Shaping our wastewater future

Our Drainage and Wastewater Management Plan 2025 - 2050

Customer summary

May 2023

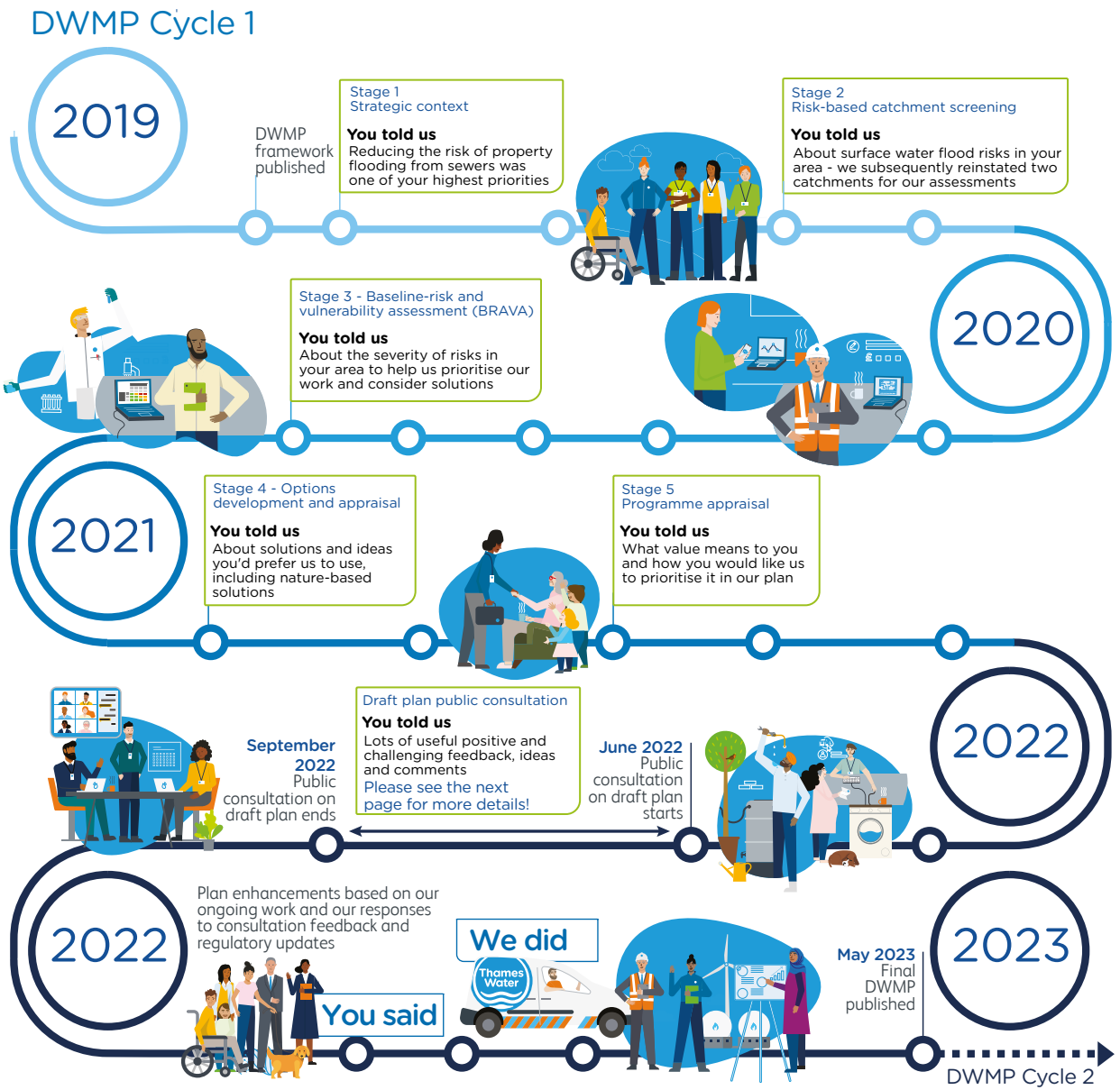
Preface

Working with you to develop our first DWMP

We're proud to present our first Drainage and Wastewater Management Plan (DWMP), and encouraged by the level of positive feedback we've received. Over the last four years, we've engaged and worked collaboratively with around 2,000 of our customers and stakeholders to deepen our shared understanding and develop new ways to manage drainage and wastewater across our region.

We've developed, tested and enhanced our shared plan based on your input and feedback, which you've shared with us in everything from workshops and webinars to surveys and focus groups.

What our customers and stakeholders told us they wanted and expected from our DWMP has evolved during this time, as we illustrate on our timeline. We've made sure we've listened and worked with your views, ideas and feedback as much as we could. This has helped us create a final shared plan we can all support to make sure future generations have a wastewater service that serves their needs and is kind to the environment.



Preface

What you told us about our draft plan

We published our draft DWMP for public consultation in June 2022, and asked our customers and stakeholders for their feedback on it. We received around 1,400 responses from a wide range of local, regional and national stakeholder groups.

We received lots of positive comments on the quality and ambition of our draft plan as well as useful ideas for making our final DWMP even stronger.

We've listened carefully and responded wherever possible within our final plan*. We were really encouraged by how aligned your feedback was to our ongoing work and aims.

This valuable feedback has further enhanced our final DWMP and will help our customers, communities and the natural environment to thrive now and in the future.

You said

Feedback themes

Your feedback on our draft plan had six main themes:

- **Protecting the environment** — Level of ambition and pace of delivery
- **Evidencing best value** — Affordability and bill impact
- **Delivering the plan** — Solutions and deliverability of the plan
- **Enhancing the plan** — Technical clarifications and ease of navigation
- **Working together** — Collaboration to achieve multiple benefits
- **Valuing your input** — Stakeholder engagement

We did

We've used as much of your feedback as we could, together with the progress from our ongoing DWMP work and our responses to regulatory updates, to enhance our final plan including in the following ways:

- **More** ambitious storm overflow target delivery to help protect the environment
- **Additional** future scenario testing
- **Increased** evidencing around best value and justification for our preferred plan
- **Increased** balancing of risk, ambition and deliverability
- **Increased** alignment of DWMP to other strategies and delivery plans
- **Earlier** planned implementations
- **Increased** number of proposed solutions
- **New** dedicated technical appendices
- **Rewritten** and restructured parts of the documents to be clearer and more accessible
- **More** detailed content throughout, especially on strengthening partnership working and stakeholder engagement

* Some consultation feedback didn't require further action or wasn't relevant to the DWMP process. Other feedback was relevant to future DWMP planning cycles and will be used to inform this work.

Find out more about how we've progressed and enhanced our final DWMP in our Non-technical summary. See more details on how we've addressed your feedback in our You Said, We Did Technical appendix.

Welcome to our Drainage and Wastewater Management Plan 2025-2050

We're delighted to have led the development of this DWMP for London and the Thames Valley region.

It's the first time a long-term plan for wastewater and drainage has been co-created by water companies working with organisations, customers, communities and groups that have responsibilities for, or an interest in, drainage and wastewater.

In this shared plan, we set out the objectives we've collectively agreed, the challenges we're facing and the actions and investments we'll make together over the next 25 years to make our drainage and wastewater services in our region resilient for generations to come.

Our region

Our services

Taking wastewater away from our 15 million customers, every single day.

Pumping wastewater from our 5,123 pumping stations to be treated at our 354 sewage treatment works.

Treating 4.6 billion litres of wastewater every day and returning treated water safely back to our local rivers.

Maintaining and enhancing our 68,000 miles of sewers through our 1.77 million manholes.

Providing more green spaces for communities to use and enjoy across our region.

Our challenges

A growing population

Our region's population is set to grow by 2.5 million people by 2050 (that's the equivalent of more than everyone currently living in Birmingham, Glasgow and Liverpool moving into our region!), and we're going to have more tourists and short-term visitors needing our services too.

A changing climate

Over the next 25 years, climate change will impact the weather patterns across our region. Extreme weather, such as heatwaves and flooding, will become more frequent and intense.

A loss of green areas

We're losing more and more green areas to new properties, extensions and paving, which all use impermeable materials. This leads to more rainwater entering our sewer network, instead of naturally finding its way into our rivers and streams, which can cause property flooding and poor river water quality.

An environment in need

We must protect and enhance our natural environment, particularly the health of our rivers and wetlands, while balancing the costs of meeting environmental standards and keeping customer bills affordable.

Our corporate vision

We set ourselves an ambitious corporate vision for 2050 to future-proof our wastewater service, stop wastewater pollution from our operation and be a force for good in our communities.

VISION2050

Our vision supports our purpose of delivering life's essential service so customers, communities and the environment can thrive.

Customer

Providing outstanding service and value for all our customers; motivating them to save water and prevent blockages

Community

Earning our place as a force for good: equipping local communities with the skills they need to thrive; using our land to benefit surrounding communities

Water

Making sure everyone always has access to top-quality drinking water; investing in our network to prevent leaks and keep water flowing

Waste and Rivers

Preventing all sewer flooding and wastewater pollution; leading wider efforts to restore river health and increase biodiversity

Energy

Producing all the green energy we can to power what we do

Our DWMP vision, planning objectives and level of service

Our DWMP supports our corporate vision by outlining solutions that account for the impact of population growth and climate change on our customers and the environment.

Our DWMP vision Working in partnership to co-create a 25-year plan for drainage and wastewater that sustainably benefits communities and the natural environment in our region.

Our DWMP aims To identify future catchment risks to our drainage and wastewater treatment systems from population growth and climate change and develop sustainable, efficient solutions to address them.

Our 2022 performance

Sewer flooding
3.46 internal sewer flooding incidents per 10,000 sewer connections in 2021/22.

Storm discharges
17.0 storm discharges per overflow in 2022, totalling 74,693 hours.

STW resilience
98.96% STW permit compliance achieved in 2021/22.

Our 2050 DWMP service targets

Sewer flooding to properties
Stop property flooding internally (within the home or business) and externally (outside the home or business) from our sewers where possible, up to a 1 in 50-year storm event*.

Storm discharges of untreated sewage into the environment
Limit environmental impact by discharging on average, no more than 10 times per year, per storm overflow, and no more than three in designated bathing waters, by 2045**.

Sewage treatment works (STW) resilience
Enhance the ability of our sewage treatment works to recover from difficulties, without impacting our service or the environment.

Without the DWMP

Our predictions for the future

Sewer flooding
Growth and climate change could put an additional 187,000 properties at risk of flooding in a 1 in 50-year storm.

Storm discharges
By 2050, growth and climate change would also have an effect, resulting in 45% of wastewater catchments having an unacceptable number of storm discharges.

STW resilience
By 2050, the permit compliance of our STWs in almost half of our catchments (44%) could be at risk.

* This is a measure of how well our drainage systems can cope in extremely wet weather. The risk of sewer flooding in a 1 in 50-year storm is defined as the likelihood that flooding will occur as a result of rainfall in a storm that has a 1 in 50 (or 2%) probability of happening in any given year.

** Our sewers are designed to overflow to the environment to prevent homes and businesses from flooding. However, storm discharges that happen too often, or for too long, can impact the environment.

Your views have shaped our plan

Due to Covid-19 restrictions, a lot of our engagement work was carried out online or in virtual forums. We continued to use a broad range of offline and digital channels during the consultation period for our draft plan too. This map illustrates where we engaged and gained responses from customers and stakeholders across our region about our DWMP work, including from our customer consultation survey.

Customers we engaged with:

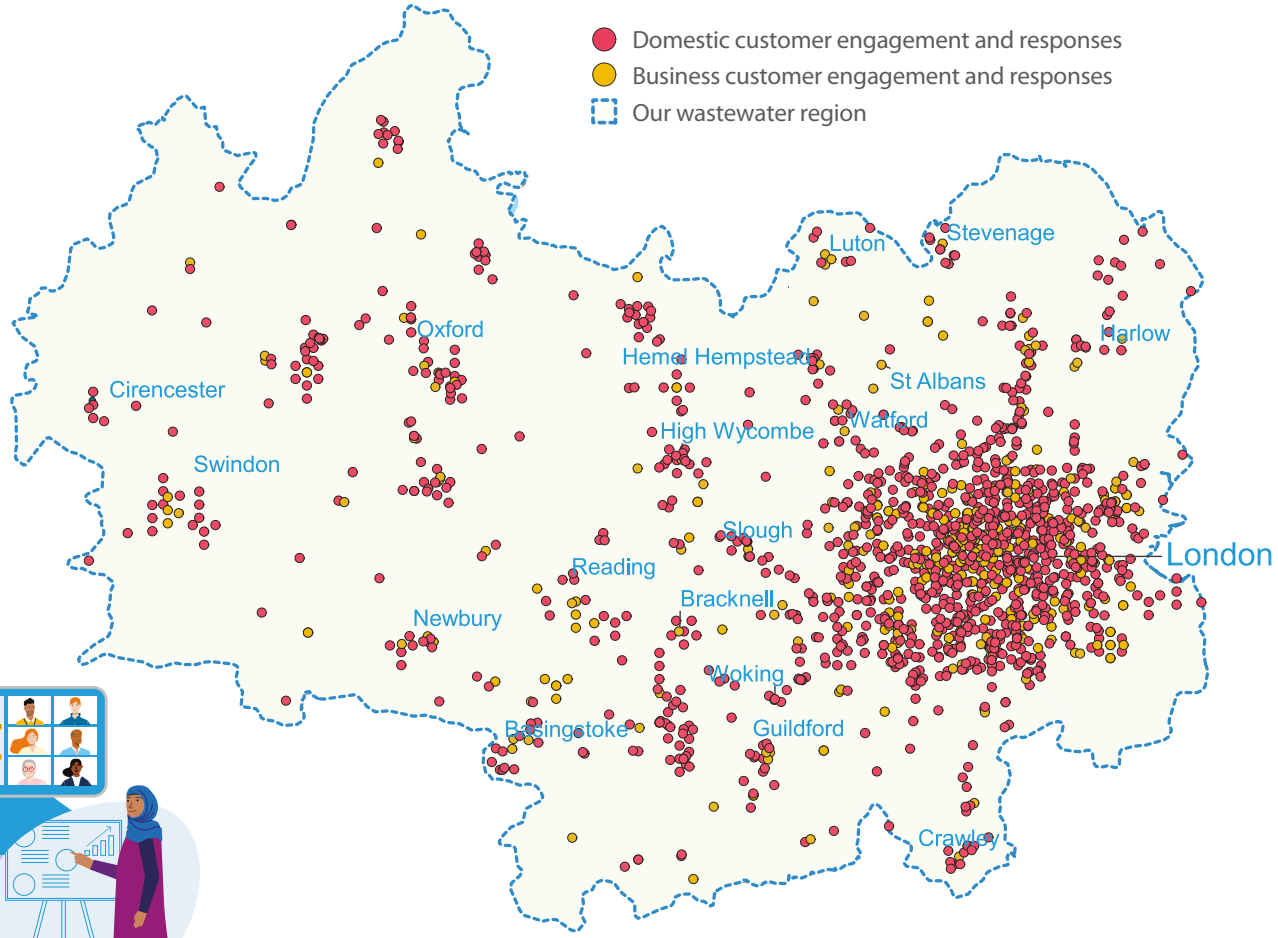
- Domestic
- Business
- Future
- Older
- Living in vulnerable circumstances

What topics we covered:

- Your drainage and wastewater service
- Planning objectives and priorities for the next 25 years
- Acceptable solutions to our customers
- Affordability
- Final plan preferences

How we gathered your views:

- Customer research programme
- Focus groups
- Interactive customer portal* on our website
- Region-wide online survey
- Interactive website content
- Customer priority polls
- Public consultation on our draft plan



* Provides more details about our DWMP programme and opportunities for feedback and to get involved.

Find out more about our engagement and our responses to consultation feedback on our draft plan in our Non-technical summary and our Customer Engagement, Stakeholder Engagement and You Said, We Did Technical appendices

What did you tell us?

We asked almost 1,000 of our customers and stakeholders some important questions throughout the development of our draft plan. We particularly wanted to understand the parts of our service that you'd like us to prioritise over the next 25 years, the solutions you find acceptable for our shared plan and those you'd prefer us not to use.

You told us a lot, and shared valuable information and suggestions with us too. Here's a summary of your insights and examples of the solutions we're using in our DWMP that you told us you preferred.

Priorities

1. Affordable water bills
2. A drainage system that works for future generations
3. Educating customers to use drainage systems properly
4. Protecting our rivers
5. Making best use of technology
6. Ensuring value for money
7. Reducing wastewater going into rivers from storm overflows
8. Improving the environment
9. Planning for the future eg. climate change
10. Preventing inside wastewater flooding
11. Improving our communities
12. Working with other organisations
13. Preventing outside wastewater flooding
14. Creating small areas of green space
15. Not preventing development
16. Making the plan net-zero carbon
17. Limiting traffic disruption

Preferred solutions

1. Preventing or slowing rainwater from entering sewers
2. Carrying out customer awareness campaigns
3. Increasing capacity in the existing wastewater system
4. Using advanced technology to improve existing STWs
5. Collecting and reusing rainwater in buildings
6. Catchment management*
7. Separating combined pipe systems
8. Building new wastewater sewers and tunnels
9. Expanding existing STWs
10. Treating and recycling household wastewater
11. Building new STWs
12. Protecting vulnerable properties with flood-protection measures
13. Relining existing sewers
14. Using monitors and real-time data to control wastewater in sewers
15. Treating wastewater in the sewers
16. Using alternative routes to take rainwater away, such as roads

Some solutions we're using in our shared plan

Nature-based solutions to absorb rainwater from buildings and impermeable areas. Including using sustainable drainage systems (SuDS) which mimic natural drainage

Using the latest technologies to intensify our sewage treatment processes and increase the capacity in our sewer system

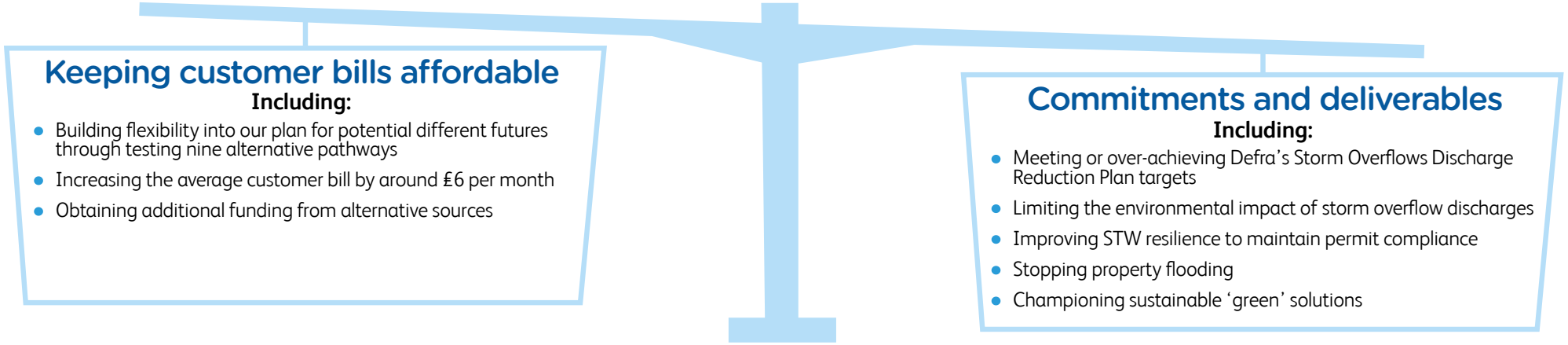
Upgrading some of our STWs and sewer network to increase capacity in our sewer system

Sewer lining and manhole sealing to prevent extra water getting into our sewers and overloading them

* Catchment management addresses issues in a river catchment through collaborative working with other organisations and groups, to deliver a range of environmental, social and economic benefits.

Delivering priorities and regulatory requirements

As we've developed our final DWMP together, the feedback we've received over the last four years has demonstrated just how aligned our priorities are. To get our wastewater performance where it needs to be, we're ready to deliver the priorities below while making sure bills stay affordable for our customers. But this is difficult to achieve given the scale of the commitments and deliverables required, and we don't expect all of the investment to be funded through customer bills.



Keeping customer bills affordable

Including:

- Building flexibility into our plan for potential different futures through testing nine alternative pathways
- Increasing the average customer bill by around £6 per month
- Obtaining additional funding from alternative sources

Commitments and deliverables

Including:

- Meeting or over-achieving Defra's Storm Overflows Discharge Reduction Plan targets
- Limiting the environmental impact of storm overflow discharges
- Improving STW resilience to maintain permit compliance
- Stopping property flooding
- Championing sustainable 'green' solutions

Adapting our plan

We've adapted our final plan to deliver as many of these commitments as possible. We haven't removed or reduced any of the commitments or deliverables we outlined in our draft DWMP, and we've made some more positive changes too. But to deliver some of these changes sooner, we've had to adjust some delivery timescales in other parts of our final plan.

Storm overflows — **Increased** storm overflows discharge reduction investment by £7.0bn to £10.9bn to respond to changes in regulatory targets through WINEP and business-as-usual investments

Property flooding — **Increased** investment by £1.1bn to £19.8bn to protect 187,000 properties from the risk of flooding in heavy storms

Faster-paced storm overflow reduction — **Directed** a higher proportion of property flooding investment later in our plan period to support faster-paced delivery of storm overflows discharge reduction to meet new regulatory requirements

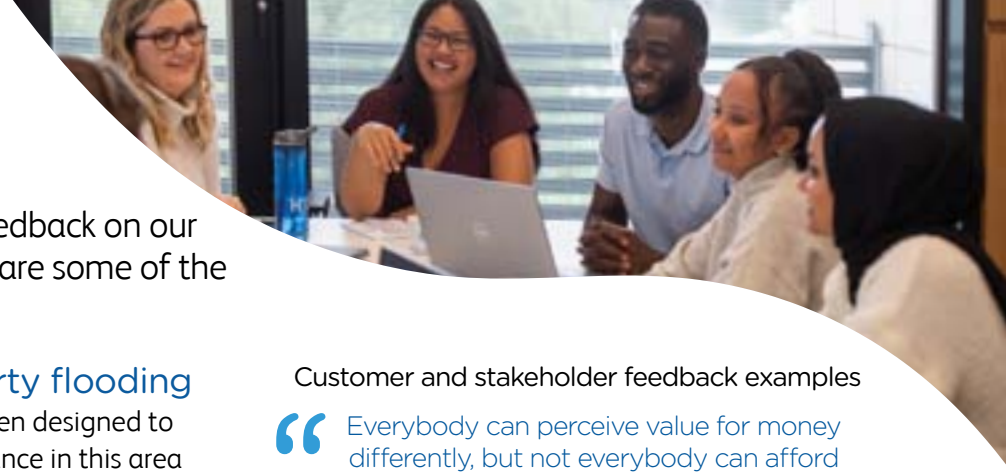
Focus on partnership working — **Reduced** flood risk through increased focus on our long-term sustainable partnerships to co-deliver nature-based solutions

Resilience — **Increased** resilience by investing in protecting 207 STWs from river flooding

Affordable customer bills — **Spread** the delivery of our DWMP programme of work and its investment costs further over the plan period to keep customer bills affordable

Find out more about our challenge to balance our collective priorities in Section three of The Plan.

What we did with your views



We used our customers and stakeholders' responses to our questions and feedback on our draft plan to shape, prioritise and select the final DWMP for our region. Here are some of the ways your valuable input has directly shaped our shared plan.

Enhancing our service resilience

We're focusing on maintaining and investing in our existing sewer system, as you told us that's hugely important to you. We want to make sure our service is effective and resilient now, and in the future, so we can cope with challenges such as climate change for generations to come. Over the life of this plan we'll upgrade over 80 of our STWs.

Protecting against pollution

We understand that protecting the environment and making our rivers better at a faster pace is one of your top priorities, as it is for us. We've set ambitious targets in our plan and increased our investment by £7.0bn to £10.9bn, to make sure we have a resilient service to deal with the many environmental challenges we face, such as preventing any untreated sewage overflowing from our sewers.

Keeping bills affordable

We're spreading the costs of delivering our shared plan over the next 25 years, as you told us to limit its impact on customer bills. We're also using innovation and partnership projects to help us reduce any bill rises in the future.

Reducing property flooding

Our shared plan has been designed to transform our performance in this area as you told us to. We've increased our investment by £1.1bn to £19.8bn, to make sure that our customers are unlikely to experience this distressing service failure inside or outside of their properties in their lifetime.

Using 'green' solutions

We've added more 'green' nature-based solutions into our plan than we've ever used before, as these rated highly in your solution preferences. For example, our SuDS programme for London and the Thames Valley will cover around 7,500 hectares.

Increased focus on community benefits

We made sure our plan focused on delivering benefits for the communities we serve and especially their wellbeing, as you told us these were important priorities for you too.

Customer and stakeholder feedback examples

> "Everybody can perceive value for money differently, but not everybody can afford their water bill, and so that's something that everybody should be entitled to, able to have affordable clean water."

> "Ensuring wastewater is treated and returned safely to the environment seems to be the priority and correctly, that should be the case."

> "All day long, it's about future-proofing for me."

> "I think there's bigger priorities than getting a cheaper bill. I think how it affects you personally, as in, flooding in your house, how it affects the environment, is much more important."

> "I agree with educating customers, and also working with other organisations. I think if Thames Water, and all the organisations work together, they can educate customers, plan for the future, have a drainage system that works for future generations."

Consultation on our draft plan
Stakeholder feedback example

> "Provide more evidence around the costs and benefits of solutions - in particular schemes that deliver multiple benefits, how they compare to alternatives and how this has evolved since the draft DWMP"

A snapshot of our shared plan

Our shared plan aims to address the future challenges we face and provide the best value for our customers, stakeholders and the natural environment. It focuses on making sure our sewer network and sewage treatment works have the capacity they need to keep your toilets flushing, homes free from flooding and rivers and wetlands protected for generations to come.

And our plan isn't only about how we manage wastewater and flooding, it also covers how we'll increase green spaces in the urban areas across our region, reduce pollutants reaching our rivers and help to improve the health and wellbeing of the customers and communities we serve. We'll work in partnership with our stakeholders to deliver this plan and update it together every five years.

Our plan will:

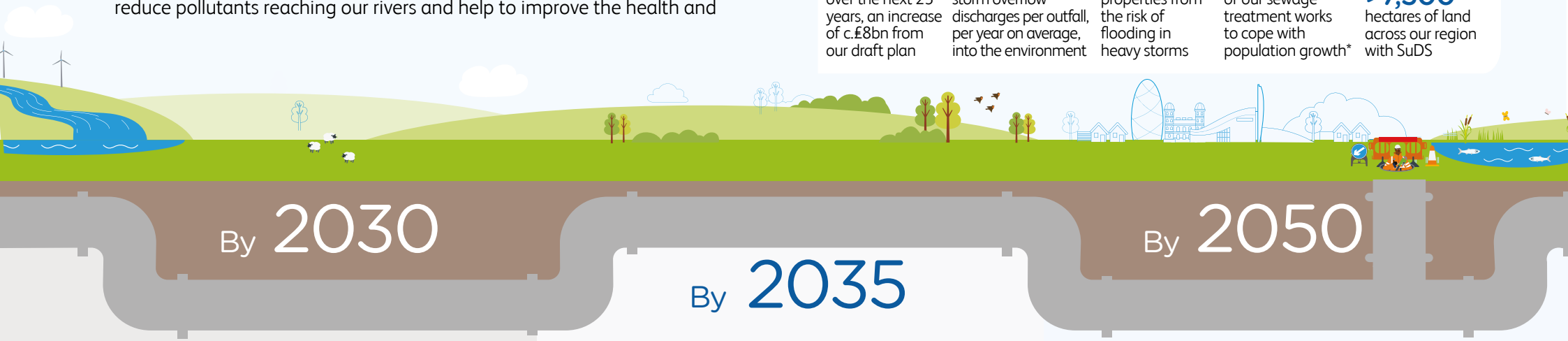
Invest
£31.9bn
over the next 25 years, an increase of c.£8bn from our draft plan

Improve
to **≤10**
storm overflow discharges per outfall, per year on average, into the environment

Protect
187,000
properties from the risk of flooding in heavy storms

Upgrade
82
of our sewage treatment works to cope with population growth*

Manage
rainwater falling on
>7,500
hectares of land across our region with SuDS



By 2030

Sewer flooding in properties

Tackle the worst flooding hotspots across our region

Storm overflow discharges into the environment

Address storm overflow discharges at sites that discharge to our most sensitive rivers

Highlights

- Reduce storm discharges to no more than an average of 10 per overflow in a typical year at the most sensitive sites, and no more than three in a typical year at our designated bathing waters
- Manage the rainwater falling on 99 hectares of land in London that drains into the sewer network, using SuDS
- Reduce the number of properties at risk of internal and external sewer flooding in a 1 in 50-year storm by 5% in our Thames Valley region
- Ongoing upgrades of 30 STWs across the Thames Valley
- Investigate options for a new STW in the London area to take pressure off the sewer network

By 2035

Sewer flooding in properties

Roll-out partnership solutions to tackle all types of sewer flooding

Storm overflow discharges into the environment

Address storm overflow discharges at sites that discharge to sensitive rivers

Highlights

- Reduce storm discharges to no more than an average of 10 per overflow in a typical year at all sensitive sites
- Manage the rainwater falling on 63 hectares of land in London that drains into the sewer network, using SuDS
- Reduce the number of properties at risk of internal and external sewer flooding in a 1 in 50-year storm by 16% in our Thames Valley region
- Upgrade our largest STW, Beckton, and three further sites across London and 43 STWs across the Thames Valley
- Potentially commence delivery of the new STW in the South East London area

By 2050

Sewer flooding in properties

Eradicate flooding risk to properties in all but the most extreme storm events

Storm overflow discharges into the environment

Reduce storm overflow discharges to such a low number that they will have no impact on rivers

Highlights

- Reduce storm discharges to no more than an average of 10 per overflow in a typical year at all storm overflow locations, by 2045
- Manage the rainwater falling on 6,851 hectares of land in London that drains into the sewer network, using SuDS
- Eliminate the risk of sewer flooding at properties in a 1 in 50-year storm in our Thames Valley region where feasible
- Upgrade two STWs in London and two in the Thames Valley, and revisit 11 STWs across our region for their next round of upgrades

See what we're planning to do in your area on our DWMP Homepage.

* Including the potential new STW in the South East London area.

What this plan means for you

Future protection

We're planning long term so we can protect future generations, alongside making sure we're delivering the best service we can for our existing customers.

Affordable bills

We'll be keeping bills affordable by taking a phased approach to our DWMP work, and spreading the costs over the long term.

Peace of mind

We'll be delivering all of our regulatory requirements and reinvesting the money from your bills where it counts, to make sure the areas most at risk are protected.

Improving rivers

We'll be improving your local river by enhancing the resilience of our STWs and reducing sewer overflows into the environment, particularly during heavy storms.

Community spaces

We're aiming to improve community spaces and create more of them for you to enjoy, through our 'green' partnership projects.

How you can help

There are lots of things everyone can do to help protect drainage and the wastewater services in our region, including continuing to engage and get involved with our DWMP work, as well as carrying out these simple steps:

1

Avoid pouring fat, oil and grease down the sink. It can harden in pipes and cause wastewater to back up – polluting the environment or your home. Instead, let it cool, pour it into a container and put it in the bin.

2

Don't flush anything other than the three Ps (pee, poo and paper), down your toilet as this can cause serious blockages. Always put non-flushables like wet wipes, tampons, nappies, cotton buds, razors and condoms in the bin.

3

Look out for misconnected drains (where the waste pipes are plumbed in to the surface water drains) and poorly located and maintained septic tanks, as they can allow untreated wastewater to pollute local rivers and streams.

4

Protect your green spaces, add to them wherever you can and avoid choosing materials such as flagstones and tarmac for your home improvements, as these stop rainwater from naturally draining away.

What happens next?

It's the first time a long-term plan for drainage and wastewater has been co-created with our customers and stakeholders. We'll continue to build on this work as we develop DWMP Cycle 2 together.

Here are the main next steps we'll take:

2023

Publishing our shared plan

The detail of the first five years of our DWMP's investment plan will be proposed as part of our Business Plan (2025 to 2030), and we'll ask for your feedback.

Aligning with our Business Plan

In October 2023, we'll resubmit our DWMP data tables to Ofwat, our economic regulator, which we'll have aligned to our five-year Business Plan (PR24 Price Review).

We'll hear the outcome of our proposals for DWMP interventions as part of our PR24 Price Review, and confirm our plan for partnership working from 2025 to 2030.

2023

2024

Reviewing our DWMP

We'll update the DWMP collaboratively every five years, and ask for your views and feedback as part of this process. We'll use the same interactive methods to get your input and involvement as we've used in this first DWMP cycle, including customer surveys, workshops and focus groups.

We'll continue to work with your views, ideas and feedback to help us shape our next DWMP, which we'll publish for public consultation in 2027.

Protecting against the challenges ahead - together

We deliver life's essential service, so our customers, communities and the natural environment can thrive. This plan is critical to helping us continue to do this in the future and we'll need to work together to make this a success.

Of course, we can't predict the future exactly, so we're planning for a range of possibilities by working with our customers and stakeholders to gain local knowledge. We're combining this with our expertise and years of experience working collaboratively on successful joint projects, to produce a robust and flexible plan.

We're committed to delivering this shared plan together in true partnership to make sure we can positively face whatever the future holds.

See some examples of our collaborative drainage and wastewater projects in our DWMP Non-technical summary.

Get in touch or provide feedback on this document by emailing our DWMP team at DWMP@thameswater.co.uk.

For more information on our DWMP work, please visit our DWMP webpage and DWMP Customer portal on our website.