwater sources, which are no longer used, could be brought back into operation.
- Investigations showed they're unreliable and only provide a small amount of water during a drought, around 200,000 litres in some instances – significantly less than the amount needed.
- We're also mindful of drawing more water from the environment on the Island during a drought – at a time when nature needs it most.
- However, we continue to look at whether we can reintroduce some of these historic sources, alongside the water recycling project, to make the Island even more self-sufficient for its water supplies.

Water Recycling – a new source of water for the future



- Reducing leakage and improving water efficiency are important priorities but we need to look at other ways of using water wisely.
- Water recycling creates a new drought-proof source of supply.
- Water recycling plants use advanced treatment techniques to turn treated wastewater into purified recycled water.
- Purified recycled water can be stored in rivers or reservoirs and used for public supplies – following treatment to strict UK drinking water standards enforced by the Drinking Water Inspectorate.
- We're currently developing four water recycling plants across our region, as part of our current Water Resources Management Plan.
- Together these four water recycling plants would be capable of producing 98.5 million litres of water a day.
- That means we can leave almost 100 million litres more water in the environment during a drought – when nature needs it most.



Isle of Wight Water Recycling

A guide to the stages of water recycling

Water recycling uses advanced treatment techniques to speed up the natural water cycle, providing a sustainable source of clean, safe water.



Multi-stage pre-treatment

After initial screening and grit removal at the existing Sandown Wastewater Treatment Works, a proportion of the water will be diverted to the proposed water recycling plant. Here, a brand new multi-stage pre-treatment process (including membrane bioreactor plant) will treat the water to a high standard before pumping it to the new advanced treatment process.

Reverse osmosis

The next stage of the treatment process is reverse osmosis. Here, membranes with perforations more than 50,000 smaller than the width of a human hair are used to filter out dissolved impurities, such as bacteria and pharmaceuticals.

Advanced oxidation process

Reverse osmosis is extremely effective at removing impurities. But, as an extra layer of protection, ultraviolet light (just like that found in sunlight) is applied along with a small dose of a chemical called hydrogen peroxide. Both of these treatments are used around the world in water recycling. Ultraviolet light is widely used in other drinking water treatment processes as it helps reduce the amount of chlorine that needs to be added at later stages of treatment.

Treated water conditioning

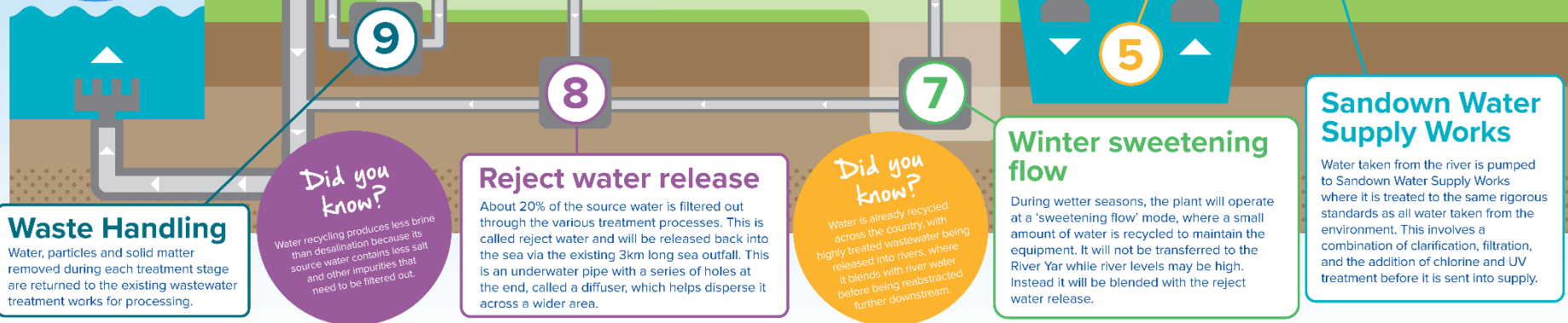
Minerals such as calcium and magnesium salts (that have been removed during the earlier stages of treatment) are added back in to maintain water quality in the river.

Environmental buffer

The purified recycled water is pumped to the River Yar where it will mix with existing water from other sources. This is called an environmental buffer.

Did you know?

Water recycling is a tried-and-tested technology used elsewhere in the world – in Southern California they've been using it for 40 years.



Waste Handling

Water, particles and solid matter removed during each treatment stage are returned to the existing wastewater treatment works for processing.

Did you know?

Water recycling produces less brine than desalination because its source water contains less salt and other impurities that need to be filtered out.

Reject water release

About 20% of the source water is filtered out through the various treatment processes. This is called reject water and will be released back into the sea via the existing 3km long sea outfall. This is an underwater pipe with a series of holes at the end, called a diffuser, which helps disperse it across a wider area.

Did you know?

Water is already recycled across the country, with highly treated wastewater being released into rivers, where it blends with river water before being reabstracted further downstream.

Winter sweetening flow

During wetter seasons, the plant will operate at a 'sweetening flow' mode, where a small amount of water is recycled to maintain the equipment. It will not be transferred to the River Yar while river levels may be high. Instead it will be blended with the reject water release.

Sandown Water Supply Works

Water taken from the river is pumped to Sandown Water Supply Works where it is treated to the same rigorous standards as all water taken from the environment. This involves a combination of clarification, filtration, and the addition of chlorine and UV treatment before it is sent into supply.

The Isle of Wight Water Recycling Project

- The water recycling plant would be built on land next to Sandown Wastewater Treatment Works.
- It would use advanced treatment processes to clean and purify wastewater.
- Purified recycled water would be pumped into the Eastern River Yar to mix with the river water.
- This would allow more water to be taken from the river further downstream.
- Water taken from the river would be treated to drinking water standards at Sandown Water Supply Works before being supplied to customers on the Island.
- The reject stream from the process would be released via the existing long sea outfall.
- During a drought, water recycling would support water supplies across the Island.



Project details



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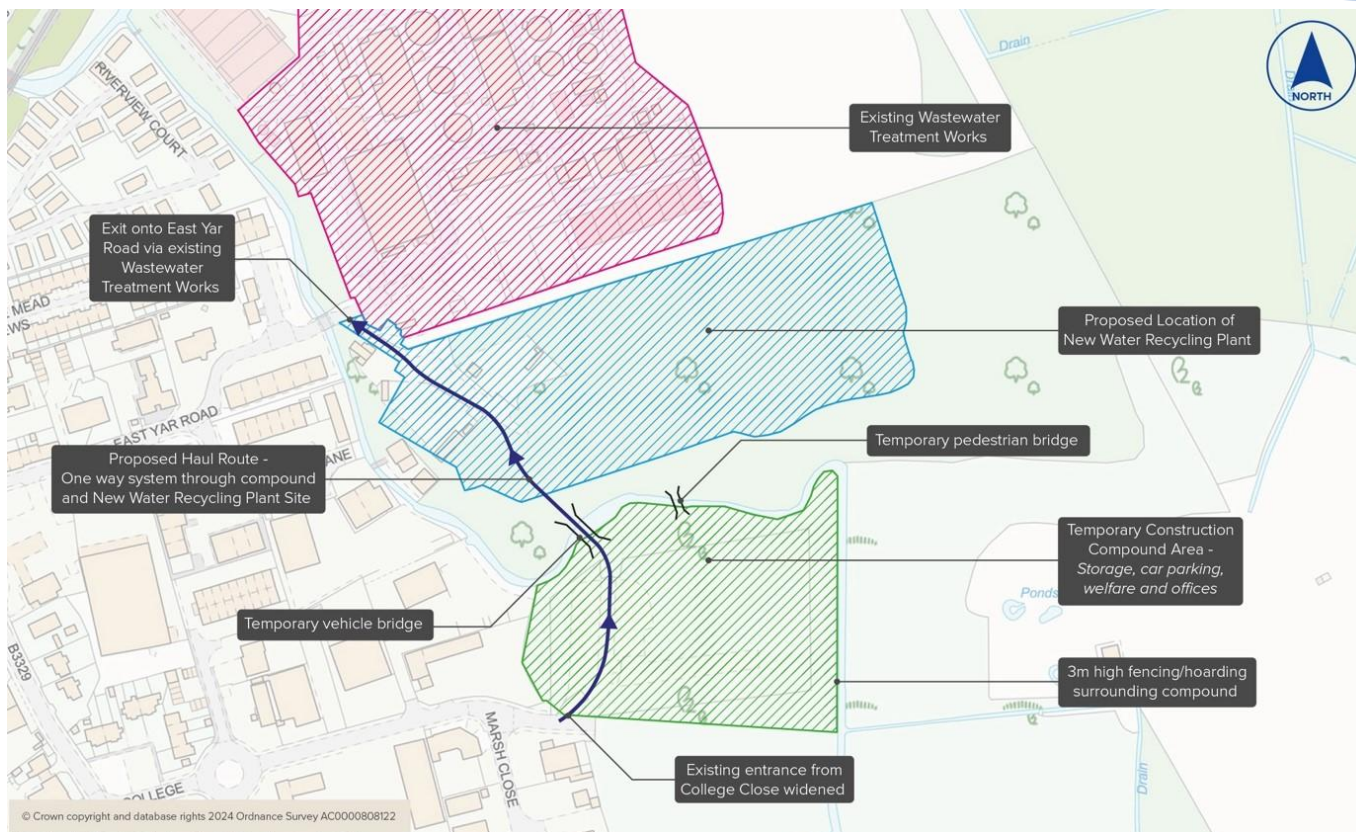
Water recycling plant – site location



Water Recycling Plant – proposed layout



Water Recycling Plant – construction



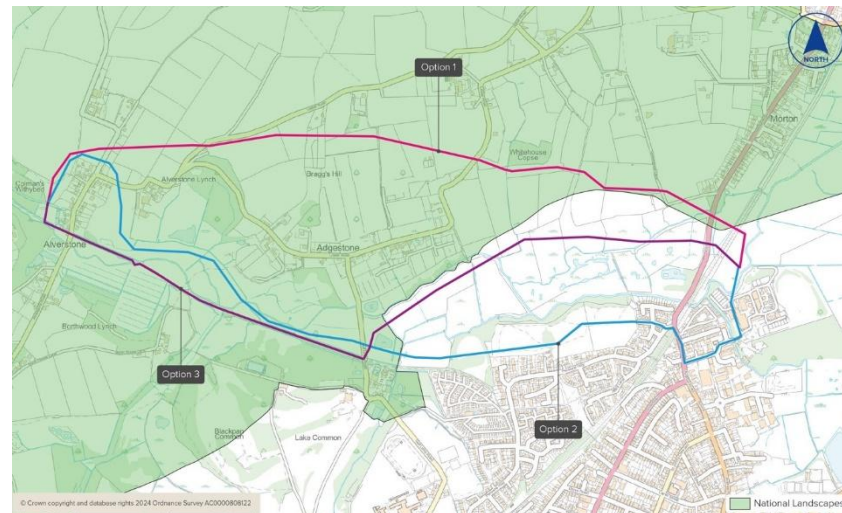
Pipeline route selection

Outfall options



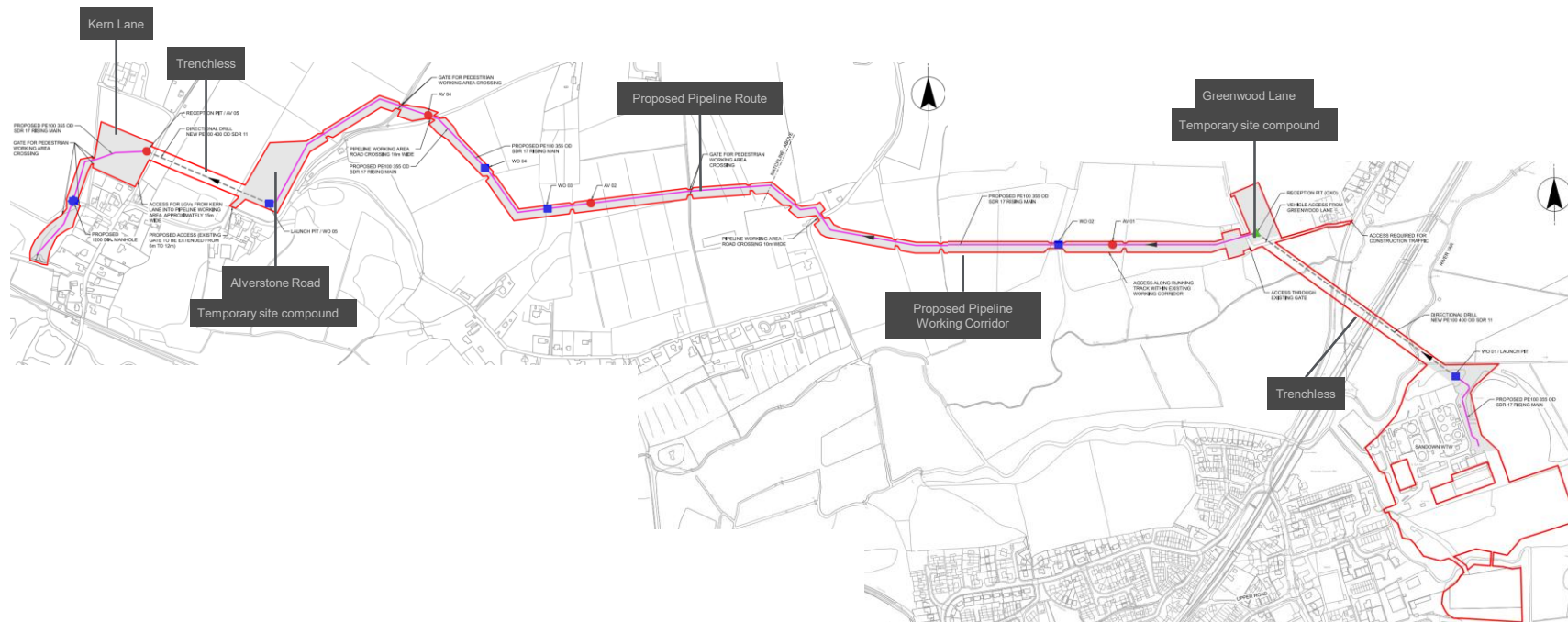
Option 1a (inset): preferred option – upstream of existing weir and a greater distance from existing Surface Water Abstraction point.

Pipeline route options



Option 1: preferred route – avoids Red Squirrel Trail Cycleway and most areas of Priority Habitat.

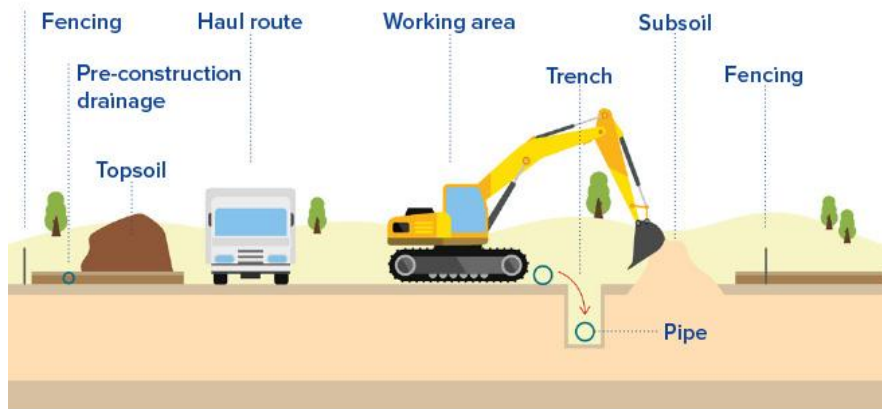
Proposed pipeline working corridor



Pipeline construction

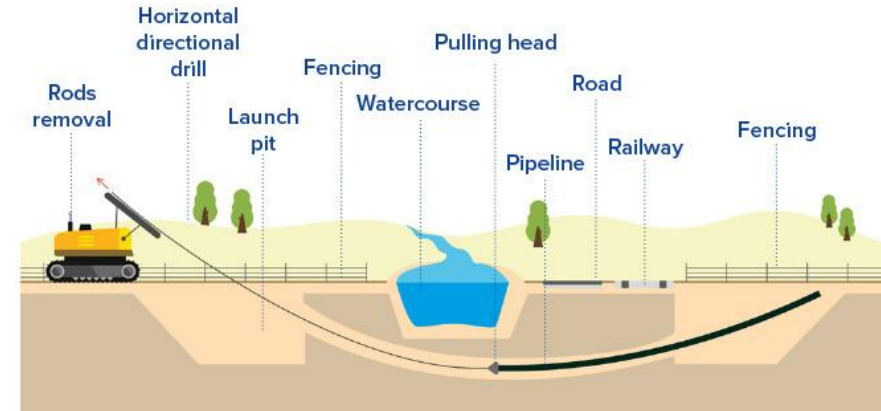
Trenched method – ‘open cut’

This method involves digging a trench, laying the pipe and then backfilling the trench with soil.

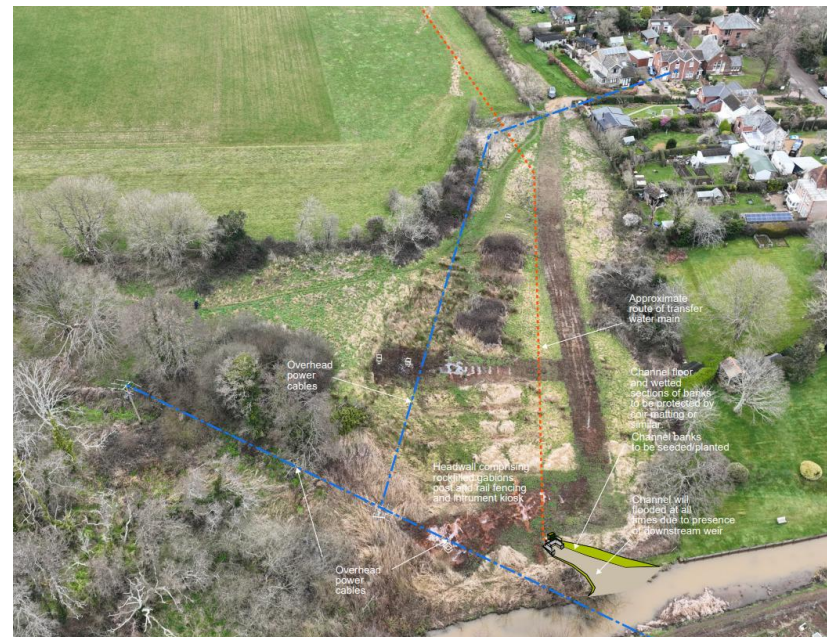
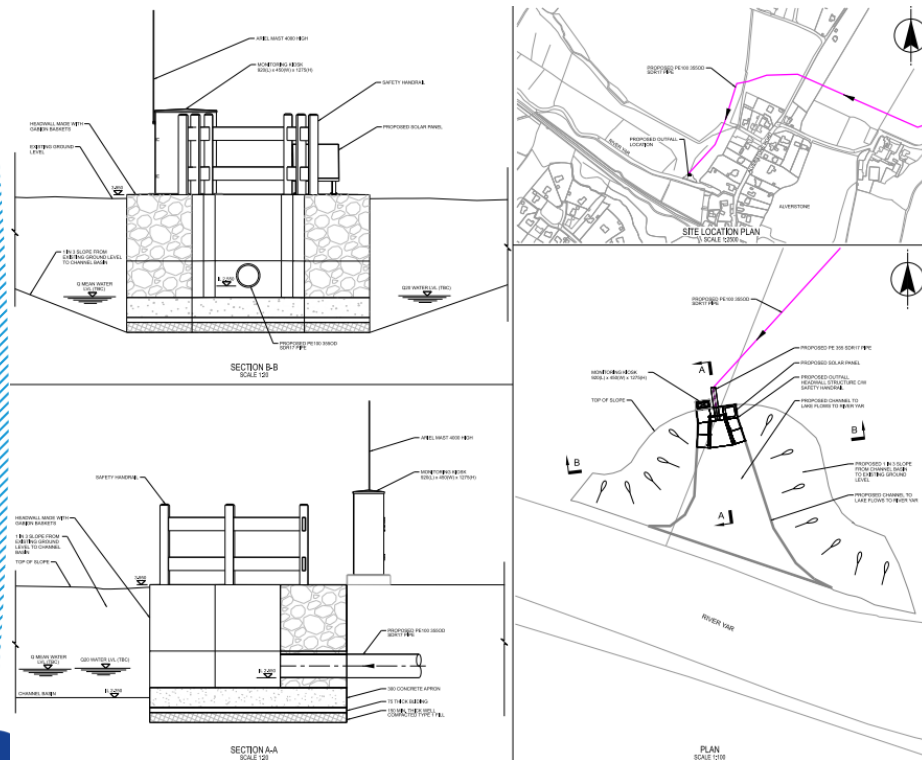


Trenchless method

Directional drilling uses a machine that's guided along the desired route. The pipe is pulled through the hole without disturbing the surface.



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Public consultation



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Consultation

Our public consultation was held from January to March 2025.

It focused on the construction and operational impacts in the immediate area around the project.

We held three public drop-in sessions, attended by 137 people.

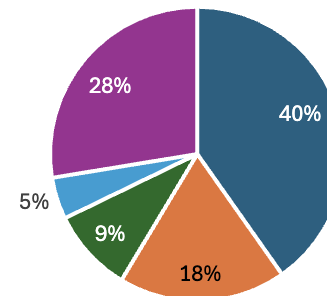


Find out more at:
[Isle of Wight Water Recycling Project](#)

Consultation feedback

- A total of 87 respondents, including two businesses / organisations.
- 40% of respondents strongly supported
- 18% supported
- 9% were neutral
- 5% did not support
- 28% strongly did not support

1a Overall project support



■ Strongly support ■ Support ■ Neutral ■ Do not support ■ Strongly do not support

Consultation feedback themes

Areas of support	Areas of concern
Reduces pressure on other sources and protects chalk streams	Other options should be considered
Reduces reliance on mainland	Climate not dry enough to need it
Future-proofing local infrastructure	Risk of worsening local flooding issues
Proactive approach to address future need	Water quality to Eastern Yar, inc PFAS
Necessary for future	Lack of trust in Southern Water
More efficient than desalination	Cost and who will pay for it
Can be safe if properly managed	Environment impact, including noise/odour and energy use
Technology proven elsewhere	Property value impacts
	Use of recycled water for drinking

Next steps



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Water 

Next steps



- Planning application for the project expected to be submitted early Q4 2025.
- Ongoing local engagement with customers and stakeholders about the project.
- Ongoing water efficiency campaign – summer 2025.
- Working with advocates to help share our messages re water scarcity as a challenge and water recycling as a key part of the solution.
- Further regulatory dialogue and engagement with Ofwat, Environment Agency, Natural England and Drinking Water Inspectorate.
- Further to planning and subject to other approvals, WRP enabling works expecting to start on site summer 2026.

Integrated Catchment Strategy

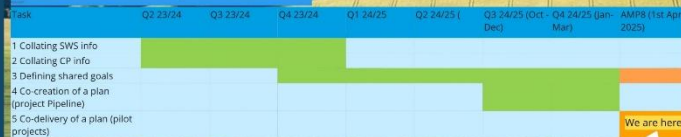
WINEP Driver code: 08SO100026 - DrWPA_INV

Drivers for action: 25 Year Environment Plan, Drinking Water Protected Areas (DrWPA), Investigation (INV)

WINEP submission line:

This project is an Investigation into collaborative planning with other catchment stakeholders (internal and external). It is focused on collating risks, issues and evolving internal SWS plans, and working with Catchment Partnerships and other key stakeholders locally to align future Catchment and Nature Based Solutions

Southern Water input timeline



'We have rethought our ambition and have taken a leadership role for the whole water cycle as we seek to improve the environment. To this end we are proud to work with our communities through the Catchment Partnership approach which is exemplified in our Integrated Catchment Strategy work. Praise should go to all our partners who have welcomed us into partnerships and projects.'

Lawrence Gosden - CEO



Wessex Catchment Partnership
Meeting at Wessex House

SUCCESSING TOGETHER

OUR PARTNERS



ISLAND RIVERS
Countryside Centre for the River



Wessex
Rivers Trust



for
HEALTH

The Integrated Catchment Strategy (ICS) is our proactive response to the improved WINEP framework, serving as a pilot for a more integrated approach for AMP8 and beyond, focusing on catchment resilience and environment net gain, via co development and co delivery with strategic partners.

for
HAPPINESS

We will:

- Better understand each organisations' past, current and future plans, and identify common issues and potential synergies / risks.
- Challenge and influence planned work and present opportunities to deliver more valuable outcomes for the environment and society.

for
our
COMMUNITIES

By adopting a collaborative approach, we will improve the wider catchment whilst addressing important Water Industry issues/risks. This promises to provide solutions with greater value and integration.

SW Project Lead: Lyra Jay Green (Catchment Management Specialist) - Line Manager: Sean Ashworth (Catchment Management Strategy Manager)

Q&A



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