Southern Water: Hampshire update

10 October 2024

from Southern Water

Agenda

- Welcome – Nick Mills
- Company update – John Penicud
- Wastewater – Groundwater Infiltration update – Alex Saunders, Andy Webb and Simon Tomlinson
- Clean Rivers and Seas Task Force – Keith Herbert
- Water – operational and capital delivery updates – Michael Parker, Paul Tiller and Julian Smith
- Water Resources Management Plan (WRMP) – Sam Underwood and Sandra Norval
- Closing words

Company update

John Penicud, Managing Director for Wastewater

from Southern Water

Our Business Plan – 2025 to 2030

- In October 2023, we submitted our Business Plan to Ofwat for the period 2025-30.
- On the 11 July we received initial feedback from Ofwat, known as the Draft Determination
- We have now published our response, ahead of Ofwat's **Final Determination** in December 2024.
- Our plan is the company's largest ever – **c.£8 billion** to enhance the health and wellbeing of our communities, protect and improve the environment and help to sustain the local economy.
- More than **25,000 customers** spent over **8,000 hours** telling us what they think

WATER for LIFE from Southern Water

Draft Determination response

- After carefully reviewing Ofwat's Draft Determination, we don't believe it would secure the investment required to deliver change required
- In our response we've said that to secure the investment required, essential change is needed to its draft determination to make plans affordable, deliverable and financeable.
- We've spoken to thousands of customers to inform our proposals, to further understand their priorities
- Our revised plan will achieve this and includes additional investment
- These changes will deliver more environmental improvements in a shorter timescale

Hampshire Environmental investment 2025–30

WATER for LIFE

from Southern Water.

Total proposed environmental investment in Hampshire

£1.64 billion*

Test and Itchen

£675m

- Nutrient reduction at 12 sites.
- Reduced use of storm overflows – 48% at 11 overflows.
- 118km of river improved.

New Forest

£93m

- Nutrient reduction at 6 sites.
- Reduced use of storm overflows – 36% at 6 overflows.
- 48km of river improved.

East Hampshire

£642m

- Nutrient reduction at 2 site.
- Reduced use of storm overflows – 59% at 52overflows.
- 8km of river improved.

Otterbourne Water Supply Works

£120m

- Improvements at abstraction points, power resilience on site, treatment process and overall site resilience, reducing the likelihood of supply interruptions for customers.

Testwood Water Supply Works

£111m

- Improved raw water monitoring, power resilience on site, treatment process (taste and odour) and overall site resilience, reducing the likelihood of supply interruptions for customers.

* This is the proposed level of investment set out in our 2025–30 business plan, but is subject to change following Ofwat's Final Determination.

Wastewater – Groundwater Infiltration update

from
Southern
Water

Our role

- Southern Water is responsible for managing flows within its network, taking wastewater from customers' homes to Wastewater Pumping Stations (WPS).

- Across Hampshire, we have more than 900 WPSs, which then pump flows into nearby Wastewater Treatment Works (WTWs).

- There are a variety of sewer network flooding risks, and we work very hard to find and fix an issue before it arises, but some are out of our control.

- Risks include:
  - High groundwater levels / rainfall
  - Fat, oil and grease (FOG) / Unflushables entering our network
  - Illegal connections

A very wet winter

- Last winter we experienced extreme levels of rain and the ground in certain areas of Hampshire became heavily saturated.

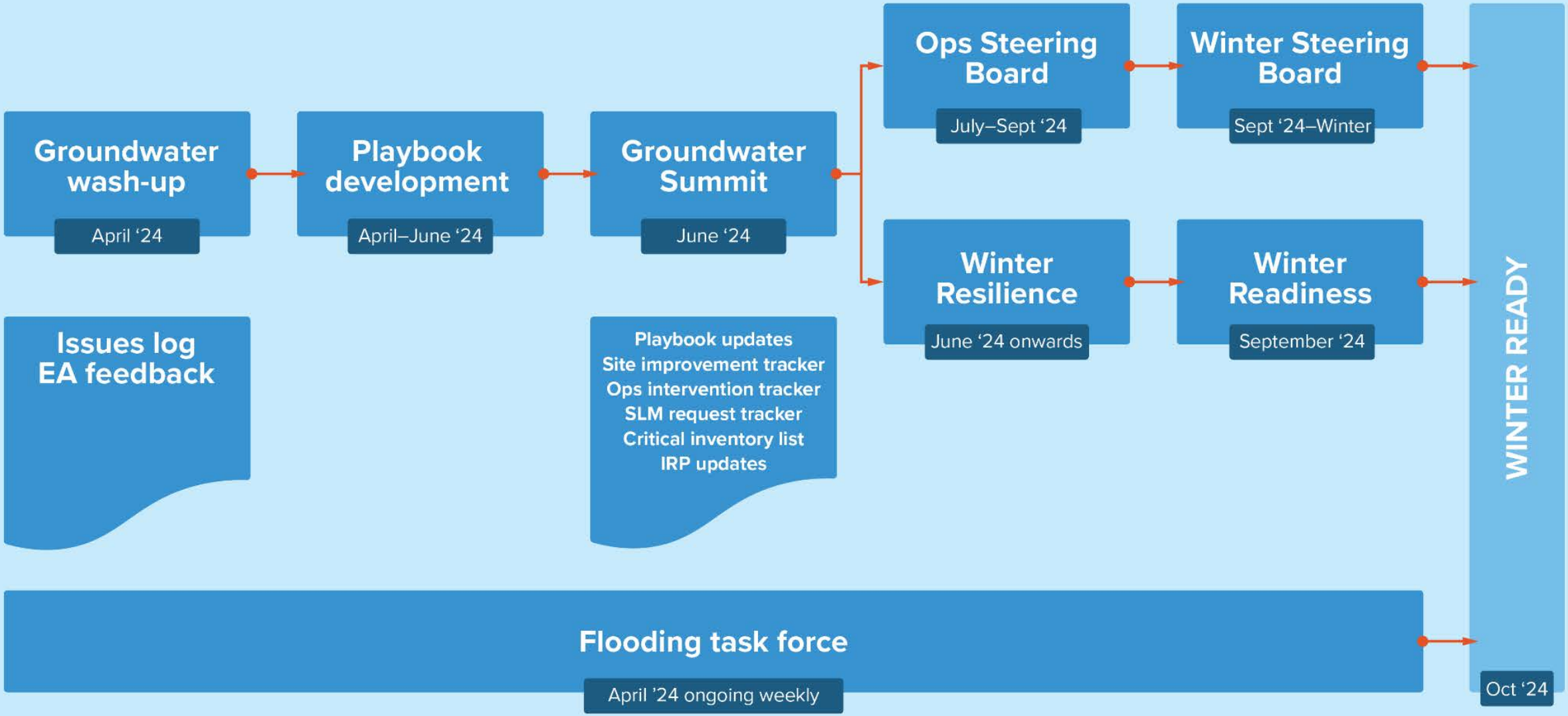
- The local drains and sewers were inundated with surface water run-off, which put significant pressure on our local WPSs. We experienced extreme levels of rain, which meant groundwater found its way into the sewer network.

- Areas that particularly suffered from groundwater infiltration were locations around the Test and Itchen.

Preparing for this winter

from
Southern
Water

Our approach



Improving our response this winter – operational

- Created Groundwater playbooks for different scenario, to ensure we are best prepared for potential issues

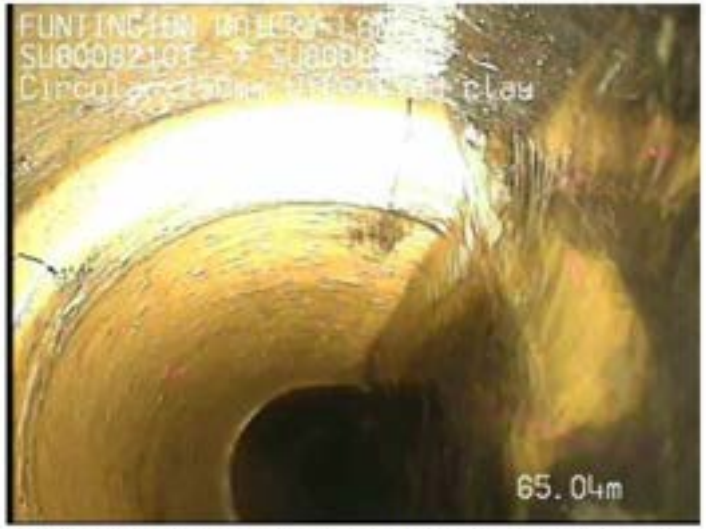
- Enhanced use of our Sewer Level Monitors (SLMs): Live monitoring of our catchments, so we can react quickly if we can see sewer network levels rising

- 39 wet well cleans and 63 Wastewater Pumping Station winter readiness checks, to ensure they are working as they should

- Infiltration CCTV surveys across Hampshire: Total so far = 6,551m

- Pre-season jetting of our sewers in ‘hot spot’ locations, ensuring our sewer network is in the best possible condition before winter.

SP117HR MANHOLE 3400 CAMERA



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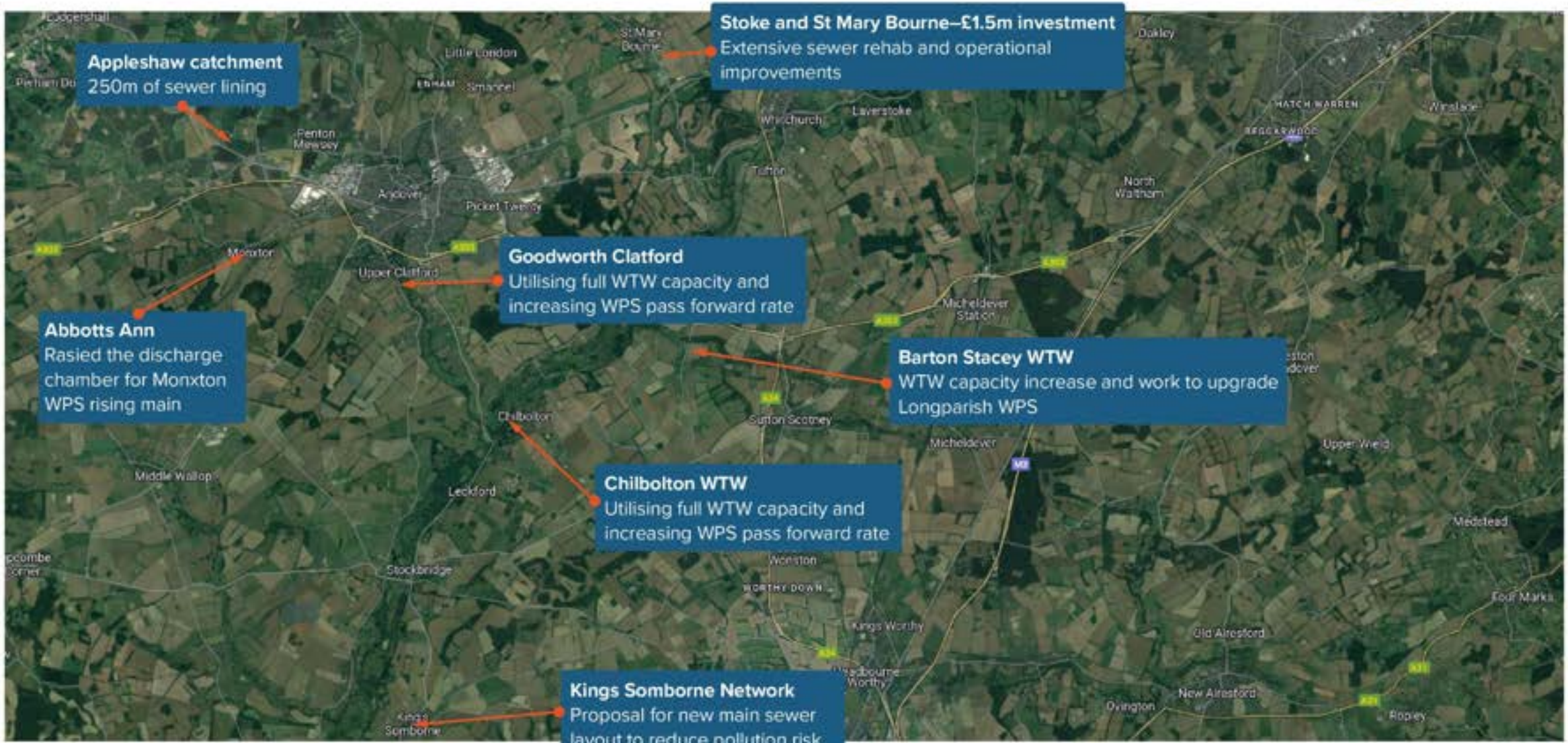
Infiltration, gushing at joint at 3 o'clock

Joined up thinking Hampshire



Improving our response this winter – communication

- Spoke with customers on the ground to look at how we can reduce potential impact (tankering / generator locations etc)
- Improved customer communications with SMSs messages
- Improved transparency by using our Incident Map System, which customers can access to show areas where we have live groundwater issues
- Proactive stakeholder updates with elected members
- Weekly calls with the Environment Agency

How we're changing

Our future delivery model:

Southern Water

Lanes Group

Lanes Group plc

Key Services:

- Blockages
- Cleaning
- CCTV
- Patch Lining
- Gravity Sewer Tankering
- Smart Network SLMs
- Manholes – S81 & Customer led (Mainland)

Cappagh Browne

CAPPAGH BROWNE

Key Services:

- Dig down repairs
- Rising Main repair
- Low/No dig solutions
- Chamber & benching repairs
- Activity related flow management
- Manholes – S81 & Customer led (IoW)

McAllister

McALLISTER

Key Services:

- Full length lining
- Activity related flow management

WATER for LIFE from Southern Water

Making sure our Wastewater Treatment Works (WTW) are ready for winter

from
Southern
Water

Winter readiness – wastewater treatment

- To help with our groundwater infiltration response, we're also making sure our WTWs are also prepared for the winter months.

- Our winter readiness programme includes a 45-point check per site, to ensure we are resilient. Checks range from making sure our backup generators are working as they should in case of an emergency, to ensuring the site is gritted and staff are safe.

- Reviewing how we work with the Environment Agency and build on our work from last winter, pushing more flow through sites which have additional capacity beyond the flow to full treatment, to reduce storm spills and the impact of groundwater.

- We've also implemented storm outfall checks, following discharges. We are using machine learning and static models to generate tasks for our teams to check outfalls following genuine releases to the environment.

Morestead Road WTW

Wastewater Capital Delivery Investments – Hampshire

from Southern Water

Wastewater Capital Delivery Investments - Hampshire

During AMP7 (2020-2025) we've **invested £167m** so far which includes:

- **Network Projects**; Growth Schemes (£3m) & Rising Mains (£6m)
- **Treatment Enhancement;** Additional Storm Storage (£11m), Increase Flow to Full Treatment (£13m), Shellfish (£56m) & Improved quality of treated wastewater, including Phosphorus removal (£49m)
- This AMP, we've invested £5m specifically in Hampshire on flooding and groundwater schemes
- **Infiltration Reduction:**
  - Sewer surveys, lining & patching (27km, £5m) – Fullerton, Sidlesham, Lavant, St Mary Bourne
  - Rising main surveys & rehabilitation works (£1m) – Kiln Lane
  - Catchment surveys (21km, £250k) – King Somborne, Longparish, Hambledon, Hursley, Goodworth Clatford & Chilbolton

£64m still to spend this AMP, largely relates to **Treatment Enhancement**, vast majority schemes now on site.

Key Projects: Southampton (Millbrook, Slowhill Copse) (£44m), Woolston (£22m)

Wastewater Capital Delivery Investments - Hampshire

Photos

Millbrook WTW
U_IMP5 works (Increased Flow to Full Treatment)

Brockenhurst
Deep bend sand filters and chemical dosing base slab preparation

South Harting
New Filters

Wastewater Capital Delivery Investments - Hampshire

Top Ten Schemes

Project Name	Detailed Programme	Investment
Southampton Water - Millbrook UV	WINEP Shellfish	24,741
Woolston WTW Shellfish	WINEP Shellfish	22,056
Southampton Water - SlowhillCopseUV	WINEP Shellfish	19,528
Ashlett Creek Fawley WTW Shellfish	WINEP Shellfish	11,363
Budds Farm WTW U_IMP6	WINEP Storm Capacity	10,766
Portswood WTW	WINEP Storm Capacity	7,440
Flexford Lane Sway WWTW	WINEP WFD Quality	6,875
Brockenhurst WWTW	WINEP WFD Quality	6,490
Whiteparish WWTW (WFD)	WINEP WFD Quality	6,369
Gratton Close WWTW	WINEP WFD Quality	6,181

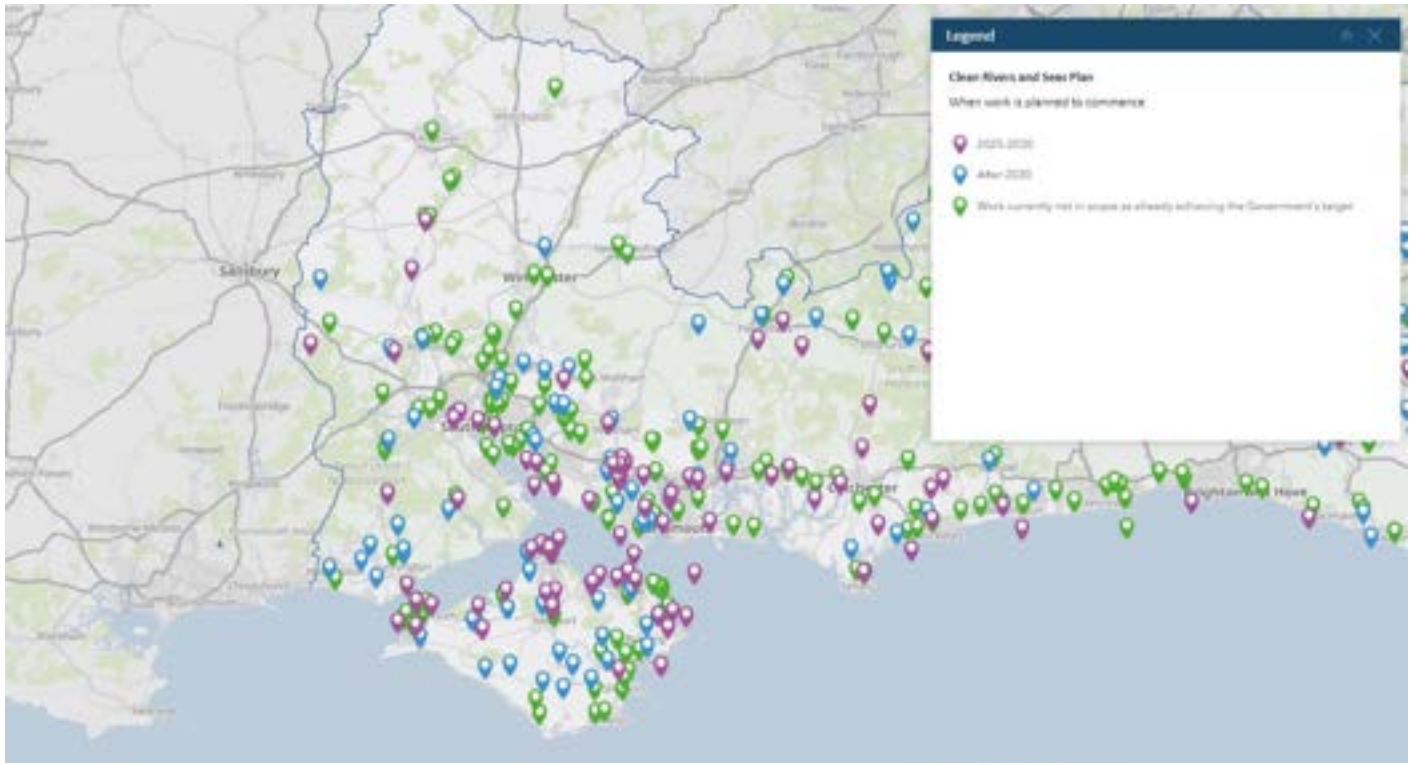
Clean Rivers and Seas Task Force
Hampshire update

from
Southern
Water

Overflows in Hampshire

Key stats

186	Storm Overflows in Hampshire
89	Require work/investment to achieve Govt. targets before 2050
73	Overflows working on before 2035
50	Overflows working on between 2025-2030



southernwater.co.uk/water-for-life/clean-rivers-and-seas-plan/map

WATER for LIFE from Southern Water

Triage process – Where is stormwater a problem?

Working with customers to disconnect

WATER for LIFE from Southern Water

Stormwater Separation Property Owner Agreement Terms and Conditions

By accepting this Property Owner Agreement, you as "Property Owner" and Southern Water agree to the following terms and conditions.

The following definitions apply and are used throughout.

"Property" means the Property Owner's premises at which the Works will be undertaken by Southern Water.

"Scheme" is the storm water separation scheme operated by Southern Water.

"Schedule of Works" means the description of the Works including the technical standards/methodologies to be used, standards of reinstatement and a programme setting out the timetable for undertaking the Works.

"Works" means the works to be undertaken by Southern Water to disconnect the existing storm water drainage of the Property from draining into the public foul sewer and to replace with a new drainage connection for the Property to drain instead to the public surface water sewer set out in the Schedule of Works pursuant to the Scheme.

Property owner's Responsibilities

1. To participate in the Scheme the Property Owner must own the Property. The Property must not be under offer or for sale.
2. The roof or any impermeable area of the Property must prior to the carrying out of the Works drain to the public foul sewer.
3. The Property Owner shall co-operate with Southern Water to enable the Works and provide Southern Water with entry and/or access to the Property as necessary for this purpose.
4. A Schedule of Works will be agreed in consultation with the Property Owner (see clause 6 below) and Southern Water will not undertake the Works unless and until the Property Owner expressly agrees and provides their written approval of the Schedule of Works.
5. On completion, the Works will form part of the Property and are the responsibility of the Property Owner unless the new sewer is shared. The property owner should however promptly inform Southern Water if there are any apparent defects or problems with the Works arising within the period of two years following completion of the Works.

WATER for LIFE from Southern Water

Our forward plans

Water – operational update

from
Southern
Water

Leakage in Hampshire

Total leak repairs 2022/23

	Hampshire
Bursts	739
Customer leaks	177
Network leaks	5490
Total	6406

Total leak repairs 2023/24

	Hampshire
Bursts	492
Customer leaks	870
Network leaks	5178
Total	6540

Total leak repairs Apr 24 to date

	Hampshire
Bursts	198
Customer leaks	267
Network leaks	3178
Total	3643

Case study – Boomtown Festival, Winchester

- Historically, when the location of the festival had their water connection made, a pressure valve was installed to ensure the event did not impact flows in the local area
- Over the years, roles and responsibilities have changed and some of the key local insight was lost.
- Last year, we worked closely with the festival organisers to ensure water supply was not at risk for festival and the local community.
- Early in the festival it became apparent that flows to the event were impacting the local network and the festival itself.
- Due to our preparation to ensure there was a resilient water supply, we were able to react quickly. While working on correct formula for the valves, we provided tankers to the festival site and installed a new hydrant so we could pump water directly into the event if needed.
- The outcome was positive with a good water supply being provided to the festival and the local area, and we are now better prepared for the future.

Investment Timeline: Testwood

Planned investment across AMP7-9

AMP7-9 Total **£128m**

FEO

Non-FEO

AMP7

- Integrate temporary ultraviolet treatment into sites existing telemetry and control systems
- Install monitoring on the pre-clarifier applied hypochlorite dosing
- Install flood protection around abstraction works
- UPS to enable ramp-down of the applied chlorine dose (WQSD)
- Confirm programme of works for long term solution for taste and odour
- Review of PAC Storage & dosing system condition and upgrade
- Deliver high risk mitigation on clarifiers 1-4
- Complete forward rinse to waste of existing filters 1-12
- Carry out study to review options to reduce Contact tank overflow pollution risk
- Ensure correct mitigation to hypo storage capacity &residual gassing off risks

AMP8

2025

- Install additional interim mitigation to reduce the risk from Enelco filters (RGF 13 & 14)

2026

- RTW post main dose chlorination
- Raw water monitoring on Testwood Lakes

2027

- Deliver appropriate solution to manage silt build up within the river intakes
- Install smell bells on streams 2 and 3

2028

- Completion of high priority works associated with Power resilience

2029

- New clarification process
- Long term solution for taste and odour (GAC)
- Replace or refurbish low lift pump arrangement
- Replace or refurbish high lift pump arrangement

Spanning 2025–2029

- Design and deliver fibre optic communication from abstraction points to meet EA data recording requirement
- Provide improvements to sludge handling
- Review and define the need for drought mitigation associated with the lakes
- Replacement of orthophosphoric acid storage and dosing system
- Dredging of the lake

AMP9+

2030+

- Increase the level of site automation (complete site automation and digital twins)
- Decommission Existing Assets

Improving water supply resilience

Testwood Water Supply Works – Update for last quarter

Reliable Pumps

Pump availability (Main issue in 2023) much improved with 100% pump availability. Short term investment being planned to improve reliability

Stopping Turbidity Shocks

Testwood Lakes now operational post invasive species and site improvements – Reduces turbidity shock like we witnessed at Storm Ciaran

More reliable works

General maintenance improvements e.g. Clarifiers cleaned and temporary UV improvement works

40% way through improving our third stream by moving water through our rapid gravity filters.

Investment Timeline: Otterbourne

Planned investment across AMP7-9

AMP7-9 Total **£215m**

FEO

Non-FEO

AMP7	AMP8					AMP9+
	2025	2026	2027	2028	2029	2030+
Complete borehole and well improvements (inc. power resilience and RTW)	Improve access to clarifier sedimentation tanks	Ensure abstraction transformer bunds are compliant with respect to risk of groundwater contamination	Investigate, cut and cap redundant pipework	Borehole access bridge		Long-term pre-disinfection treatment and wash water recovery system
Ensure the main dose hypo dosing is compliant with SWS standards	Improve access to the groundwater works balancing tank		Phase 1 Power Resilience	Microfiltration plant SCADA visibility		Power Resilience Phase 2
Carry out repairs to the RGF hall roof	Alarm status of the band screens to SCADA			Repair or replace MCC5		New carbon treatment system
MCC4 and associated equipment: refurbish and replace where required						Decommissioning of existing groundwater microfiltration will be required
Upgrade SCADA, Water Quality Shut Down, site monitoring and control systems	New Ceramic membrane to support surface and groundwater stream (91ML/d)					Increase the level of site automation (complete site automation & digital twins)
Site generator refurbishment	Resilience upgrades to the existing systems					
New High voltage equipment	Provision of additional automation on site					
Complete repurposing of the existing contact tank						
New combined surface and groundwater capacity contact tank and associated dosing systems for the full, combined works flow						
New intermediate and high lift pumps, including sample points						
New final RTW						
Provide polyelectrolyte duty standby dosing pumps						
Refurbish the low lift pumping station (abstraction)						
Replace the wash water pump						
New hypo dosing system, controls and monitoring						
Automated RTW facilities required prior to blending to ensure independent isolation and return to service of GW and SW flows						

Improving water supply resilience

Otterbourne Water Supply Works – Update for last quarter

- New site went live 23 September 2024
- Water enters an "Interstage Balancing Tank" where it blends before passing through new Ultraviolet Reactors for disinfection
- A chlorine dose is then applied to ensure the water remains wholesome throughout the distribution network
- Nine new high lift pumps will send the water to Otterbourne Hill, Twyford and Yew Hill reservoirs
- Commissioning work continues until Christmas
- It's part of a multi-phase scheme of work that is taking place to ensure that the Otterbourne site will continue to deliver quality water to our Southern Hampshire customers for years to come.
- Our next key piece of works is installing a new generator to overcome power issues.

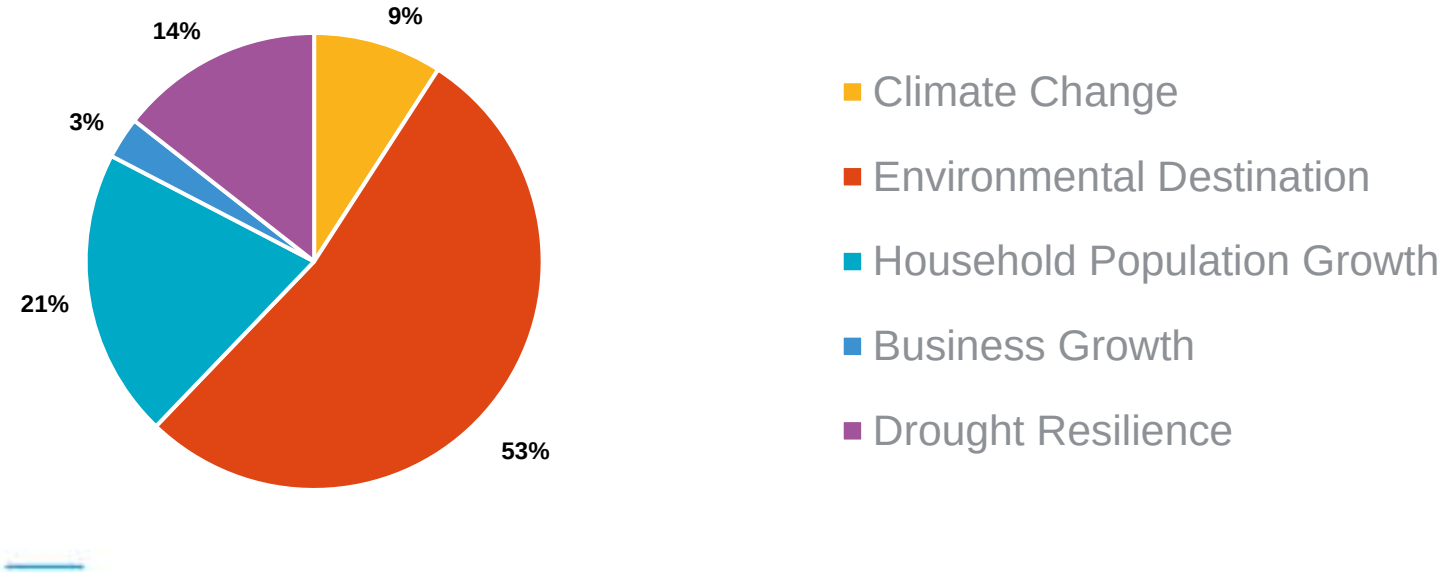
Water Resources Management Plan (WRMP)

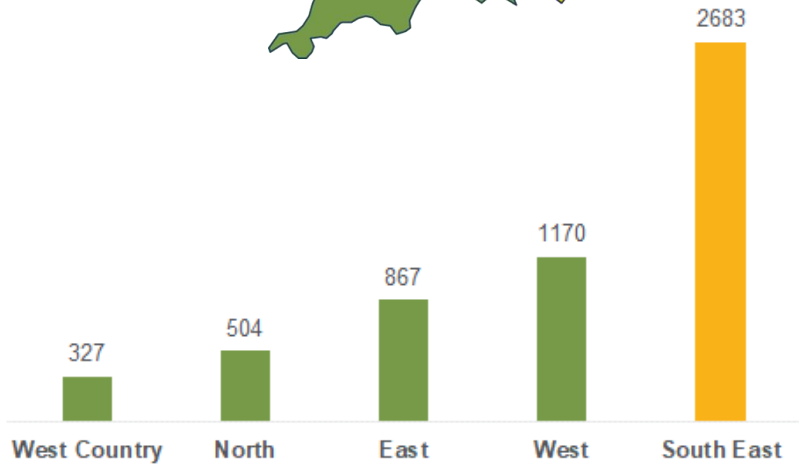
October 2024 update

from Southern Water

The South East of England is seriously water-stressed

- The Environment Agency has identified that by 2050, almost 5 billion extra litres of water will be required every day, to maintain public water supplies in England.
- More than half that need is in the South East.
- The main driver in the South East is what the EA defines as “Environmental Destination” which means improving and enhancing the natural world.





WATER for LIFE

from Southern Water

Water Recycling – a new source of water for the future

- Reducing leakage and improving water efficiency are important priorities for us but we need to look at other ways of using water wisely.
- Water recycling creates a new source using water we currently waste.
- 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 97.5 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.

WATER for LIFE

from Southern Water

The Hampshire Water Transfer and Water Recycling Project

Protecting our natural resources

- More than 700,000 people in Hampshire rely on the River Test and River Itchen for their water supplies.
- Water recycling will enable us to leave more water in these rivers during a drought.

Maintaining public water supplies

- The project would be capable of producing up to 60 million litres of water a day during a drought. Storage in the reservoir increases this to up to 90 million litres.
- All water supplied to customers will continue to meet strict UK Drinking Water standards.
- Our latest public consultation runs until 23 July.
- Construction could start in 2029 with the water recycling plant operational by 2034.

Find out more at:
www.hampshirewtwrp.co.uk

WATER for LIFE

from Southern Water

Water Resources Management Plan (WRMP)

Consultation 11 September to 4 December 2024

- What is the WRMP?
- Why are we consulting on it?
- Where can you find it?
- How to provide feedback

Visit www.waterresources.southernwater.co.uk

WATER for LIFE from Southern Water

Hampshire water strategy 2025-35

Key

- Less than five million litres of water each day.
- Between five and 50 million litres of water each day.
- More than 50 million litres of water each day.
- Reduce demand for water
- Drought action
- New sources of water and transfers
- Catchment or nature-based scheme

Hampshire

1. Reduce leaks
2. Help customers use less water
3. Apply for a drought order on the River Test to continue abstracting water during dry weather in droughts until 2033-34 and after that only in droughts more severe than 1-in-200 year likelihood; apply for a drought permit and order on the Lower Itchen until 2029-30 and a drought order at Candover until 2033-34
4. Receive up to 21 million litres of water from Portsmouth Water following the construction of Havant Thicket Reservoir
5. Build new pipelines so we can move water around our Hampshire area
6. Catchment schemes to address nitrates and pesticides and improve the resilience of our water sources
7. Recycle water from our Sandown site
8. Develop groundwater sources near Newbury, Romsey and Kings Somborne
9. Recycle water at Budds Farm wastewater treatment works and store it in Havant Thicket Reservoir before transferring up to 90 million litres through a new pipeline to our Otterbourne water supply works for treatment, including upgrading the works
10. Bring in water from Norway in sea tankers in droughts between 2031 and 2034

from Southern Water

Hampshire water strategy 2035-50

Hampshire

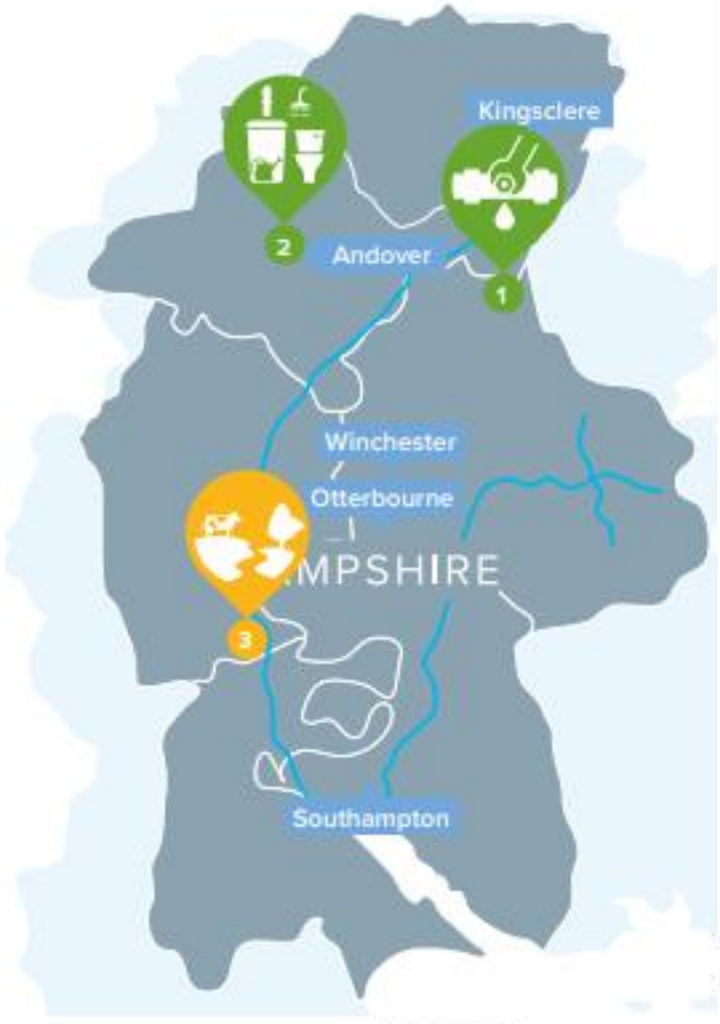
1. Reduce leaks 💧💧
2. Help customers use less water 💧💧
3. Take water from the River Test when flows are high in the winter and use it to supplement our underground water supplies 💧💧
4. Make improvements to an existing groundwater source on the Isle of Wight 💧
5. Catchment schemes to address nitrates and pesticides and improve the resilience of our water sources
6. Receive up to 120 million litres a day from Thames Water 💧💧💧
7. Develop our groundwater source at Newchurch
8. Stop the use of all supply-side drought permits and orders after 2040-41 unless faced with a drought of more than a 1-in-500 year severity

Key

- 💧 Less than five million litres of water each day.
- 💧💧 Between five and 50 million litres of water each day.
- 💧💧💧 More than 50 million litres of water each day.
- Reduce demand for water
- Drought action
- New sources of water and transfers
- Catchment or nature-based scheme

WATER for LIFE from Southern Water

Hampshire water strategy 2050-75



Key

- Less than five million litres of water each day.
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- Reduce demand for water
- Drought action
- New sources of water and transfers
- Catchment or nature-based scheme

Hampshire

1. Reduce leaks
2. Help customers to maintain a sustainable level of water use
3. Ongoing work to use catchment management and nature-based solutions to improve the environment

from Southern Water.

Our consultation on securing a resilient water future for the South East

Have your say on our revised draft Water Resources Management Plan before Wednesday 4 December 2024.

Please encourage your local communities to take part....

We'd love to hear from you!

Visit waterresources.southernwater.co.uk

from Southern Water

AOB

from
Southern
Water

Appendix

from
Southern
Water

Community Centre Grants

from
Southern
Water

Community Centre Grants – Hampshire

- As part of our programme to support making the community stronger our Community Centre grant is back for a third year.
- This year we're providing over 30 grants of £1,000 each and six will be awarded in Hampshire.
- These grants have directly alleviated the burden of rising energy and operational costs, ensuring that vital services continue to be accessible to the local community.
- Previous Community Centre grants have been awarded to:

Fratton Community Centre	Petersfield Community Association
St Denys Church and Centre	Monty's Community Hub
Buckland Community Centre	Age Concern Hampshire
Communities First	YMCA Newtown Youth and Community Centre

"This means more than just saving money on our bills as it's about creating a warm, comfortable and healthy environment for our staff and visitors, who are the heart and soul of our community."
Sarah YMCA Southampton

Apply now

Applications opened on 1 October and close on 31 October 2024 at 5pm.

WATER for LIFE from Southern Water

Business Partnership Fund

from
Southern
Water

Business Partnership Fund goes live

- The third round of our popular Business Partnership Fund is now open.
- We’re on the look-out for new and innovative ideas to help reduce water use in businesses across our region.
- Ideas include harvesting rain or shower water, fitting flow restrictors on taps or harnessing new technology to save water.
- The fund is open to all retailers, businesses and third-party conservation providers.
- More details: Business Partnership Fund – Southern Water

Apply now

Applications close on 31 December 2024.

WATER for LIFE from Southern Water

Future Growth and Developer Services

Working with planners and developers to enable a water resilient future

from Southern Water

Our Delivery Teams

1

Future Growth Team

- ✓ Local plan consultations
- ✓ Neighbourhood plan consultations
- ✓ Planning application referrals

2

Developer Services

- ✓ Sewer & Water main diversions/requisition/' build over' applications
- ✓ Sewer & Water main connection applications

3

Asset Strategy & Planning

- ✓ Plan infrastructure growth schemes as required

4

Capital Delivery

- ✓ Deliver capital schemes, from diversions, connection & requisitions, to larger infrastructure growth schemes

Sustainable Development

Future Growth Team - Introduction

- We are a Statutory Consultee on Local and Neighbourhood Plans (5–20-year plans) & a Non-Statutory Consultee on individual Planning Applications (2–5-year plans)
- For Local Plans we seek to influence **policy provisions** that mitigate the impact of the proposed housing allocations on the operation of our infrastructure, promotes water efficiency & protects water quality
- For Planning Applications, should there be insufficient capacity to serve the development, we will request **planning conditions** to allow for the occupancy of the development to be **phased** in line with the upgrade to our infrastructure
- This is required as we have limited powers to prevent connections to our network, even when capacity is limited; for example, under Section 106 of the Water Industry Act, developers have a right to connect foul drainage on 21 days' notice

Developer Services - Introduction

- We administer developer applications for water & wastewater connections, diversions, requisitions and ‘build overs’ within regulatory levels of service Water UK Developer Services
- The above provides the *quantitative* measure for the Developer Measure of Experience (DMEX) alongside quarterly developer questionnaires, which provide the *qualitative* measure; these measures are combined to provide a **DMEX score -** Customer and developer services experience – Ofwat,
- The DMEX score determines our position on the Ofwat DMEX table, which in turn determines the associated financial rewards or penalties for water companies
- We also provide technical approval & guidance for developer plans; this is supported by industry & national technical standards
- Aswell as, receiving revenue from developers through application fees, including the developer infrastructure charge, which is utilised for capital growth schemes where required

Our Policy Statement on Sustainable Development

We have the following expectations for developers when building new homes and commercial buildings:

Water efficiency – designs for developments must meet 100 litres per person per day.

Water efficiency labelling – water consumptive appliances fitted by developers will use water efficiency labelling.

Water neutrality – developments in Sussex North must demonstrate Water Neutrality for any new development with designs meeting 85 litres per person per day.

Smart metering – Our programme to roll out smart metering for new and existing connections is in development.

Sewer connections – Connections from new developments to Foul or Combined Sewers for surface water runoff will not be accepted unless all options to separate surface water have been applied.

Sustainable drainage – Designs must include features to slow the flow of surface water runoff as close to the source as possible, for example, green roofs, permeable paving, rain gardens and water butts.

Water recycling – incorporate rainwater capture and grey water recycling systems into designs, linking it to blue-green infrastructure and joining or establishing partnerships where practical to eliminate rainwater from drains.

Nutrient Neutrality – developments in the Stodmarsh area in Kent and parts of South Hampshire and Chichester new developments are required to demonstrate Nutrient Neutrality.

Water Offsetting – where opportunities to offset water consumption are available these will be adopted as a planning gain principle.

These expectations contribute to our transformational programmes:

- Target 100
- Sustainable Drainage
- Catchment First
- Network 2030

WATER for LIFE from Southern Water

Sustainable Development - Industry Updates

- **Surface Water**: Sustainable drainage systems are currently optional, however the proposed inclusion of Schedule 3 to the Flood and Water Management Act 2010 will make it mandatory to install sustainable drainage to manage surface water on a new development (*this has been delayed due to the general election*) New approach to sustainable drainage set to reduce flood risk and clean up rivers - GOV.UK (www.gov.uk)
- **Government's Environmental Improvement Plan 2023:** Working with the Future Homes Hub and other stakeholders, Government have developed a roadmap on water efficiency in new developments and retrofits, proposing 10 actions over the next decade Environmental Improvement Plan 2023 - GOV.UK (www.gov.uk)
- **Building Regs Water Efficiency Review – Feb 2024:** Report commissioned by Water Wise and delivered by Welsh Water & Water Resource Centre, found the need to address deeper concerns related to enforcement and compliance of building regulations Building Regulations Water Efficiency Review – Database WW (waterwise.org.uk)

Wastewater Asset Strategy and Planning

from
Southern
Water

There are four key themes encompassing our delivery plans

The Challenges

Climate Change

Population Growth

Environmental Capacity & Resilience

Affordability

Network flow management to reduce flooding and spills	• **Surface water separation** and **sustainable drainage systems** to keep rainwater out of sewers and prevent spills from storm overflows • Build **storage tanks** where other methods do not deliver. • **Smart networks** - sewer level monitors with artificial intelligence • Increasing **sewer capacity** for new homes and businesses
Recycling wastewater and nutrient removal	• Enhancing wastewater treatment to remove **nutrients and chemicals** • Increasing **wastewater treatment** capacity for new homes and businesses • Additional **UV treatment** to improve water quality for shellfish waters
Asset health and resilience	• Enhanced **maintenance programmes** to improve resilience • Improving **resilience** to power outages, increasing heat and flood risks • **Partnership working** to address coastal erosion • Enhanced **sewer sealing** to improve resilience to high groundwater
Bioresources	• Consolidate treatment sites and move to **Advanced Digestion** technology • Increased biogas production and **renewable energy** • Explore **Advanced Thermal conversion** technology

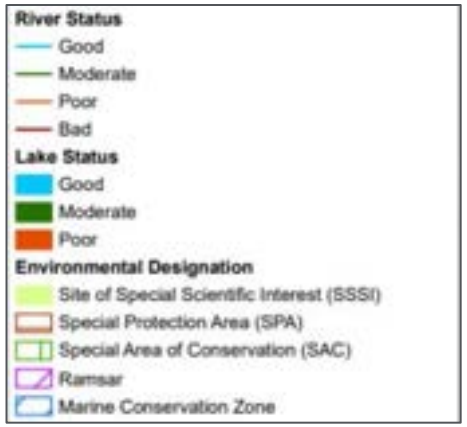
Hampshire and Isle of Wight environmental schemes

Hampshire

- Sealing sewers to reduce groundwater infiltration which can cause spills from storm overflows
- Improving water quality in Harbours through reduction in storm overflows and nutrient removal to protect shellfish waters
- Reducing nutrients discharged to internationally important chalk streams - key sites Fullerton and Portswood.

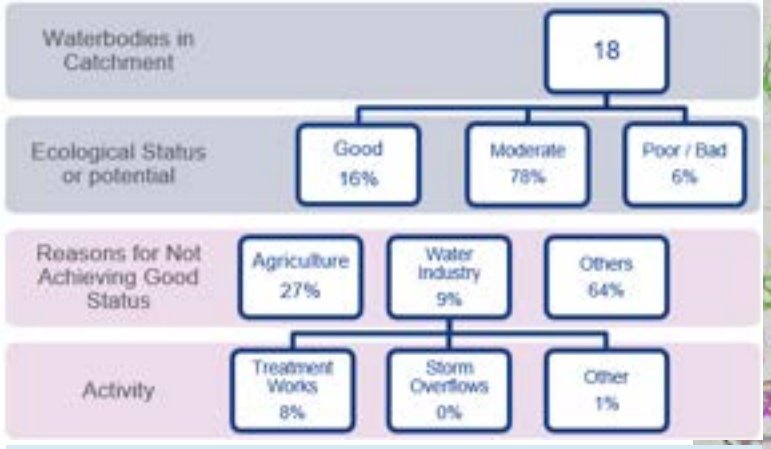
Isle of Wight

- Reducing spills from storm overflows through better management of rainwater and keeping it out of foul sewers
- Improving resilience from coastal flooding – working with Environment Agency to protect communities and critical infrastructure
- Water recycling to improve resilience of water supplies on the island

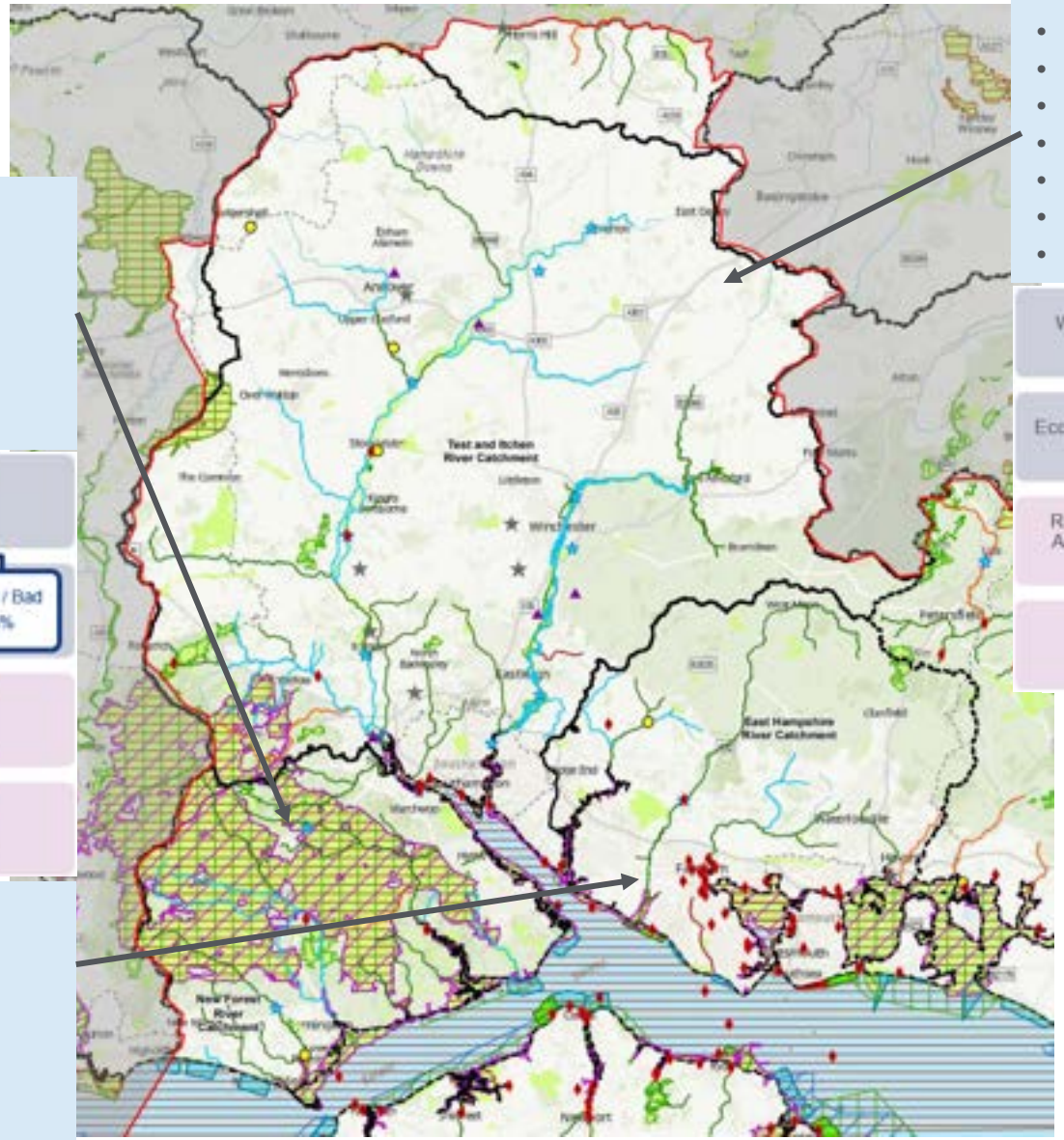


Hampshire

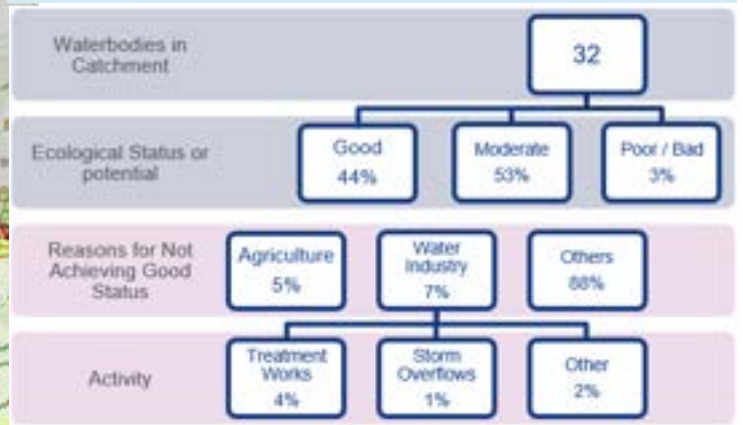
New Forest
- 4 nutrient removal sites
- 6 storm overflows
- 48km river improved
- 36% reduction in storm overflows
- Environmental investment circa £70m



East Hampshire
- 1 nutrient removal site
- 47 storm overflows
- 8km river improved
- 59% reduction in storm overflows
- Environmental investment circa £220m



Test and Itchen
- 9 nutrient removal sites
- 11 storm overflows
- 2 Water supply resilience schemes
- 3 growth treatment schemes
- 118km river improved
- 48% reduction in storm overflows
- 190 ML/d reduction in abstraction (60%)
- Environmental investment circa £1400m



Nature-based solutions as a first choice

- Defra principle: "Rainwater should be discharged back to the environment as close as possible to where it lands or channelled to a close watercourse without first mixing it with sewage"

How:

- Separating and "slowing the flow" at source where the rain falls
- Reducing groundwater infiltration into sewers

Approach:

- Catchment and nature-based solutions
- Wetlands, swales, ponds
- Rainwater capture and harvesting
- Green roofs, planters, water butts

Lavant WTW wetland: using nature to prevent harm from discharges from the storm overflow

Current Growth Process

We are notified that planning permission has been granted or receive a local plan for future developments.

We are not statutory consultees and can only comment on applications.

A preliminary capacity check completed.

Yes

A connection point is agreed and the development can connect with no conditions

No

A detailed detriment analysis to give a better view on network capacity

Yes

No

The Site is Tracked and prioritised for reinforcement

Prioritising Growth

How:

1. Development size and expected build out.
2. Developments impact on existing issues
3. Spread of growth and potential 'Hot Spots'
4. Working alongside Councils and Developers to understand when large strategic developments will start.
5. Having a Local Plan is key to having well informed network growth schemes

Approach:

1. Reduce Surface water inundation & Ground water infiltration
2. Remove existing rainwater connections and facilitate the building of surface water drainage systems to local environment
3. Removal of system pinch points that cause hydraulic issues
4. Increase storage within the system
5. Upsize sewers

Catchment Resilience

from
Southern
Water

Catchment Resilience

- Protecting the environment by ensuring abstractions are sustainable and enhancing biodiversity
- Protecting water quality and the environment by working with stakeholders including agriculture
- Safeguarding our drinking water supplies by making our catchments more resilient
- Working with Catchment Partnerships

Our priority water areas

Hampshire groundwater Nitrate

Sustainable abstraction and chalk stream

Kent groundwater Nitrate, pesticides and PFAS

Sustainable abstraction

West Sussex groundwater Nitrate, sediment, pesticides and PFAS

Sustainable abstraction Arun & Rother

East Sussex groundwater Nitrate

Sustainable abstraction

Isle of Wight turbidity and nutrients

Sustainable abstraction and chalk stream

WATER for LIFE

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Hampshire

Water Quality

- Nitrate is impacting our groundwater drinking water sources, and we are working in partnership with landowners and farmers to reduce the risk.
- We are investigating potential risks to water quality from sediment sources in the Test and Itchen.

Water Resources

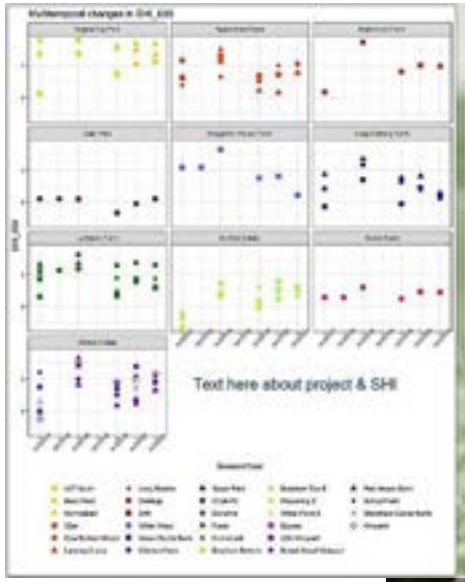
- We are creating a sustainable abstraction regime to protect important habitats.
- We are delivering a programme of river environmental enhancements for ecological resilience, including a national flagship Chalk stream restoration of the River Anton.

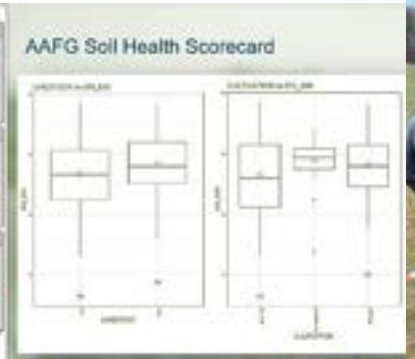
Environment Strategy

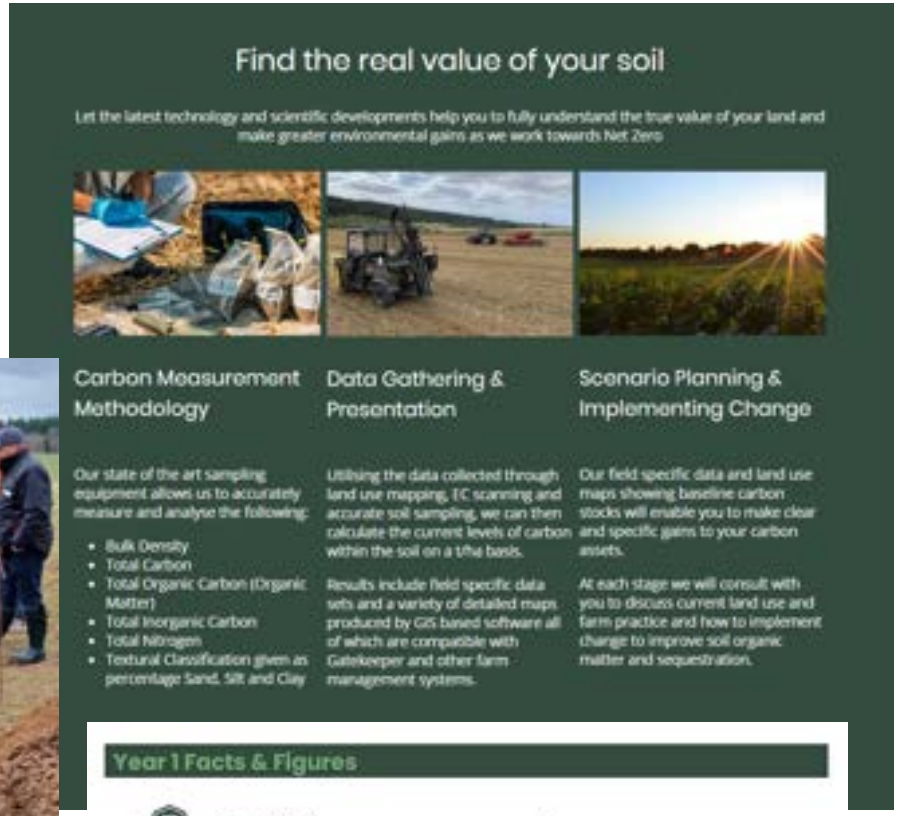
- We are developing a holistic Environment Strategy to help define our strategic environmental ambition.
- We are embedding natural capital approaches within our decision making.
- We need to deliver a programme of Biodiversity Net Gain (BNG).

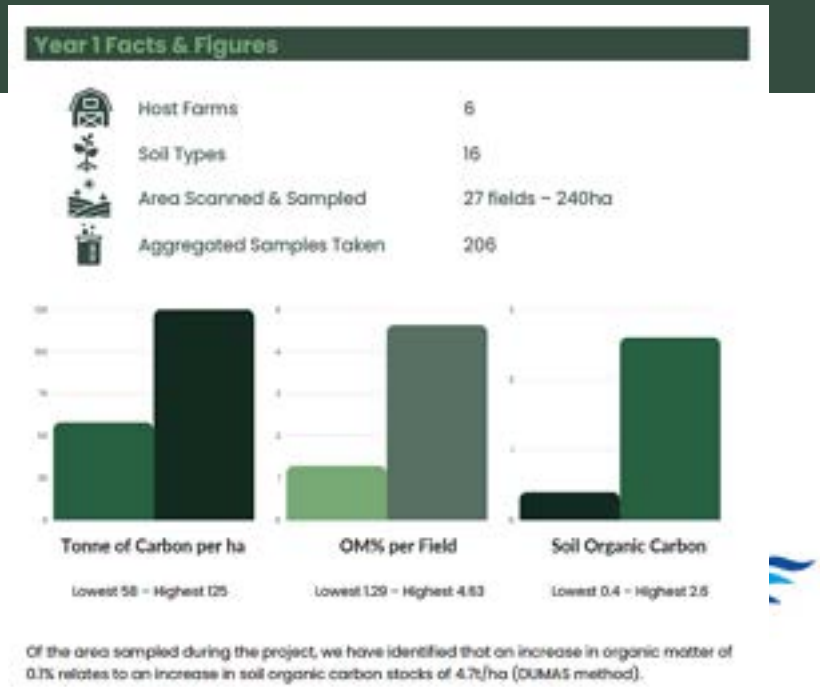
Working with farmers

Farm payments and measures, pilots, demos, events, training, co-design









Test & Itchen Catchment Partnership

Hosted By

Wessex Rivers Trust

The Vision

A healthy water environment which is valued and nurtured by residents, businesses and the wider community

Our Catchment Management Specialist attends the Quarterly Catchment Partnership meetings where we present key business updates and discuss options to progress partnership work.

Monthly meetings with the Catchment Partnership host allows our team to progress internal collaboration by updating decision makers on catchment wide initiatives and aligning them with our own goals for maximum benefit

Test and itchen catchment partnership meeting

The Test & Itchen Catchment Partnership brings together local people and organisations to plan and deliver positive actions that will improve our water environment and society. Typical organisations involved are:

- Statutory agencies (EA, NE etc)
- NGOs (Rivers Trusts, Wildlife Trusts, RSPB etc)
- Local Authorities
- Local Community Groups
- Landowners and farmers
- Angling Societies/Trusts

... And many more!

Hot topics

- Salmon Abundance
- Septic Tank Awareness
- Highways Runoff
- Agricultural Land Use
- River Corridor Habitats

Southern Water input timeline

Task	Q2 23/24	Q3 23/24	Q4 23/24	Q1 24/25	Q2 24/25	Q3 24/25	Q4 24/25	AMP8
1 Collating SWS info								
2 Collating CP info								
3 Defining shared goals								
4 Co-creation of a plan								
5 Co-delivery of a plan								

WATER for LIFE from Southern Water.