Kaber

Infiltration Reduction Plan

Last Updated: October 2026



United Utilities

Water for the North West

Executive summary

Kaber in Cumbria is in the monitoring stage (see Figure 1) to address infiltration and reduce spills at the Kaber Wastewater Treatment Works Storm Overflow. An initial desktop assessment could not conclude if there were indications of infiltration. Later CCTV surveys found evidence of infiltration, and interventions were completed in Summer/Autumn 2025.

As groundwater infiltration has been found but is yet to be confirmed as the leading cause of spills to the environment, interventions have been completed to address the localised infiltration identified during surveys. As more is known on the outcome of the interventions, this Infiltration Reduction Plan will be updated accordingly.

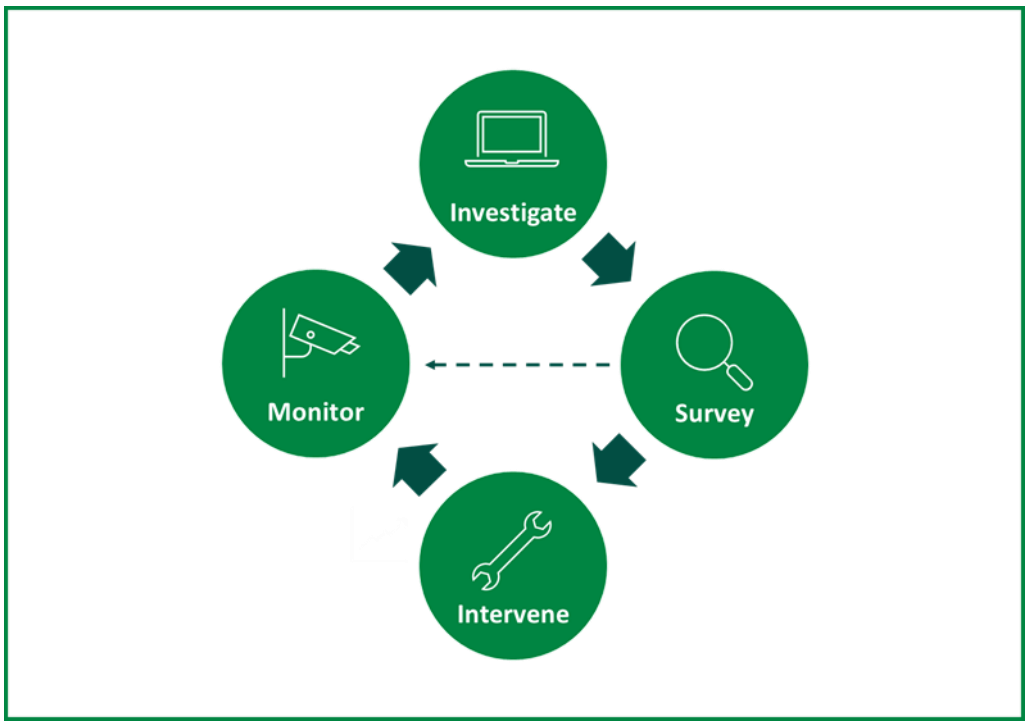


Figure 1: Iterative process to investigate, identify and address ground water infiltration

Context

Sometimes, water can enter our wastewater pipes, for which they were not designed to receive. One source of these additional flows can be groundwater infiltration which can occur through pipe defects, leaky joints, or issues with manholes. Extra water in the network can cause the sewer capacity to be exceeded, leading to sewer flooding or contributing to storm overflow activations.

As part of our ongoing work to maintain an effective network and achieve Better Rivers for the North West, our Infiltration Reduction Plans demonstrate our efforts to date and next steps to address infiltration and inflows in the catchment. This plan covers the Kaber drainage area and its associated overflow, Kaber Wastewater Treatment Works Storm Overflow. In 2022, infiltration was identified as a potential leading cause of the storm overflow discharging. The purpose of this plan is to capture the process to investigate, identify and address significant groundwater infiltration.

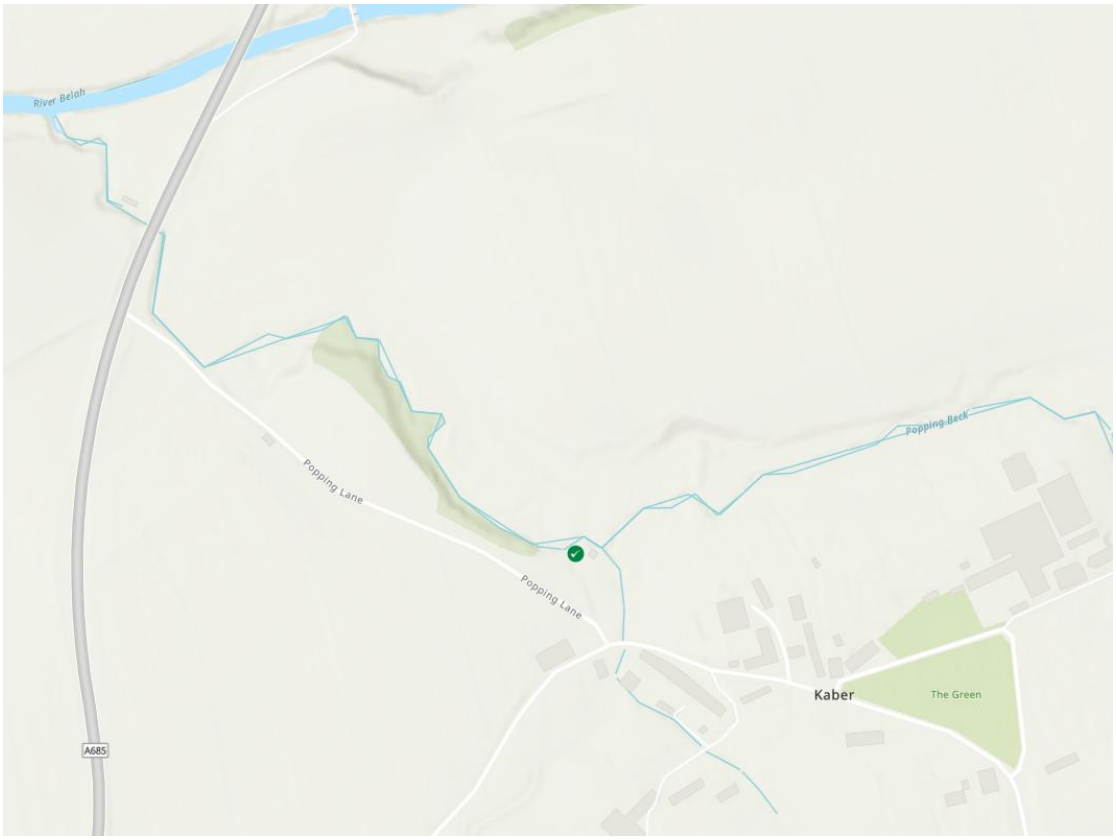


Figure 2: United Utilities – Better Rivers – Storm Overflow Map (October 2024). The green dot marks the Kaber Wastewater Treatment Works Storm Overflow

Kaber lies in the Eden District of Cumbria, around 32km southeast of Penrith. It is situated south of the River Belah and its tributary, Popping Beck.

Investigation

An initial desktop study was attempted using available data to understand the extent of infiltration in the sewer network of the drainage catchment. There was limited data available for Kaber; therefore, conclusions on the presence of infiltration could not be drawn at this level.

Survey

To check for the presence of infiltration, the first stage of CCTV surveys was completed in Autumn 2024. This survey covered 330m of the sewer network. No infiltration was detected; therefore, no interventions were recommended.

A second stage of CCTV surveys was completed in Winter 2024. 387m of the sewer network was surveyed, and infiltration was found in some lengths. Interventions were recommended to seal the network.

The network was also checked for inflows; no lateral connections are suspected of receiving flows not bound to receive.

Intervention

As recommended, remedial works were completed in Summer/Autumn 2025. This involved lining 71m of the sewer network to prevent infiltration.

Next steps

Kaber is now in the monitoring stage of identifying and addressing infiltration. The site will follow the iterative process displayed in Figure 1 to monitor the efficacy of the completed interventions and identify new points of infiltration, should they arise.