

# Shapwick Edington 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

River levels in 2023/24 were exceptionally high again, comparable to 2022/23 however, no flooding attributed to inadequate hydraulic capacity (IHC) was reported in either Shapwick or Edington, in contrast with last year. Wet well levels at Shapwick were high for prolonged periods. Investigation into the pumps and rising main at Shapwick Sewage Pumping Station (SPS) was undertaken in March 2023/24 to improve performance.

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

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

Proactive inspections and maintenance of sewerage assets.

### Completed

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

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

### Completed (cont.)

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

Investigated nature-based solutions in the catchment.

Updated the catchment hydraulic model.

Inspected public sewer network to identify points of infiltration.

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

Sealed sewers and manholes to prevent groundwater infiltration.

### Medium Term

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

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

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

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.

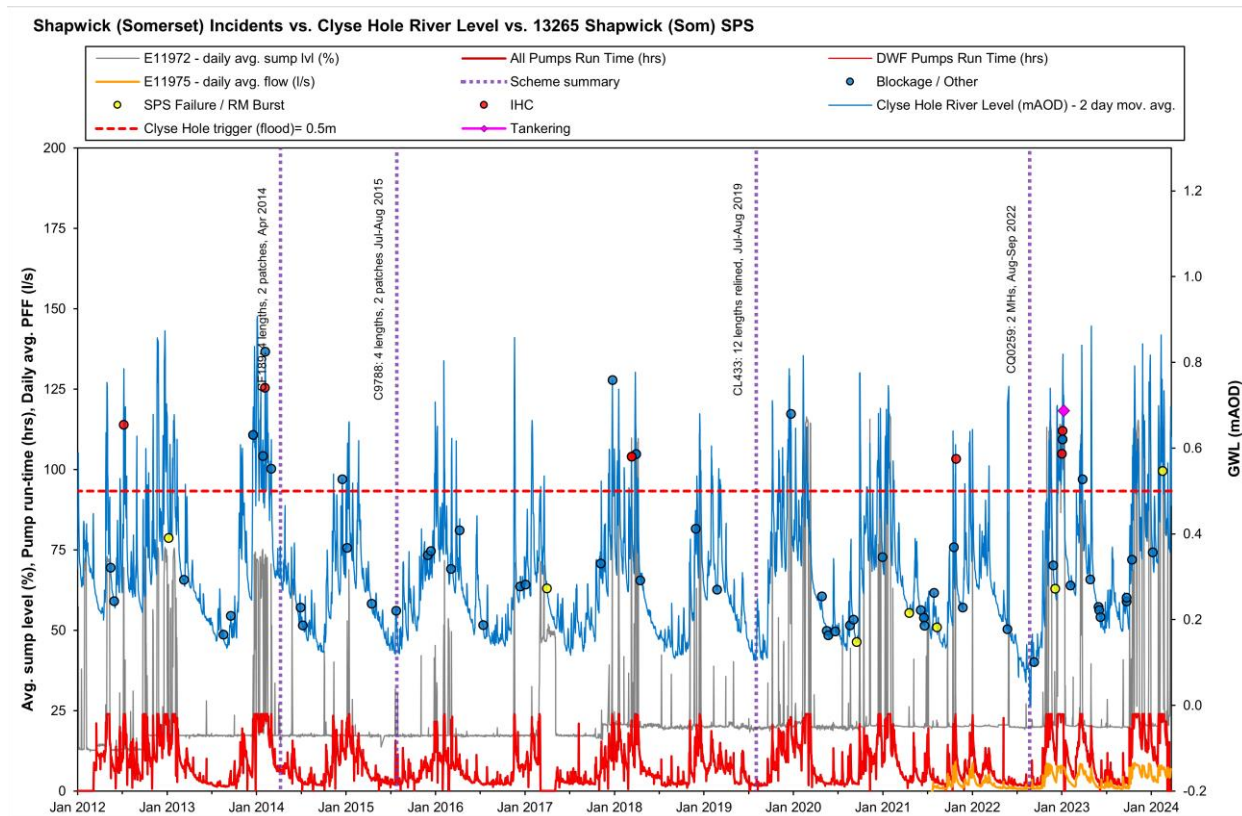
### When Necessary

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.

### Current Performance

The below graph shows incidents against river level (as measured at Clyse Hole river gauge) and the telemetry at Edington Sewage Pumping Station (SPS). Although a significant amount of sewer rehabilitation has been completed, infiltration is still present in the catchment, demonstrated by the fact the levels at Edington and Shapwick SPSs were still high for prolonged periods of time in the winter months. River levels were comparable to in 2022/23, but there was no flooding attributed to inadequate hydraulic capacity (IHC) in Edington or Shapwick.



### Inspection and sealing since 2011

	2011-20	2020-21	2021-22	2022-23	2023-24
Length of sewer inspected (m)	16,642	-	7,839	652	276
Length of sewer sealed (m)	1,484	1	1	13	-