Beechingstoke Infiltration Reduction Plan Summary

This provides an update on the last year's groundwater situation, what mitigation actions, if any, were taken and a summary of our action plan to prevent flooding due to groundwater infiltration of our sewer network.

April 2024 – March 2025

Regional Summary

2024 continued to be a very wet year in the Wessex Water region, with above average rainfall in the majority of months. In particular, groundwater levels rose dramatically in September 2024, where the region recieved over 250% of the monthly average rainfall. This resulted in many catchments experiencing inundation from groundwater much earlier than usual.
Whilst December was relatively dry, above-average rainfall for the remainder of the autumn and winter meant that groundwater levels remained elevated until March, at which point the drier weather enabled the majority of catchments to recover.

Record-breaking rainfall for some this September - Met Office

Local Summary

Groundwater in Beechingstoke did not reach critical levels and the sewers were able to cope, therefore no mitigation works were carried out by Wessex Water in this part of the catchment.

Action Plan

Annual Activity
Review asset and operational data and update annual reports.
Continue monitoring system performance using telemetry, rainfall records and local groundwater levels to inform the operational response during high-groundwater periods, and to monitor changing infiltration levels in the catchment.
Proactive inspections and maintenance of sewerage assets.

Completed
Installed permanent flow meters at key pumping stations to continuously record pump performance.
Inspected public sewer network to identify points of infiltration.
Undertaken pumping station or flow surveys to analyse flows in sewers.
Reviewed incidents of sewer flooding.
Upgraded pumping stations where appropriate, to improve the reliability and performance of the site.
Updated the catchment hydraulic model.

Short Term

Undertake pro-active inspection of public sewers and manholes using CCTV to identify points of infiltration.

Use machine learning to predict flows in sewers and proactively identify blockages and other issues.

Install in-sewer monitors at key locations to better understand flows in the network.

Medium Term

Infiltration sealing of sewers and manholes, where deemed cost-effective, targeting work according to study findings.

Long Term

Identify road gullies and other impermeable areas that are connected into the foul sewers.

Inspect private gullies, drains, and manholes where applicable.

Consider sustainable solutions to rainwater management, for example above-ground attenuation and property-level interventions.

When Necessary

Implement emergency tankering procedure for preventing restricted toilet use and sewer flooding during high groundwater periods, in order to protect public health.

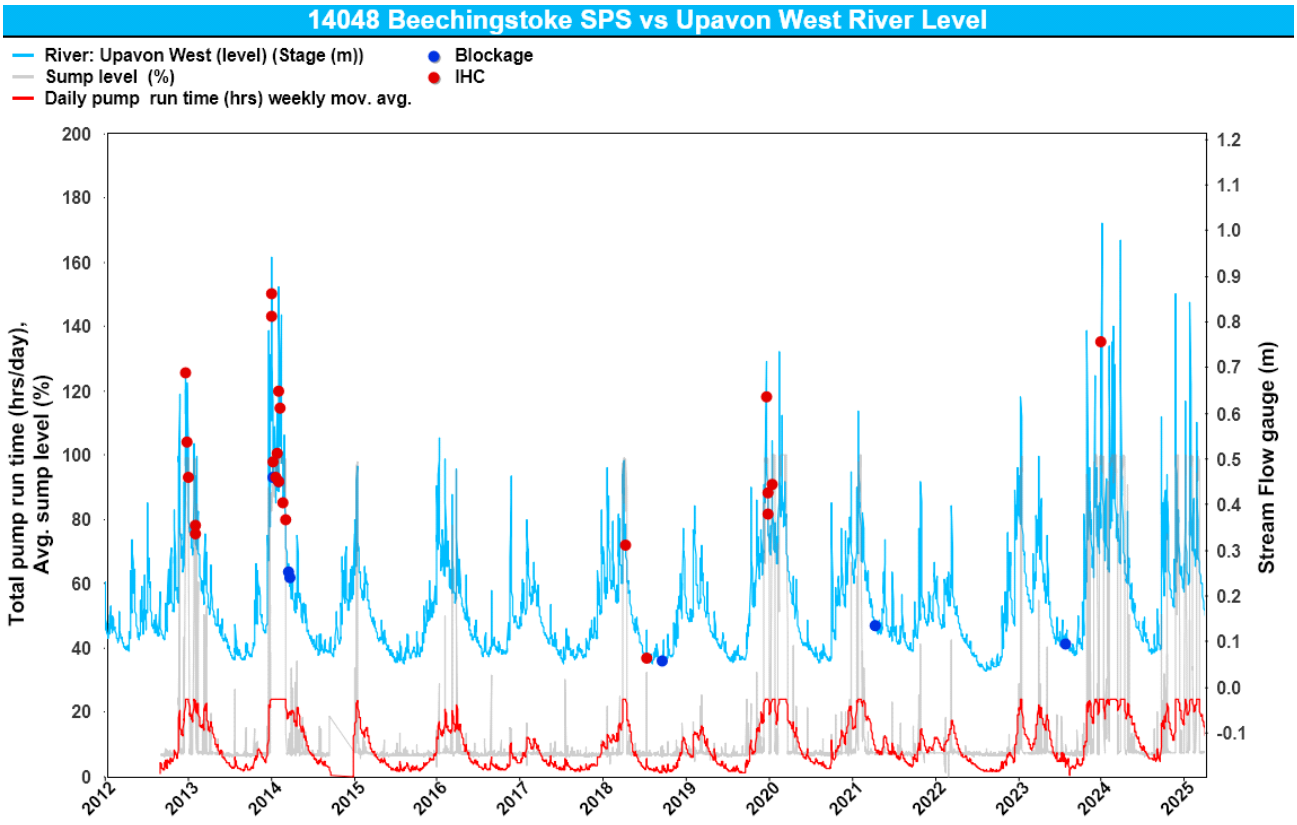
Implement Operational Mitigation Action Plan (OMAP) for discharging excess flows to the environment as a last resort, when tankering would not prevent restricted toilet use or sewer flooding, and public health is at risk.

Implement a scheme to improve the local water recycling centre (WRC).

Implement a scheme to address capacity issues in the sewer network.

Current Performance

The graph below displays the telemetry at Beechingstoke Sewage Pumping Station (SPS) against the river level as measure at Upavon West. The wet well level and pump running times coincide with periods of high groundwater levels demonstrating that the catchment is affected by infiltration. During the extreme highs of GWL, for example as seen in the winter of 2013/14, this has caused the nework to become inudated and has led to incidents of backing up and flooding due to inadequate hydraulic capacity (IHC).



Inspection and sealing since 2011

	2011-20	2020-21	2021-22	2022-23	2023-24	2024-25
Length of sewer inspected (m)	2,324	-	-	-	-	-
Length of sewer sealed (m)	0	-	-	-	-	-