Downton 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 reached critical levels in Downton during the winter of 2024/25, with incidents attributed to inadequate hydraulic capacity (IHC) being reported in the South Lane Sewage Pumping Station (SPS) catchment. However the Operational Mitigation Action Plan (OMAP) was not instigated.

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.
Installed permanent flow meters at key pumping stations to continuously record pump performance.
Reviewed incidents of sewer flooding.
Investigated nature-based solutions in the catchment.
Implemented a scheme to improve the local water recycling centre (WRC).

Completed (cont.)
Implemented a scheme to address capacity issues in the sewer network.
Inspected public sewer network to identify points of infiltration.
Sealed sewers and manholes to prevent groundwater infiltration.
Identified road gullies and/or impermeable areas connected to the foul network.
Inspected private gullies, drains or manholes to identify points of infiltration.
Undertaken pumping station or flow surveys to analyse flows in sewers.
Highway outfalls inspected and cleared of silt build-up
Upgraded pumping stations where appropriate, to improve the reliability and performance of the site.

Short Term
Implement a scheme to improve the local water recycling centre (WRC).
Implement a scheme to address capacity issues in the sewer network.

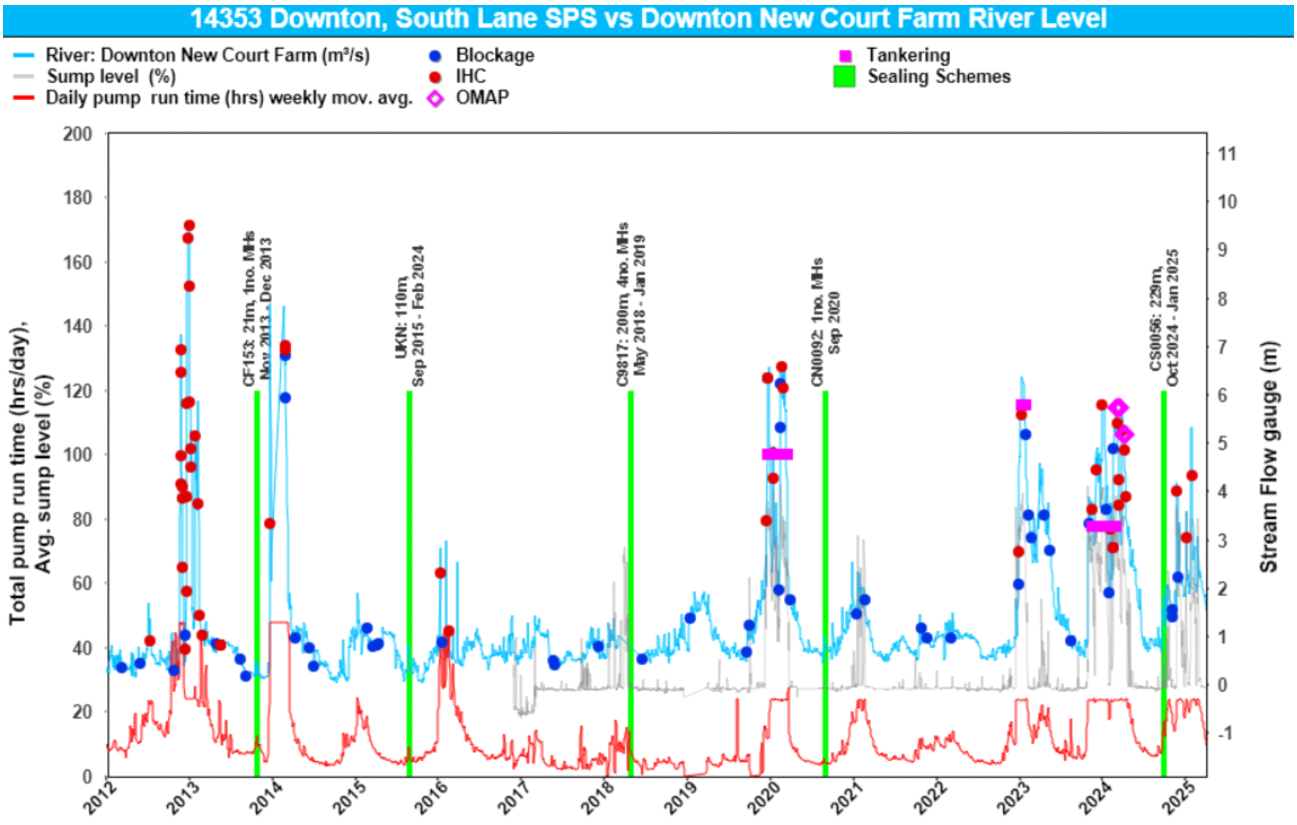
Medium Term
Undertake pro-active inspection of public sewers and manholes using CCTV to identify points of infiltration.
Infiltration sealing of sewers and manholes, where deemed cost-effective, targeting work according to study findings.
Implement Nature-based Solutions in the wider catchment.

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.
Update the catchment hydraulic model.

Current Performance

The graph below compares operational incidents with telemetry at Downton South Lane Sewage Pumping Station (SPS) and river levels at New Court Farm. Incidents attributed to inadequate hydraulic capacity (IHC) have occurred only when groundwater levels are exceptionally high indicating groundwater inundation is the main cause of flooding within the catchment. Extensive sewer lining, manhole sealing and pump station improvements have been carried out in the catchment, which have reduced the number of incidents attributed to IHC. However, during the winters of 2019/20, 2022/23, 2023/24 & 2024/25, properties upstream of South Lane SPS reported further incidents due to IHC. Groundwater levels during these winters were comparable to 2013/14 and the SPS was surcharged for a prolonged period of time.



Inspection and sealing since 2011

	2011-20	2020-21	2021-22	2022-23	2023-24	2024-25
Length of sewer inspected (m)	9,025	-	-	2,025	1,471	316
Length of sewer sealed (m)	670	22	-	22	22	609