

Burton and Sopley 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 received 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

The groundwater in Burton and Sopley reached very high levels during the winter however, no incidents attributed to inadequate hydraulic capacity (IHC) of the network were reported in either catchment. Tankering was undertaken for one day in November 2024 in Burton.

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.

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

Undertake pro-active cleaning (jetting) of sewers to maximise capacity.

Proactive inspections and maintenance of sewerage assets.

Completed

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

Updated the catchment hydraulic model.

Undertaken pumping station or flow surveys to analyse flows in sewers.

Reviewed incidents of sewer flooding.

Sealed sewers and manholes to prevent groundwater infiltration.

Completed (cont.)

Inspected public sewer network to identify points of infiltration.

Upgraded pumping stations where appropriate, to improve the reliability and performance of the site.

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

Short Term

Analyse flows in sewers using pumping station surveys, flow surveys and/or hydraulic modelling.

Undertake review of incidents of sewer flooding suspected to be affected by groundwater infiltration.

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

Medium Term

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

Long Term

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

Inspect private gullies, drains, and manholes where applicable.

Install permanent flow meters at key pumping stations to continuously record pump performance.

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

When Necessary

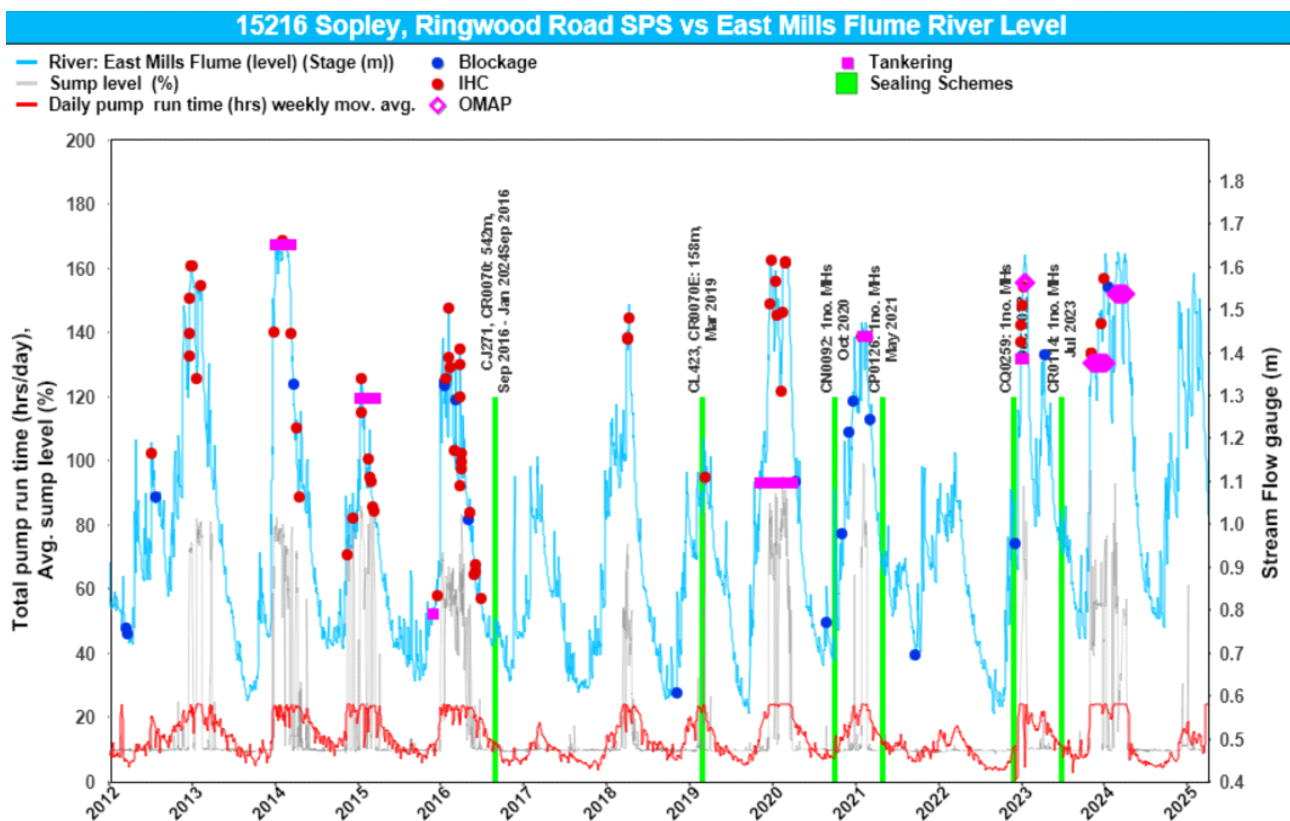
Implement emergency tankering procedure for preventing restricted toilet use and sewer flooding during high groundwater periods, in order to protect public health.

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.

Install sealed covers on manhole chambers vulnerable to overland flow or river water entering through the cover.

Current Performance

The graph below compares incidents attributed to inadequate hydraulic capacity (IHC) and blockages, against Knapp Mill River Level and Sopley sewage pumping station (SPS) performance. The catchment is significantly affected by groundwater, which can be seen by long pump run periods during the winter months. Incidents due to IHC have been reported when the groundwater level is high. The number of incidents have reduced since 2016, however tankering and the Operational Mitigation Action Plan (OMAP) were implemented in the winters of 2019/20, 2020/21, 2022/23, 2023/24 and 2024/25 to mitigate the risk of flooding, loss of service and to protect public health. Sealing was undertaken in January 2024 in the Sopley catchment and more recently in 2024/25, despite high groundwater levels, no incidents attributed to IHC were reported.



Inspection and sealing since 2011

	2011-20	2020-21	2021-22	2022-23	2023-24	2024-25
Length of sewer inspected (m)	12,249	2,276	-	-	3,693	300
Length of sewer sealed (m)	1,825	13	-	2	107	-