Whitemore

Infiltration Reduction Plan

Last Updated: October 2026



United Utilities

Water for the North West

Executive summary

Whitemore in Cheshire is currently in the monitoring stage (see Figure 1) to address infiltration and reduce spills at the Whitemore Pumping Station Storm Overflow. An initial desktop assessment concluded that groundwater infiltration was possible in this area. CCTV surveys subsequently confirmed the presence of infiltration and interventions to address this were completed in winter 2025. Further surveys were then carried out and no further remedial work was found to be necessary.

As groundwater infiltration has been found but is yet to be confirmed as a leading cause of spills to environment, interventions have been assessed and completed to address the localised infiltration which was identified at the survey stage.

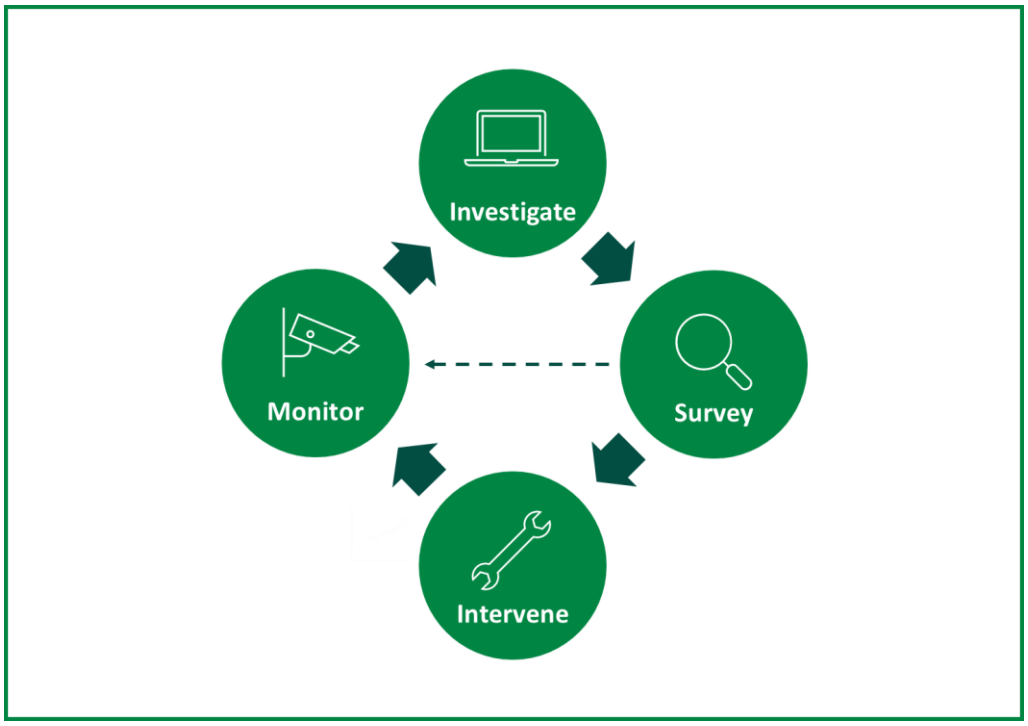


Figure 1: Iterative process to investigate, identify and address groundwater infiltration

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 Whitemore drainage area and its associated overflow, Whitemore Pumping Station Storm Overflow. Infiltration has been 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.

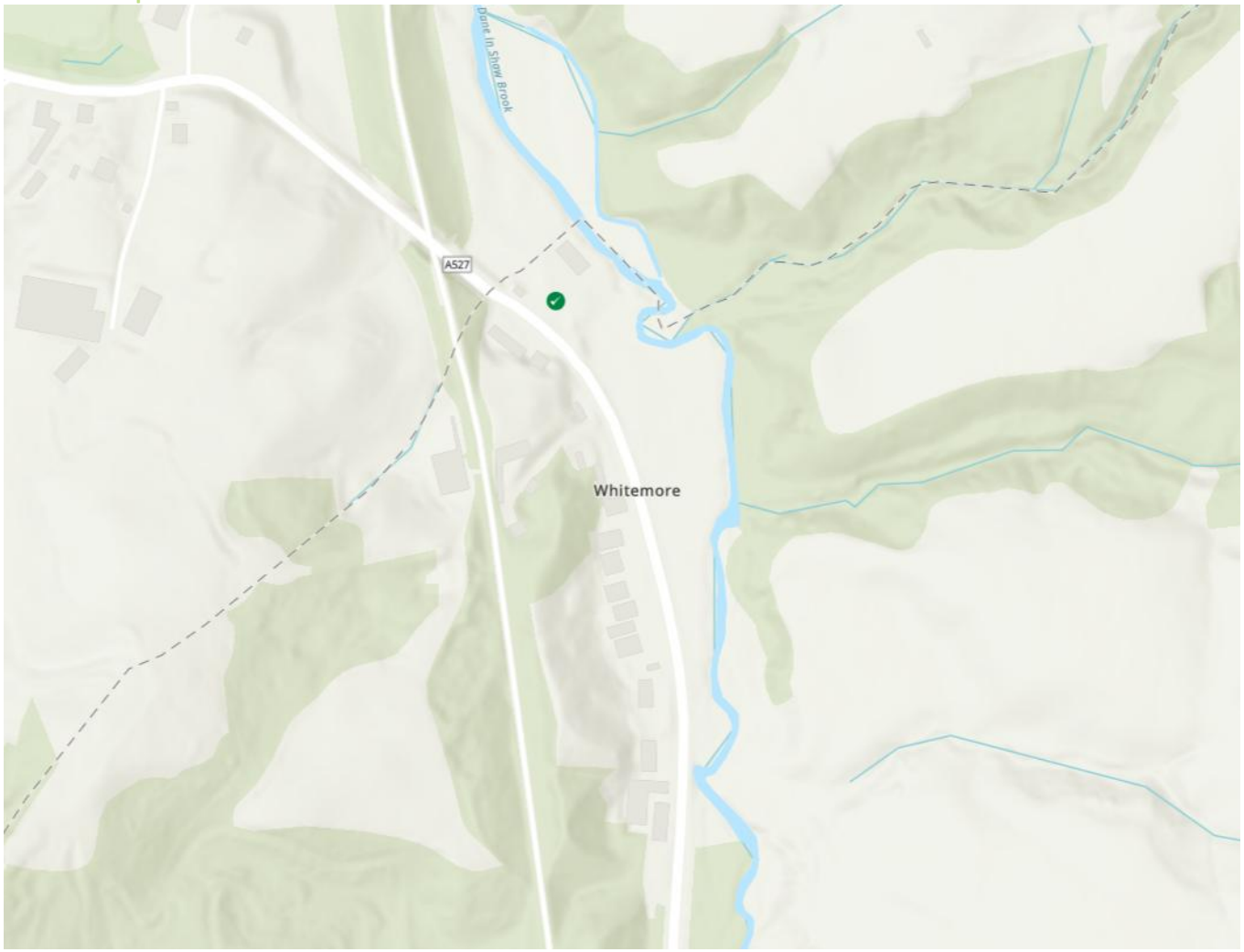


Figure 2: United Utilities – Better Rivers – Storm Overflow Map (November 2024). The green dot marks the Whitemore Pumping Station Storm Overflow

Whitemore sits south of Congleton and north of Biddulph. It features a small area of housing and is bordered to the east by Biddulph Brook, a tributary of the River Dane.

Investigation

An initial desktop study was undertaken using available data to understand the extent of infiltration in the sewer network of the drainage catchment. The following data (where available) was analysed to determine the scale and location of potential infiltration:

- Relevant flow and depth data
- Operational information
- MCERTS data
- Hydraulic models of the catchment
- River levels
- Groundwater (borehole) data
- Spill analysis
- Topographical and sewer maps

The assessment concluded that groundwater infiltration was possible due to a constant flow into the pumping station's wet well with little change throughout the day. Additional flows could also be due to slow response runoff.

From these findings, it was recommended that CCTV surveys be completed to check for the presence of infiltration and identify any land drainage connected into the sewer, which would be assessed for removal.

Survey

CCTV surveys confirmed the presence of infiltration, and interventions were recommended as a result.

Intervention

As recommended, remedial works were completed in winter 2025. This involved sealing a manhole via grout injection to prevent infiltration.

Further CCTV surveys were carried out after the remedial works were completed, and no additional remedial work was found to be necessary.

Next steps

Whitemore is in the monitoring stage of our plan to identify and address infiltration. We will continue to monitor the network to assess the effectiveness of the completed interventions and identify any new sources of infiltration should they arise.