

Great Asby

Infiltration Reduction Plan

Last Updated: September 2026



Executive summary

Great Asby in Cumbria is currently in both the survey and intervention stages (see Figure 1) of identifying infiltration, with the aim of reducing spills at the Great Asby Wastewater Treatment Works Storm Overflow. An initial desktop assessment was not conclusive but did indicate possible infiltration. This was supported by the presence of watercourses crossing the sewer network.

Surveys were completed during Winter/Spring 2026 and infiltration was found to be present. As a result, remedial works are being planned to address the identified issues. A second phase of survey work is also being planned.



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 show our efforts to date and next steps to address infiltration and inflows in the catchment. This plan covers the Great Asby drainage area and its associated overflow, the Great Asby Wastewater Treatment Works Storm Overflow. In 2024, 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.

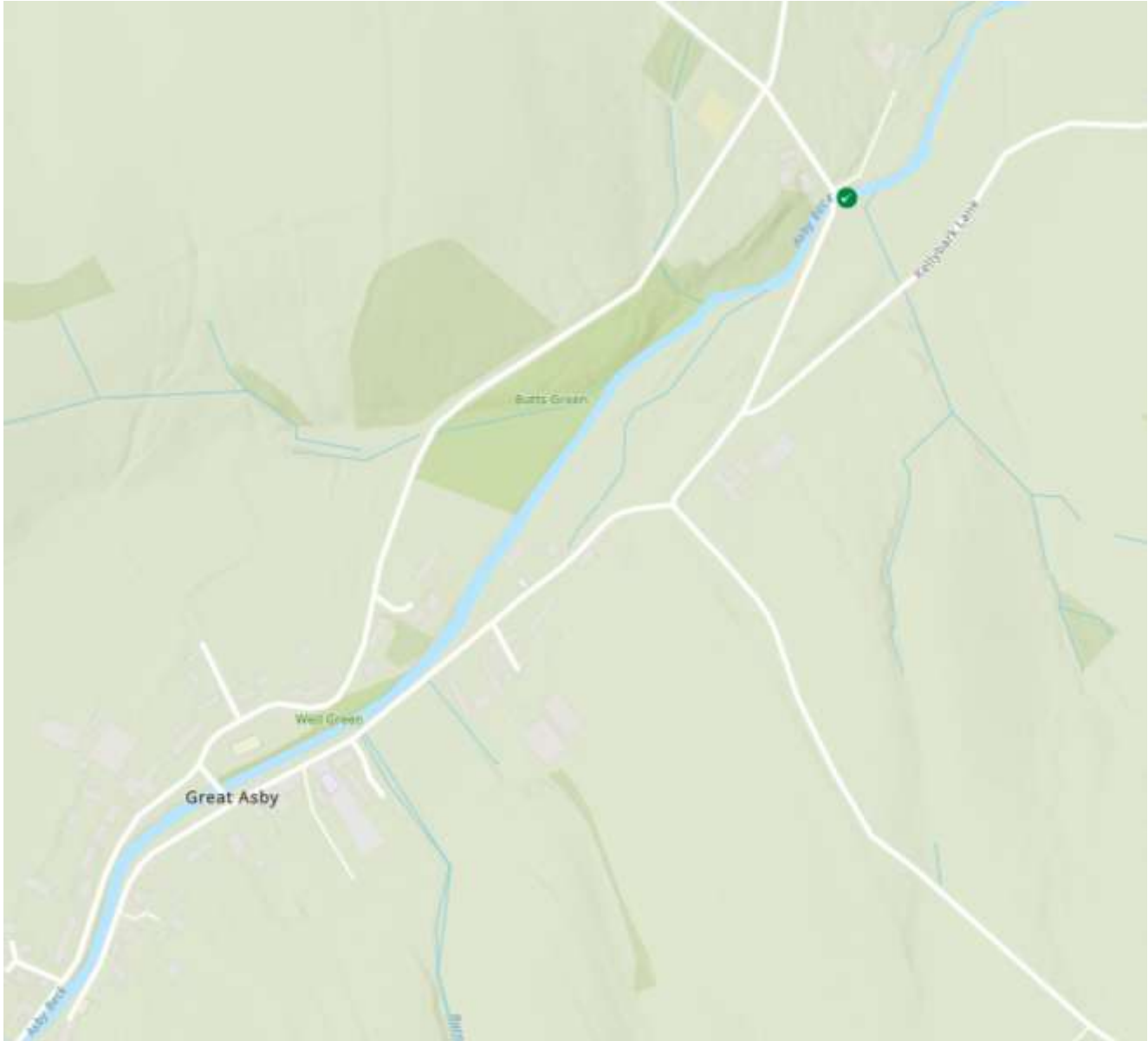


Figure 2: United Utilities – Better Rivers – Storm Overflow Map (September 2024). The green dot marks the Great Asby Wastewater Treatment Works Storm Overflow

Great Asby is a village in Cumbria, historically part of Westmorland. It is situated within the Westmorland Dales, now included in the Yorkshire Dales National Park. A gently undulating landscape, land use is primarily pastoral agriculture. Asby Beck runs through the village.

Investigate

An initial desktop study was undertaken using available data to understand the likely 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 desktop investigation was inconclusive but did indicate possible infiltration. This included the identification of two locations where the sewer network crossed a watercourse, where infiltration was possible. Potential interactions of the watercourse with the sewer via highway gullies or defects could also contribute to flows in the network.

From these findings, it was recommended that CCTV surveys be completed in the two locations where the network crosses the river, and to observe if runoff enters manholes at the start of the network. CCTV surveys can also identify if there is land drainage connected into the sewer, which would be assessed for removal.

Survey

1,164m of sewer network was surveyed in Winter/Spring 2026 and infiltration was found to be present. As a result, remedial works are being planned to address the identified issues. A second phase of survey work is also being planned.

Intervention

Remedial works are being planned to address infiltration found during the first phase of survey work.

Next steps

Great Asby is currently in both the survey and intervention stages of identifying and addressing infiltration. The site will follow the iterative process displayed in Figure 1 to confirm whether infiltration is the leading cause of spills to the environment. As more is known on the outcome of the remedial works, this Infiltration Reduction Plan will be updated accordingly.