

**Hayton**

# **Infiltration Reduction Plan**

**Last Updated: March 2025**



## Executive summary

Hayton in Cumbria is currently in the monitoring stage (see Figure 1) to address infiltration and reduce spills at the Hulton Lane Ends Wastewater Treatment Works Storm Overflow (016950037SO). A desktop assessment concluded that groundwater infiltration in the catchment is unlikely, and surveys have confirmed this. Therefore, no interventions are required, and the site will be monitored.

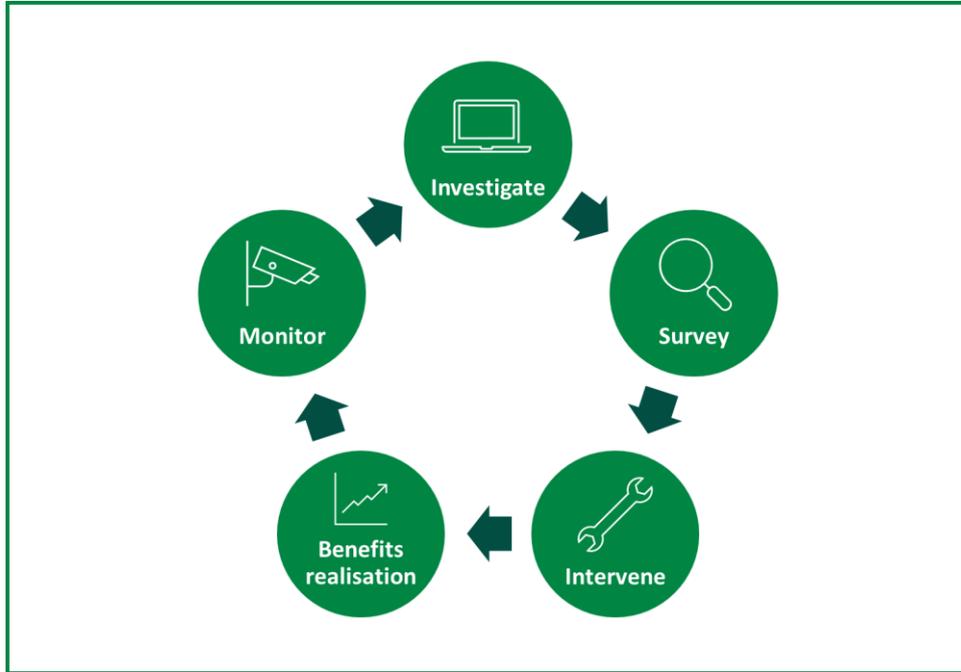


Figure 1: Iterative process to investigate, identify and address groundwater infiltration

## 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 Hayton drainage area and the associated overflow Hayton Wastewater Treatment Works Storm Tank Overflow. In 2022, 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.



**Figure 2:** United Utilities – Better Rivers – Storm Overflow Map (October 2024). The most northerly green triangle marks the Hayton Wastewater Treatment Works Storm Tank Overflow.

## Investigate

A 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 is unlikely in the catchment.

## Survey

Despite the desktop assessment determining groundwater infiltration as unlikely, to confirm this, 267m of CCTV sewer surveys were completed in Winter 2024. The CCTV surveys were assessed using Artificial Intelligence and reviewed by an engineer to identify points of infiltration. It was determined that no interventions are required in the areas surveyed.

## Next steps

Hayton will remain in the monitoring stage of identifying and addressing infiltration (see Figure 1) to identify emerging points of infiltration, should they arise.