Dinton and Fovant 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 2023 – March 2024

Regional Summary

The Wessex region experienced incredibly wet weather across 2023-24, with higher-than-average rainfall in nine months during the period. February 2024 was both the warmest on record and the wettest in 30 years, with the 12-month sequence to the end of February being the wettest since our records began in 1911.

Groundwater levels rose rapidly during the autumn, and whilst drier weather in January 2024 provided a brief reprieve, levels remained high for the majority of the winter.

Warmest February on record for England and Wales - Met Office

Local Summary

The year was exceptionally wet, with groundwater reaching critical levels. Several incidents reported in Fovant caused by inadequate hydraulic capacity (IHC) were reported as a result of sewer network inundation.

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.
Undertake pro-active cleaning (jetting) of sewers to maximise capacity.
Proactive inspections and maintenance of sewerage assets.

Completed
Used machine learning to predict flows in sewers and proactively identify blockages and other issues.
Installed permanent flow meters at key pumping stations to continuously record pump performance.
Investigated nature-based solutions in the catchment.
Updated the catchment hydraulic model.
Sealed sewers and manholes to prevent groundwater infiltration.
Inspected public sewer network to identify points of infiltration.

Completed (cont.)

Considered sustainable solutions to rainwater management.

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.

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

Short Term

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.

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

Long Term

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

When Necessary

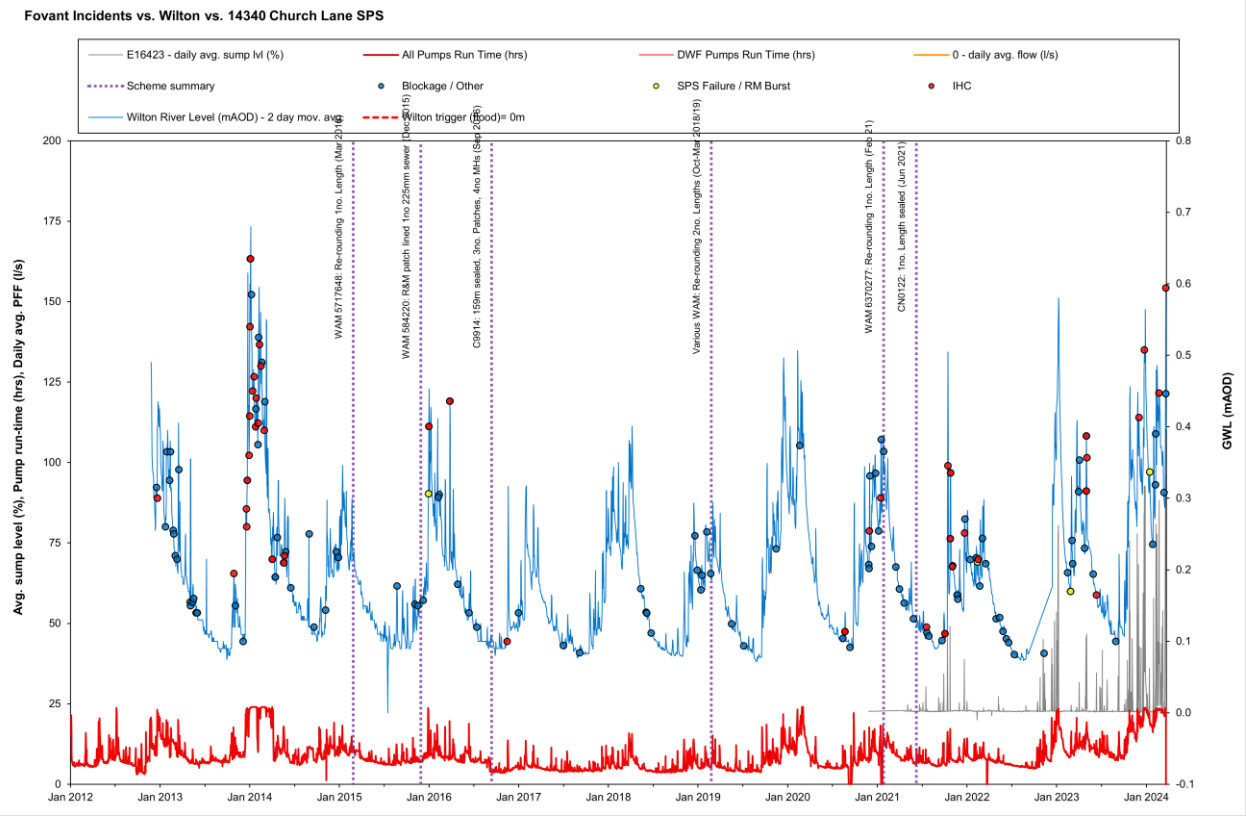
Implement emergency tankering procedure for preventing restricted toilet use and sewer flooding during high groundwater periods, in order to protect public health.

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 below graph shows incidents in Fovant against river level (as measured at Wilton river gauge) and the pump run times at Church Lane sewage pumping station (SPS). There is a strong correlation between high river levels in recent years and high pump run times. Incidents in the past two years due to inadequate hydraulic capacity (IHC) have generally occurred on days experiencing heavy rainfall but there is clearly significant infiltration in the catchment, as found in recent sewer surveys.



Inspection and sealing since 2011

	2011-20	2020-21	2021-22	2022-23	2023-24
Length of sewer inspected (m)	15,192	-	2,126	224	-
Length of sewer sealed (m)	820	9	840	220	335