

Withnell Fold

Infiltration Reduction Plan

Last Updated: November 2024



Executive summary

Withnell Fold in Lancashire is currently in the survey stage (see Figure 1) to address infiltration and reduce spills at the Withnell Fold Pumping Station Storm Overflow (CHR0065SO). A desktop assessment concluded that groundwater infiltration is unlikely. Surveys are underway to clarify this.

If groundwater infiltration is found to be a leading cause of spills, interventions will be assessed and this Infiltration Reduction Plan will be updated accordingly. If not, then the plan will end at the investigation stage and no further iterations of this plan will be published.

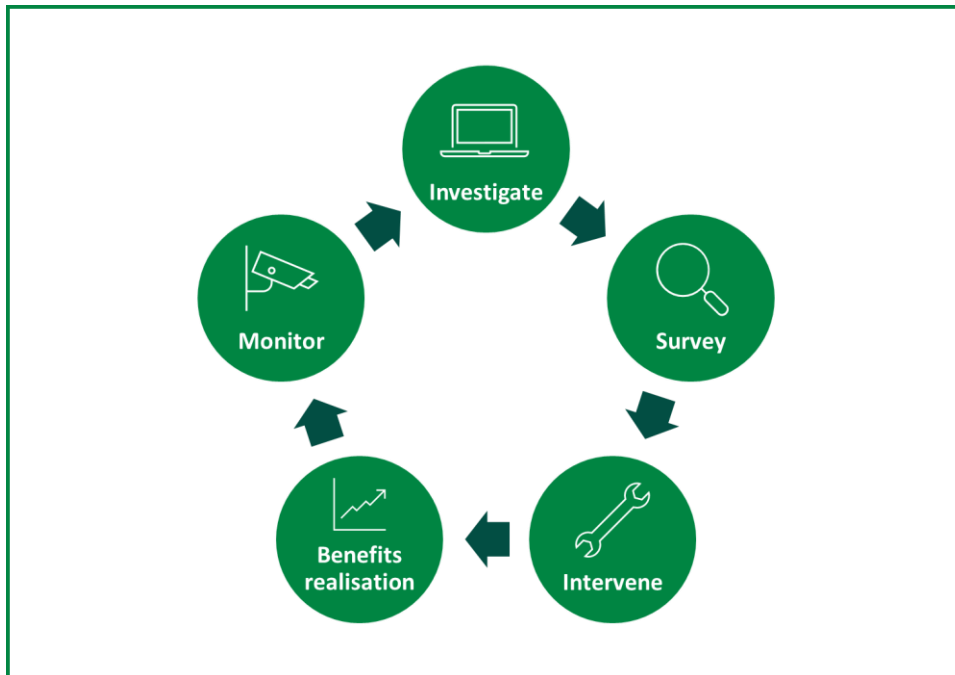


Figure 1: Iterative process to investigate, identify and address groundwater infiltration

Context

Sometimes, water can enter our wastewater pipes that 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 Withnell Fold PS drainage area and the associated overflow the Withnell Fold Pumping Station Storm Overflow (CHR0065SO). In 2023, infiltration was identified as a potential leading cause of the storm overflow discharging. The purpose of this plan is to further investigate and address this.

If groundwater infiltration is found to be a leading cause of spills, interventions will be assessed and this Infiltration Reduction Plan will be updated accordingly. If not, this plan will end at the investigation stage and next steps will be processed through other relevant workstreams.

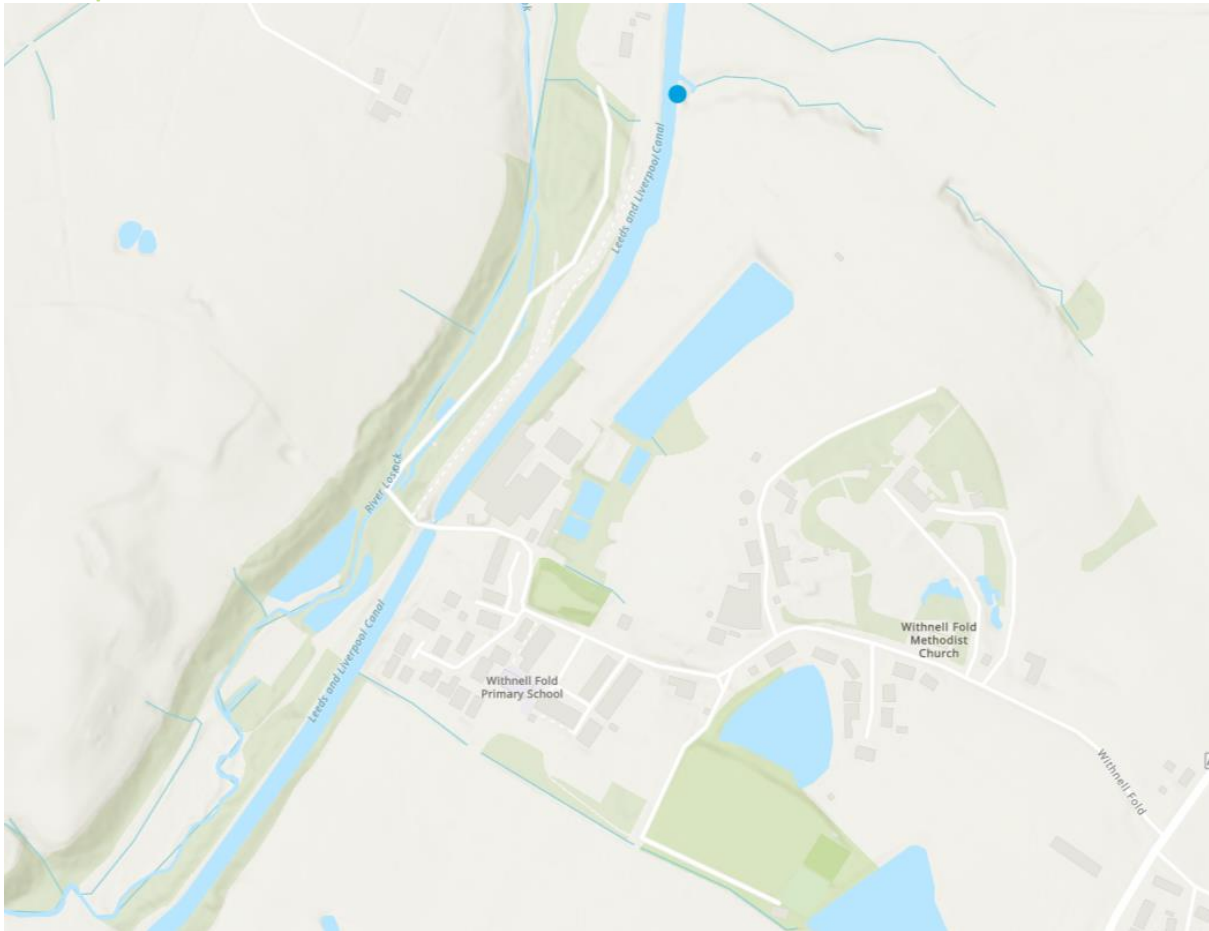


Figure 2: United Utilities – Better Rivers – Storm Overflow Map (October 2024). The blue dot marks the Withnell Fold Pumping Station Storm Overflow.

Withnell Fold is a hamlet in Lancashire between Preston, Chorley and Blackburn. It lies on the Leeds Liverpool canal surrounded by undulating, low-lying farmland.

Investigate

Investigations into the likelihood of infiltration at Withnell Fold determined that groundwater infiltration was highly unlikely.

Survey

Despite the investigation determining that groundwater infiltration is unlikely, CCTV surveying of the area is planned for Winter 2024 to identify possible infiltration and inflows to the sewer. This may be extended to Winter 2025 if surveying is not conclusive. The CCTV survey information will then be assessed using Artificial Intelligence to identify outstanding infiltration and inflow issues that need addressing.

Next steps

Withnell Fold is currently in the surveying stage of identifying and addressing infiltration (see Figure 1). If the CCTV survey reveals groundwater infiltration, interventions will be considered, and the site will follow an iterative intervention regime to monitor the efficacy of the solution. Remedial works at Withnell Fold could include, but not be limited to, relaying sewers, lining sewers, sealing manholes or disconnecting inflows.