Piddle Valley 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 the catchment, with the groundwater relief pumping stations spilling for prolonged periods during the winter. However, this was not enough to relieve the network during the wettest periods, requiring the Operational Mitigation Action Plans (OMAPs) at Piddlehinton and Piddletrenthide to be instigated to prevent flooding and restricted toilet use and to protect public health.

Action Plan

Annual Activity
Review asset and operational data and update annual reports.
Report overflow spill count and duration to the Environment Agency annually.
Report water quality sampling results to the Environment Agency annually.
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.
Develop and maintain a Local Action Plan during periods of high groundwater.

Completed
Identified road gullies and/or impermeable areas connected to the foul network.
Installed in-sewer monitors at key locations to better understand flows in the network.
Implemented a scheme to address capacity issues in the sewer network.

Completed (cont.)

Inspected public sewer network to identify points of infiltration.

Reviewed incidents of sewer flooding.

Sealed sewers and manholes to prevent groundwater infiltration.

Investigated nature-based solutions in the catchment.

Highway outfalls inspected and cleared of silt build-up

Considered sustainable solutions to rainwater management.

Inspected private gullies, drains or manholes to identify points of infiltration.

Undertake remedial works at a property-level.

Updated the catchment hydraulic model.

Communicated with other authorities during times of elevated groundwater levels and promoted a multiple agency approach.

Short Term

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

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

Construct a nature based solution (NbS) (wetland) to treat the groundwater inundation relief discharges, subject to approval. This is part of a trial to be implemented over the next couple of years that is being agreed with the government. We are proposing one large NbS to treat the two Piddletrenthide discharges, rather than two individual NbS. We are also looking to expand to NbS scheme to deal with inundation from within the Church Lane part of the catchment too

Implement Nature-based Solutions in the wider catchment.

Long Term

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

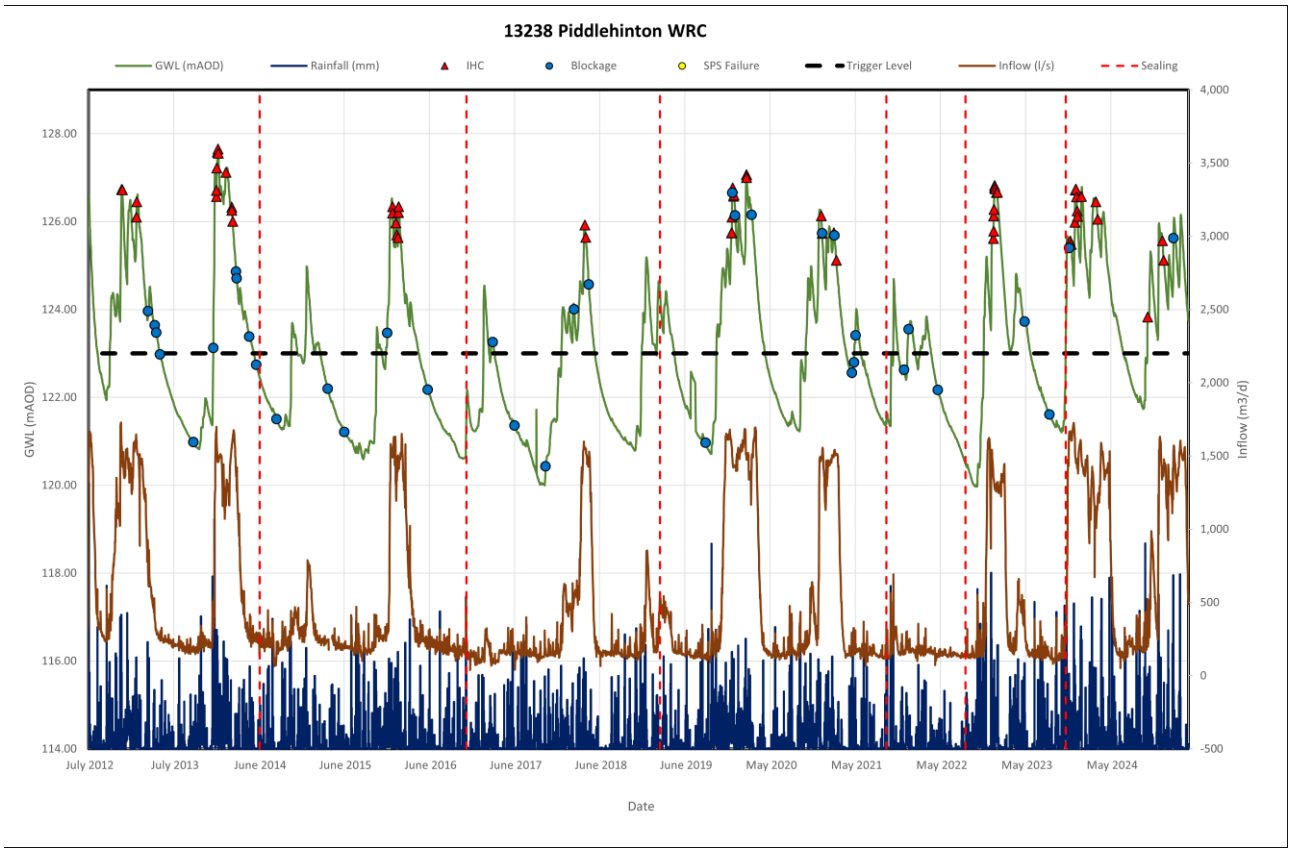
When Necessary

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.

Current Performance

The graph below demonstrates the correlation between the inflow at Piddlehinton water recycling centre, groundwater levels at Barcombe Farm Borehole since the installation of the and average rainfall taken from three nearby rain gauges (Friar Waddon, Evershot and Kingstag Ridge). Whilst infiltration sealing has been undertaken on several occasions, the catchment continues to be inundated during high groundwater periods.



Inspection and sealing since 2011

	2011-20	2020-21	2021-22	2022-23	2023-24	2024-25
Length of sewer inspected (m)	30,368	78	-	1,730	1,400	1,019
Length of sewer sealed (m)	333	-	-	-	249	-