



West Oxfordshire District Council's Waterways Day
23rd November 2023

Richard Aylard
Sustainability Director



Topics to Discuss

Our work with WODC
STW plans and performance
Looking ahead to AMP 8
New monitors
Groundwater infiltration
Report a Pollution online

Working together

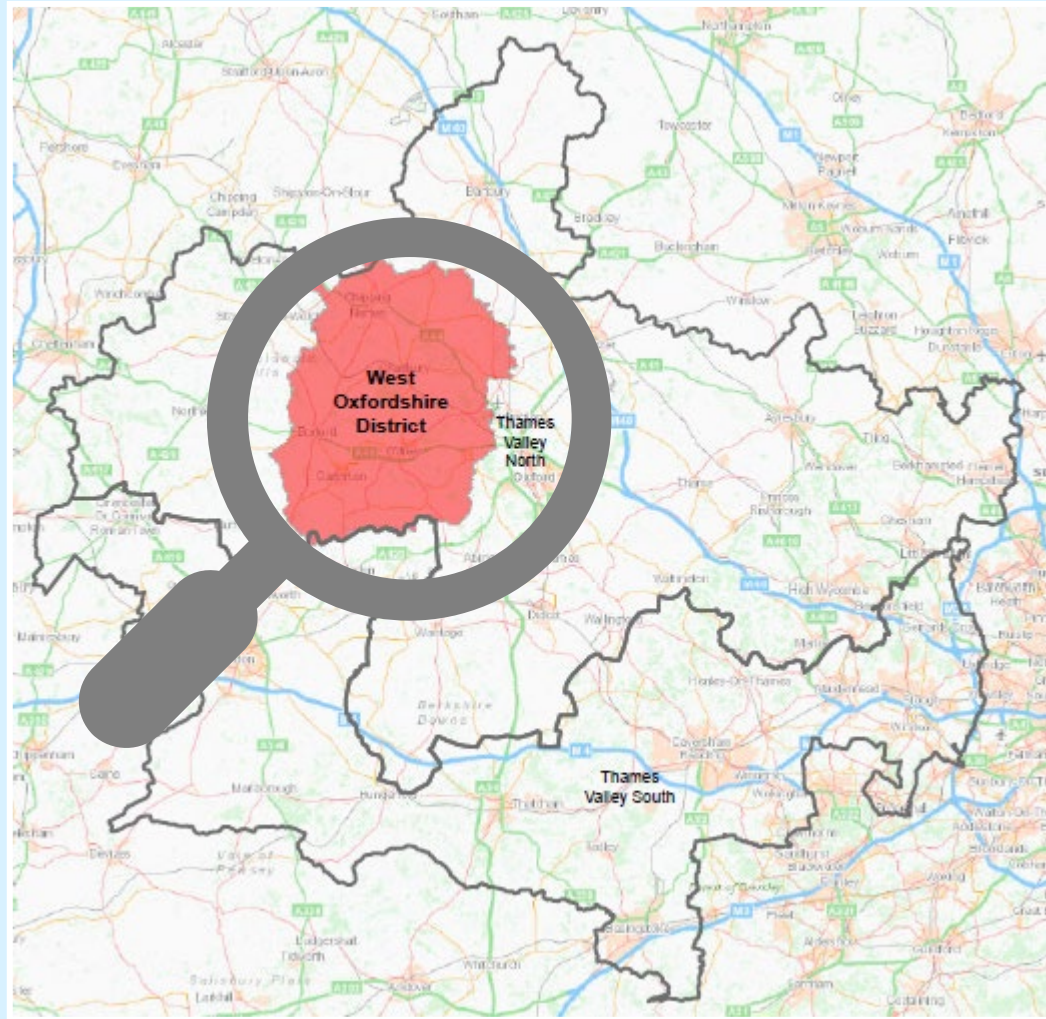
- We were asked to work in a new way with the incoming WODC leadership
- They asked and we listened
- Real benefits on both sides
- Monthly meetings - robust but respectful
- Data sharing and investment information for the current and future periods
- Developing our collective knowledge and identifying how we can work better together
- Shared concerns about development – joint working on Grampian conditions
- Efficient officer to officer contact
- Direct responses to location specific operational issues



PUBLICA



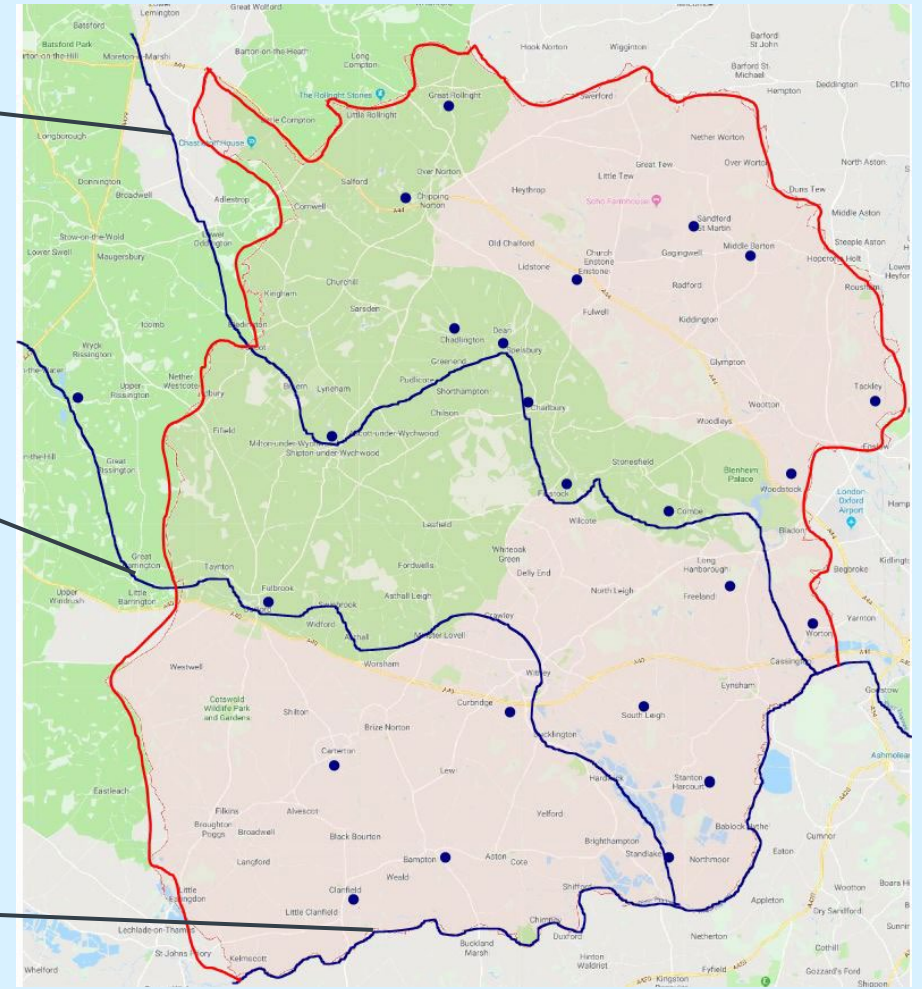
The West Oxfordshire Area



River
Evenlode

River
Windrush

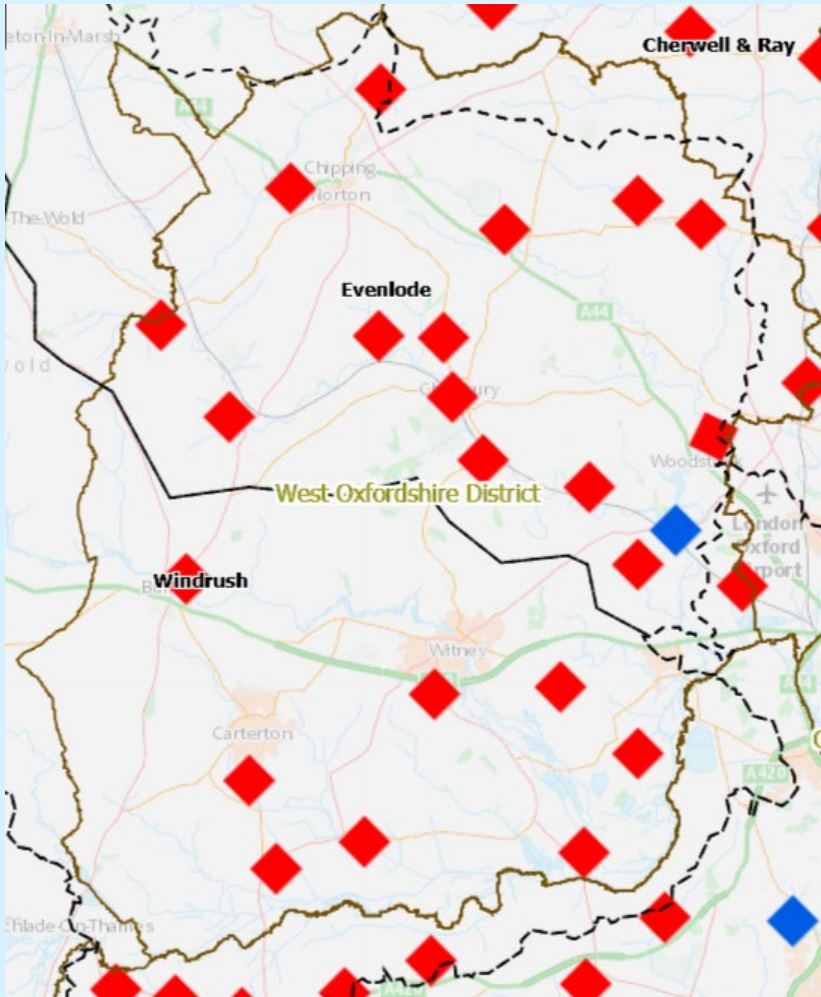
River
Thames



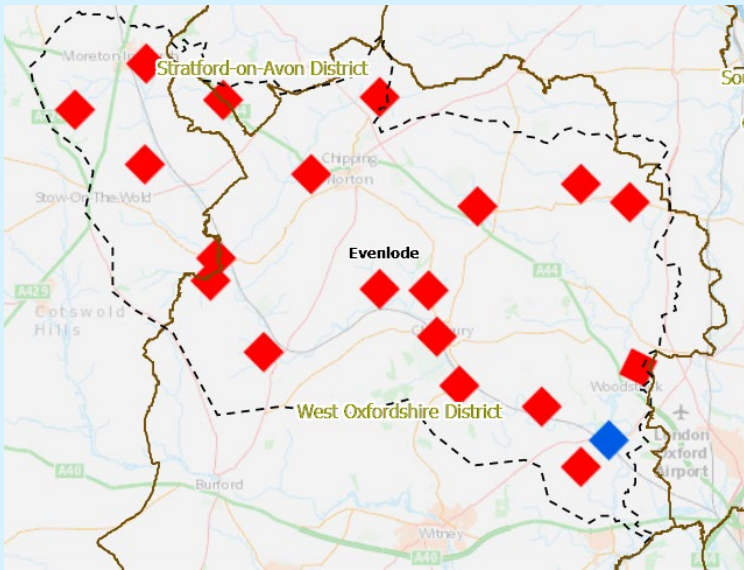
Blue dots are all TW STWs in the area.

Our STWs in the West Oxfordshire District

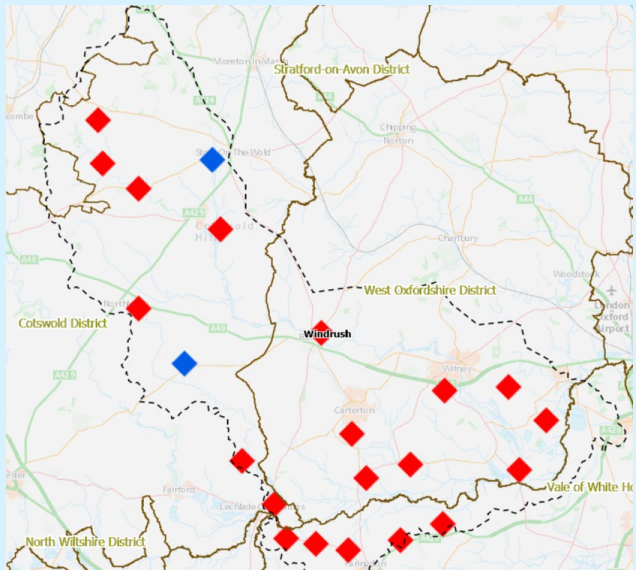
West Oxfordshire District



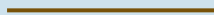
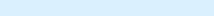


Evenlode catchment



Windrush catchment



Symbol	Description
	Sewage Treatment Works
	Sewage Treatment Works not under the ownership of Thames Water
	Local Authority area
	CaBA Catchment area

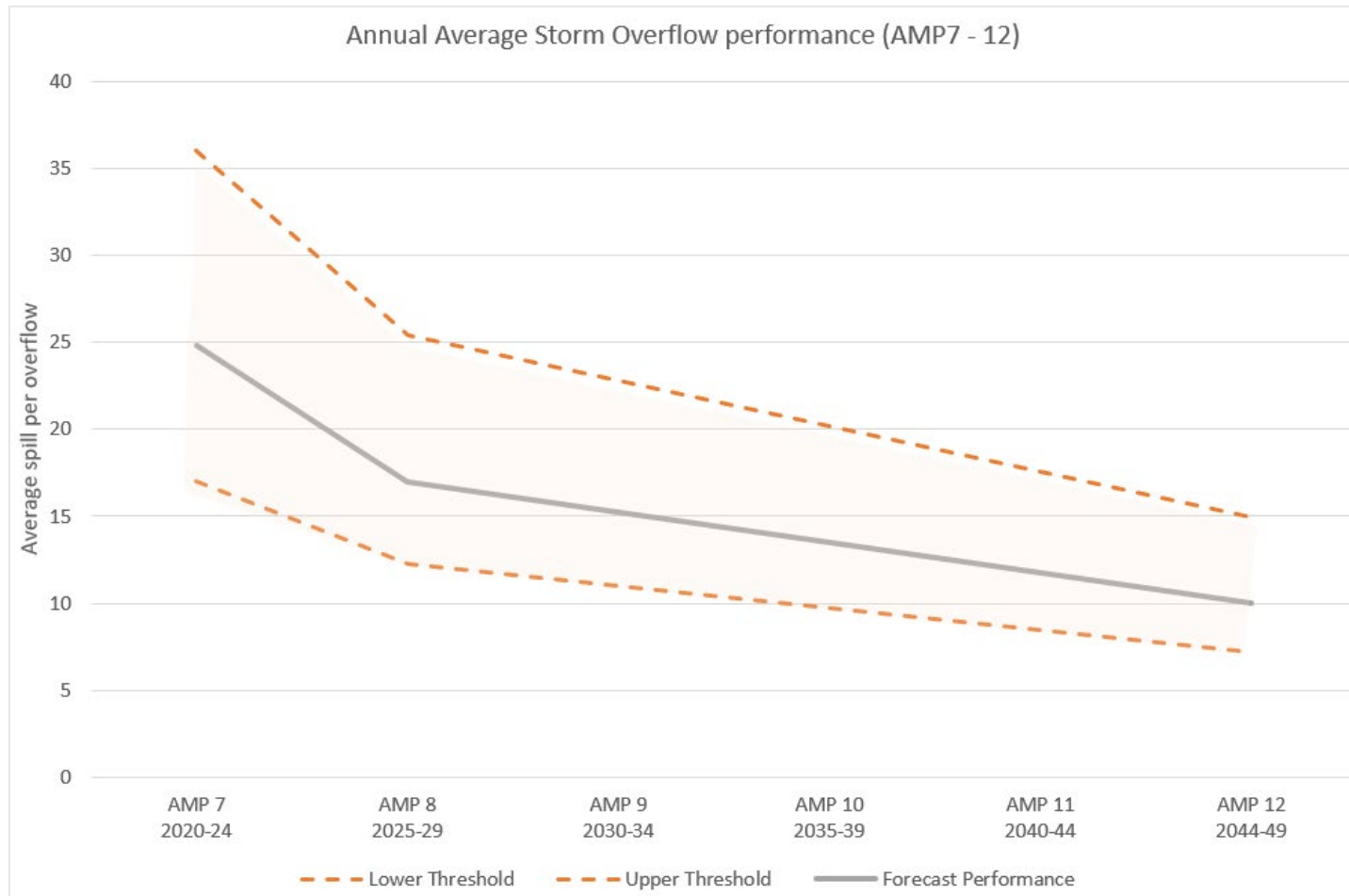
Untreated discharges

- We are absolutely committed to protecting and enhancing the rivers in our area. Putting untreated sewage into rivers is unacceptable to us, to our customers and to the environment.
- Eliminating discharges is not going to be quick, easy, or inexpensive and we welcome the continued support of our customers and regulators, who are equally passionate about this topic, as well as extensive collaboration with local communities and other stakeholders, to achieve cleaner rivers.



Storm overflow performance

Our plan



We're planning for:

- Maximum of 24 spills on average, per overflow per year by 2025
- Maximum of 17 spills on average, per overflow per year by 2030
- Maximum of 10 spills on average, per overflow per year by 2050

This will be a reduction in the number of storm overflows by 28% by 2030, at a cost of £885 million.

Summary of delivery plans and performance

November 2023 update

Schemes can be divided into four categories:

- **Compliance schemes** – where we are not confident that the site can achieve robust compliance with all aspects of its permit, under all conditions, and need to invest in improvements
- **Current period (AMP 7) upgrade schemes** - to achieve specific goals set out in the Water Industry National Environment Programme (WINEP)
- **AMP 7 WINEP schemes rephased to AMP 8 (2025 to 2030)** – current view
- **AMP 8 WINEP schemes** – from draft business plan
- Note: in some cases compliance schemes are being combined with WINEP upgrades, in a single project.

Compliance Schemes

Carterton STW

Compliance Scheme

Detailed design underway

- Start on site currently June 2024
- Completion currently March 2025
- New offline balancing tank
- Replacement of the existing fixed speed storm return pumps with Variable Speed pumps
- Changes to the existing site control and monitoring
- New storm tank cleaning system, including washwater tank

Cassington STW

Compliance Scheme

Detailed design underway

- Start on site currently May 2024
- Completion currently March 2025
- Duty/standby 6mm inlet screens sized for peak incoming flow 215 l/s
- Actuated Flow to Full Treatment penstock
- Below ground Balancing Tank at operating volume of 35 m³
- New overflow weir and pipework from existing Storm Return Pumping Station to Storm Tank 1
- Automated Storm Tank Drain Return Valves.

Charlbury STW

Compliance Scheme

Detailed design underway

- Start on site currently May 2024
- Completion currently February 2025
- New inlet Flow to Full Treatment Pumping Station
- New rising main from new inlet Pumping Station to new inlet works screens
- New gravity sewer from ex. inlet to new inlet Pumping Station
- New 6mm screen and screen handling plant
- New gravity storm return pipework to discharge to new Inlet Pumping Station
- Full refurbishment of two Biological filter beds
- Refurbish three Land Treatment Areas (grass plots)

Chipping Norton STW

Compliance Scheme

Outline design underway - new FtFT to be 73l/s

- Start on site currently May 2025
- Completion currently November 2026
- Modifications to the inlet works to manage peak flows of 500l/s with storm flow separation
- Modify inlet works with active control
- Ensure all site liquors are returned downstream of storm separation and PFF flow measurement.
- New Final Settlement Tank
- New flow split chamber to feed Final Settlement Tanks

Church Hanborough STW

Compliance Scheme

Detailed design underway

- Start on site currently August 2024
- Completion currently November 2025
- New duty/standby storm return pumps
- Storm return flowmeter & flowmeter chamber
- Correctly sized storm return pumps with improved control ensures the storm tanks are emptied earlier

Middle Barton STW

Compliance Scheme

Work being scoped.

- Issues relate to flow control

Stanton Harcourt STW

Compliance Scheme

Completed

- The site now has adequate capacity to treat permitted Flow to Full Treatment (17.5 l/s)
- Completed project has resolved hydraulic issues by making improvements to Inlet Pumping Station rising main and Primary Settlement Tank to filter pipeline
- Current prolonged high flow period will confirm whether issue is fully resolved

AMP7 WINEP Upgrade Schemes

South Leigh STW

AMP7 WINEP and Compliance Scheme

Work in progress

- Work undertaken in 2022 to restore the condition of the aeration tank and ensure the treated effluent discharged is of high quality, particularly for ammonia levels and biochemical oxygen demand (BOD)
- Current compliance work (due to complete by Feb 24) will deliver improvements:
 - Replace the fixed scum board in the Final Settlement tank
 - Replace the descum diaphragm pump.
 - Reroute the scum discharge pipework
 - Fit new above ground pipework with suitable insulation to guard against freezing
- Further WINEP work, to follow, will deliver full compliance

Finstock STW

AMP 7 WINEP and Compliance Scheme

Detailed design underway

- Start on site currently April 2024
- Completion currently April 2025
- Replace existing screen with larger unit and better screening removal plant
- Replace existing vortex flow control (hydrobrake) with larger unit set to Flow to Full Treatment
- Mods to existing inlet works – block off original storm weir, remove disused flume
- Replace existing storm return pump with two pumps; modify valve chamber and provide new rising main to balance tank

Milton-under-Wychwood STW

AMP7 WINEP and Compliance scheme

Detailed design underway

- Start on site currently July 2024
- Completion currently July 2025
- The Flow to Full Treatment (FtFT) scheme consists of site upgrades to increase FtFT from 30 l/s to 43 l/s
- Modification to inlet works structure to suit the increased flow
- New Hydro-brake for the balance tank
- Block off the existing Storm Overflow and modify flow measurement
- Position the existing FE monitor downstream of blended stream to capture treated flows

Little Compton

WINEP Scheme

Completed

- Scope of project was to deliver storm storage capacity of at least 26m³
- Provide a tank cleaning mechanism
- Provide access to the storm tanks and chambers
- Need for flow compliance work being assessed – likely to involve work on balancing tanks

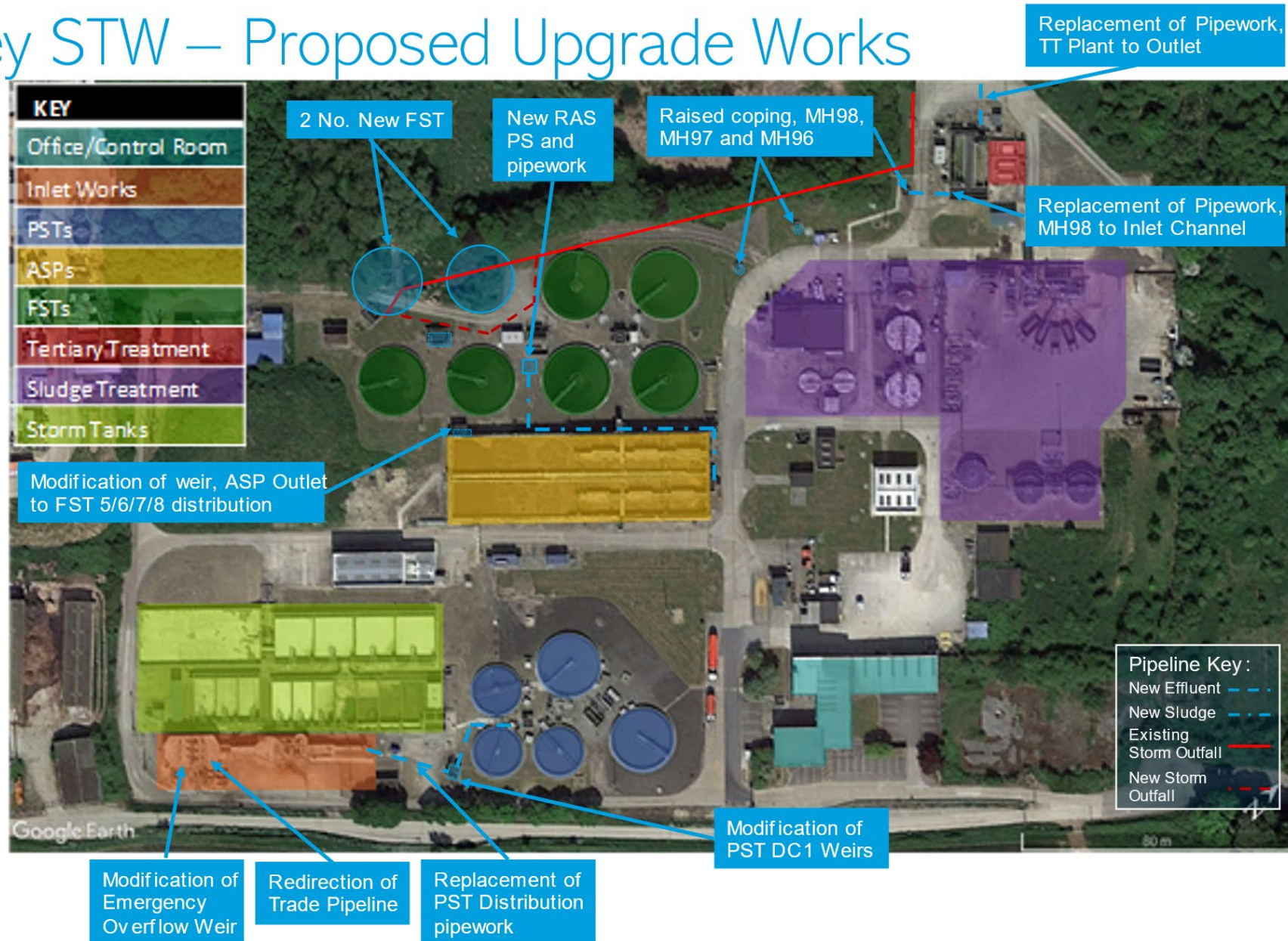
Witney STW upgrade

- Major project to increase Flow to Full Treatment (FtFT) at Witney from the current 240l/s to a minimum of 399l/s. This is a 66% increase.
- The project includes:
 - Replacement of pass forward flow meter
 - Modification of emergency overflow weir
 - Redirection of existing trade effluent pipe to prevent waste spilling to storm tanks
 - Construction of 2 additional final settlement tanks
 - Upgrades to existing pipework and chambers to accommodate the increase in flow.
- Current completion date is late 2024



Witney STW
Storm Tanks

Witney STW – Proposed Upgrade Works



AMP8 WINEP Upgrade Schemes

Bampton STW

AMP 7 WINEP scheme rephased to AMP 8

Flow to Full Treatment (FtFT) scheme consists of site upgrades to increase FtFT from 23l/s to 36l/s

- New balancing tank to provide volume to balance the network pumping stations and separate the balancing from the storm storage and New Humus Tank
- New sludge holding tank
- Replacement of Returned Activated Sludge pumps
- New Motor Control Centre
- Various site modifications

Emerging plans for AMP8

Numerous storm overflow investigations to be done in the early years of the AMP

Sites already identified with Environment Agency as high priority for further investment:

- Bampton STW
- Cassington STW
- Chadlington STW
- Charlbury STW
- Church Hanborough STW
- Combe STW
- Finstock STW
- Standlake STW

Emerging plans for AMP8

Sites where we expect to install UV treatment - to improve water quality of Wolvercote Mill Stream (designated bathing water):

- Cassington STW
- Stanton Harcourt STW
- Church Hanborough STW

Sites we have notified to Ofwat as requiring growth schemes:

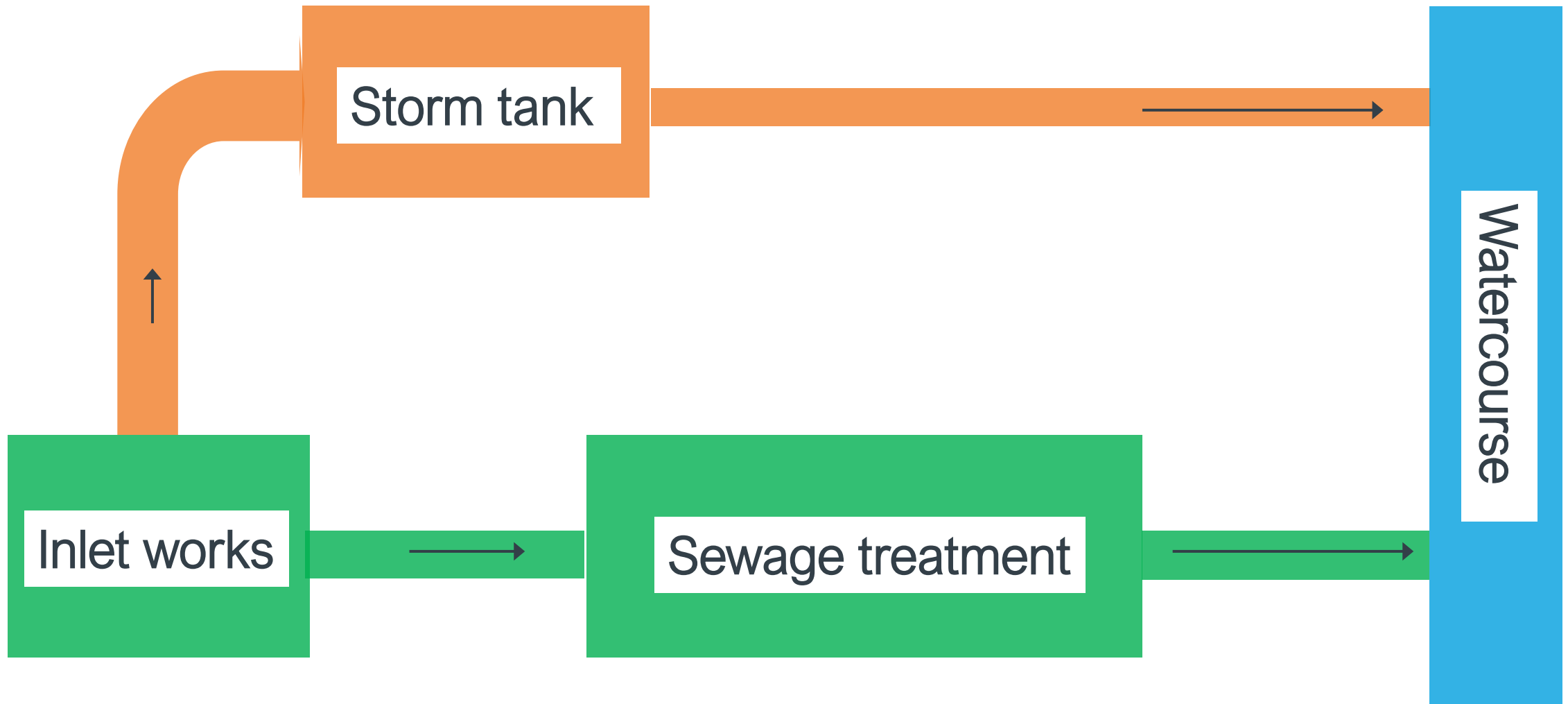
- Cassington STW
- Chipping Norton STW

[Note: growth schemes are for sites where growth is the **principal driver**. Schemes with other drivers are also adjusted for growth if necessary]

New monitors to provide better information

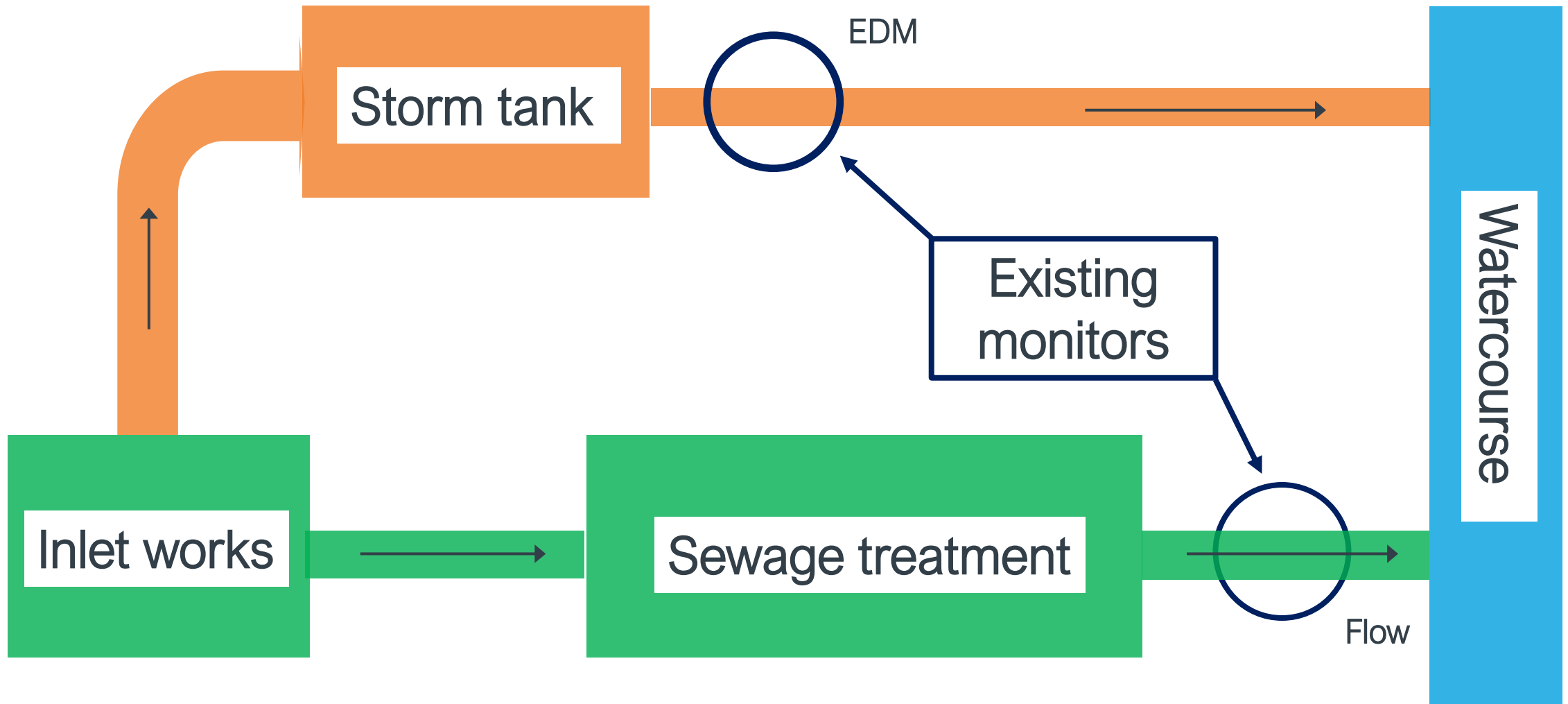
Monitors at a sewage treatment works

New monitors give precise information about compliance with flow to treatment permit conditions



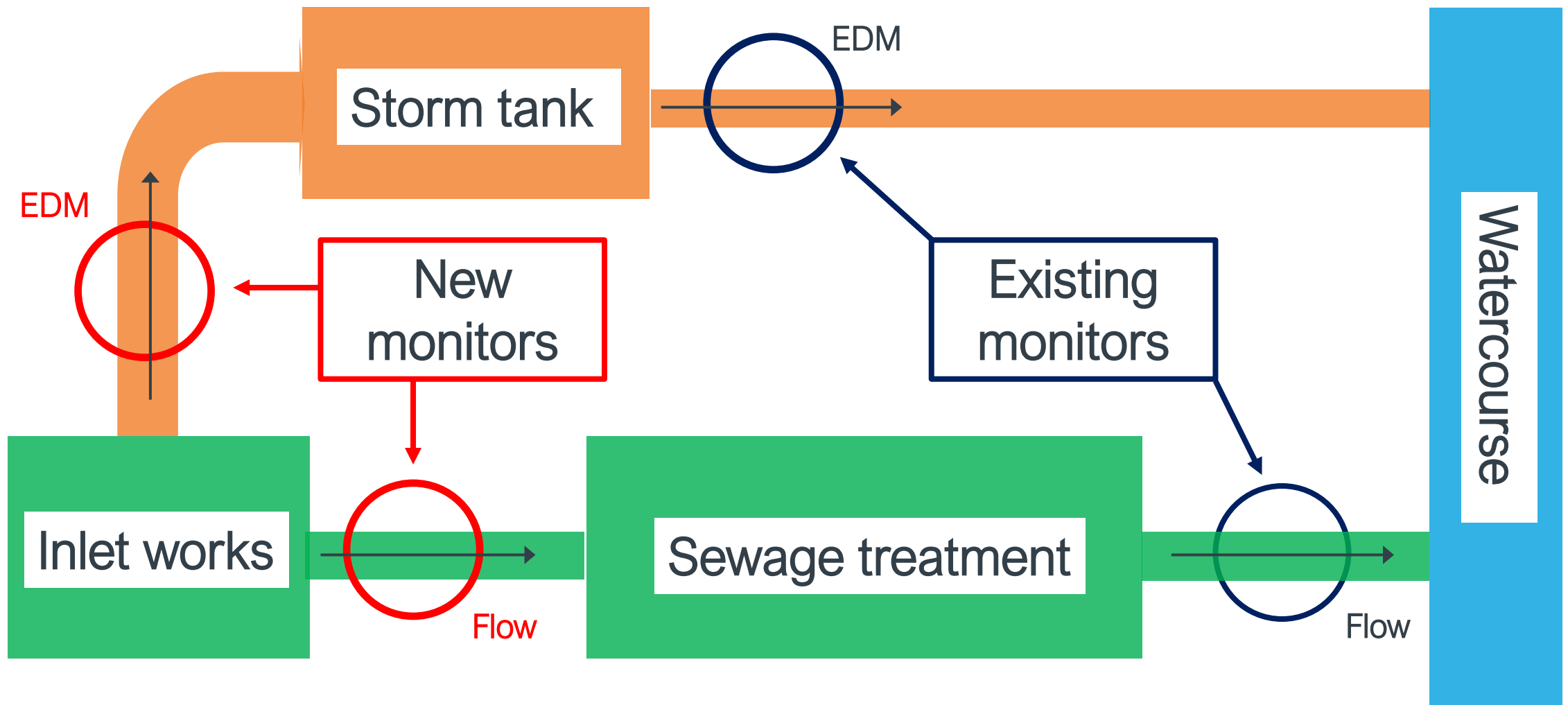
Monitors at a sewage treatment works

A typical Sewage Treatment Works



Monitors at a sewage treatment works

A typical Sewage Treatment Works



Groundwater Impacted System Management Plans (GISMPs)

We are working to help protect customers' properties and reduce the risk of groundwater entering public, private sewers and drains

We regularly inspect sewers to identify and reduce groundwater infiltration, which can lead to sewer flooding and pollutions

In areas where there is highest risk of groundwater infiltration of the sewers, following persistent heavy rain, we have developed Groundwater Infiltration System Management Plans

GISMPs will help identify the areas within the sewer catchment most susceptible to groundwater infiltration and propose solutions



Strategic Level AMP7 Work Underway

GISMP Approach Lining and Sealing

In the WODC area the following systems have GISMPs: Carterton, Clanfield, Milton-Under-Wychwood, Standlake, Witney.

The following table outlines what we currently have planned for these systems in AMP7. Our PR24 plan is still being finalised.

System	Network Remediation Undertaken	Timing/Status
Clanfield	Aim is to line and seal all of Clanfield's public network by the end of AMP7.	By the end of AMP7
Standlake	S105a sewer surveys complete (to ensure full public system visibility). Results being applied to JBA risk model. High risk assets are then due to be lined/sealed.	Begin by end of AMP7, complete in early AMP8
Witney	Large sewer contributing significant groundwater inflows in Crawley sub-catchment in process of being re-lined (complex project due to ground conditions).	By end of AMP7

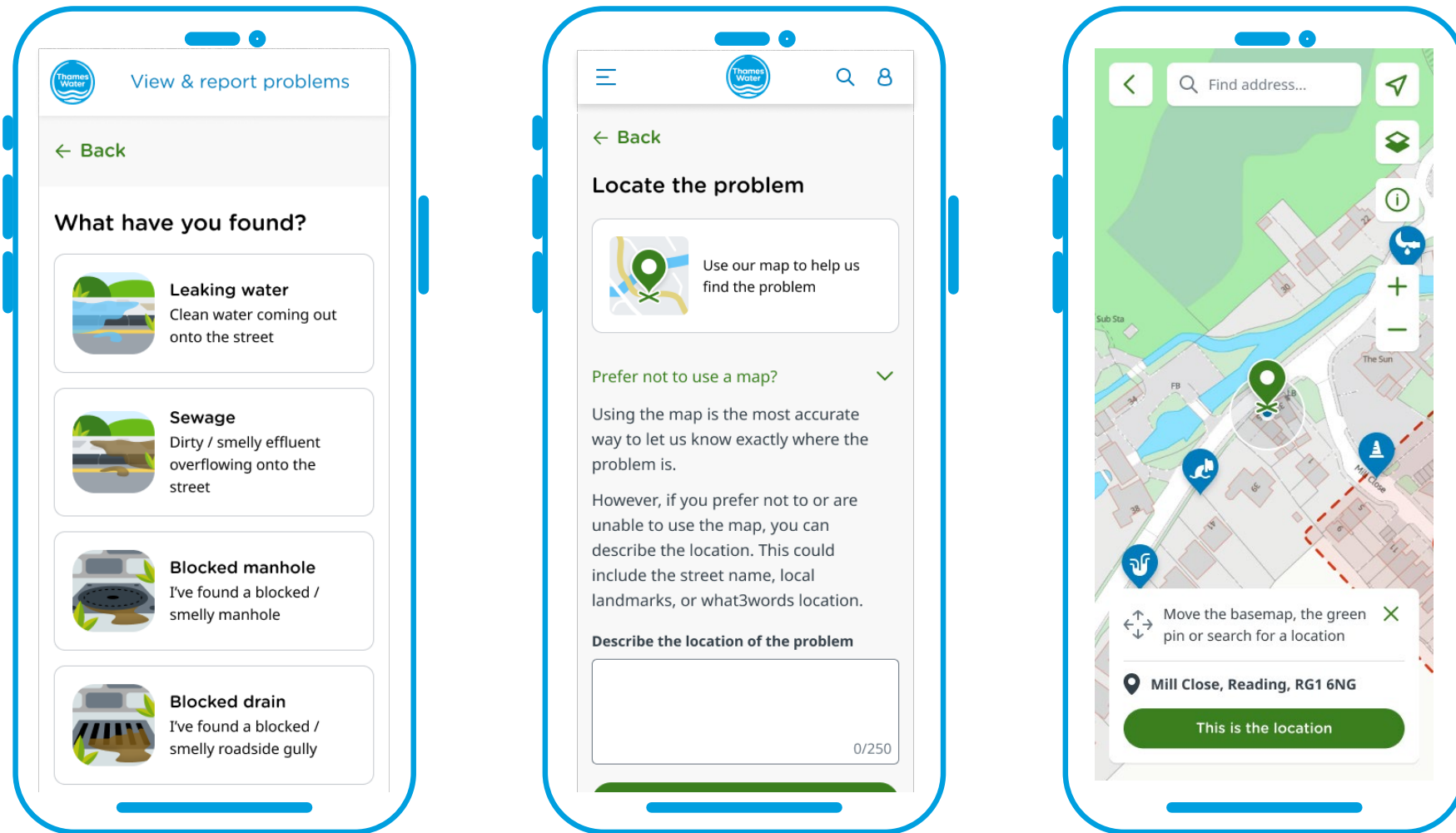
For larger systems like Witney, where the cost of sealing the high risk sewers alone is £80m, other solutions are likely to need to be explored e.g. end of pipe solutions to resolve spills or integrated catchment wetlands within systems along with lining of key parts of the system. The suitability of these solutions will need to be discussed with the EA.

Clanfield

- The plan is to fully seal the whole Thames Water foul network in Clanfield, which we hope will show a great improvement in spills. We started work in Clanfield on 16/10/2023
- We are planning 6km lining, 311 manholes being sealed, and 28 low leak covers being installed
- Works have started well with some quick win lining performed
- We have a slightly optimistic programme to deliver all outputs by next summer - but with the groundwater risks considered it's more likely to be December 24

Report a Pollution online

We are working on exciting changes to our 'report a problem' experience



Our Focus

- Visually engaging
- Clear signposting based on symptoms
- Built from user feedback
- Mobile or desktop friendly
- Wider range of waste and water problem types

Questions?