

Cromhall Infiltration Reduction Plan Summary

This provides an update on the last year's groundwater situation, what mitigation actions, if any, were taken and a summary of our action plan to prevent flooding due to groundwater infiltration of our sewer network.

April 2019 – March 2020

Following above average rainfall in June, the summer of 2019 was relatively dry. However, in late Autumn 2019 regional groundwater levels rose sharply and remained high throughout the winter, reaching the highest levels since 2014. February 2020 was particularly wet with 151mm of regional rainfall equating to 228% of the monthly average, as well as the average annual rainfall for the preceding 12 months being 122% of the long-term average.

Action Plan

Annual activity

- Stakeholders meeting to establish roles and responsibilities with local authorities.
- Review data, update reports and meet with stakeholders for an annual update and to share findings.
- Continued monitoring of telemetry.
- Promote a multiple agency approach particularly during times of high groundwater level.

Completed to date

- Put in place a procedure for recording, investigating and resolving incidents.
- Pro-actively inspected public sewers and identified any infiltration using CCTV.
- Customer engagement on sewer overloading and the need for risk-based approach to improvements.
- Undertook pro-active maintenance and jetting of vulnerable sewers to maximise capacity where necessary.
- Wessex Water infiltration [video](#) added to website.
- Sewer and manhole lining of the public system where proven to be cost effective.
- Review existing regional borehole data.
- Routinely reviewed telemetry compared with borehole data and other factors to assess residual levels of infiltration.
- Carried out pump station surveys and updated asset records where necessary.
- Risk modelling of Wessex Water assets to plan which catchments require proactive surveys as set out in Sewerage Risk Management Manual.
- Analysed flows in the sewers, using historic and current telemetry, rainfall, flow surveys and modelling where appropriate.
- Appraisal of flooding incidents.

	2015-16	2016-17	2017-18	2018-19	2019-20
Length of sewer inspected (m)	327	5,007	-	440	670
Length of sewer sealed (m)	-	-	1,394	47	-

Short term

- Liaise with the Environment Agency regarding their groundwater warning modelling and service.
- Commission further pumping station surveys of Townwell sewage pumping station (SPS) where necessary.

Medium term

- Undertake pro-active inspection of public sewers as set out in Sewerage Risk Management Manual to identify infiltration using CCTV.
- Continue sewer and manhole sealing of the public system where proven to be cost effective based on proactive inspections.

Long term

- CCTV and targeted infiltration studies according to analysis from previous surveys of s105a sewers.
- Where areas of infiltration in private drainage systems are found, pass information on to the Council for further action. Wessex Water to consider funding private improvements.
- Review long term options for monitoring and improving data collection for example EDM.
- Inspection of private gullies, drains and manholes.
- Monitor and regulate surface water disposal to prevent surface water to foul misconnections.
- Consider sustainable solutions such as above ground attenuation.

Current Performance

This graph shows incidents against regional groundwater level and telemetry at Townwell SPS. Prior to the sewer lining in July 2017, to prevent infiltration, there was a strong correlation between groundwater levels and the sump/ pump run times. Post sealing, the reported flooding incidents in Townwell remained low during 2018/19. However, groundwater levels in 2019/20 reached very high peaks, like those experienced in 2014. There remains a strong correlation between the rise in groundwater levels and incidents attributed to inadequate hydraulic capacity (IHC).



Cromhall Incidents Vs Regional GWL Vs Townwell SPS 15163 Telemetry

