Compton Dundon 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

- Monitor the system's performance using telemetry.
- Review data, update reports and meet with stakeholders for an annual update and to share findings.
- Promote a multiple agency approach and communicate during periods of high groundwater levels.

Completed to date

- Procedure for recording, investigating and resolving incidents put in place.
- Analysed flows in the sewers, using historic and current telemetry, rainfall, flow surveys and modelling where appropriate.
- Undertook pro-active inspection of public sewers as set out in Sewerage Risk Management Manual and identified infiltration using CCTV.
- Analysed inspection data to identify infiltration.
- Sewage pumping station surveys completed, and assets updated where necessary appraisal of flooding incidents.
- Continued customer engagement about mechanisms of sewer overloading and the need for a risk-based approach to improvements.
- Investigated watercourse monitoring in the local area as a possible indicator of groundwater levels.
- Reviewed existing regional borehole data.
- Reviewed telemetry and compared with a variety of hydraulic factors to assess residual levels of infiltration.
- Wessex Water infiltration video added to website.

	2015-16	2016-17	2017-18	2018-19	2019-20
Length of sewer inspected (m)	2,127	-	173	3,375	511
Length of sewer sealed (m)	-	-	184	-	-

Short term

- Liaise with the Environment Agency with regards to their groundwater warning modelling and service.
- Continue sewer and manhole sealing of the public system where proven to be cost effective based on proactive inspections.
- Review long term options for monitoring and improving data collection for example Event Duration Monitoring (EDM).

Medium term

- 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.

Long term

- Inspect private gullies, drains and manholes.
- Monitor and regulate surface water disposal, to prevent surface water to foul misconnections.
- CCTV and targeted infiltration studies according to analysis from previous surveys of s105a sewers.

Current Performance

This graph shows incidents against groundwater level and Ham Lane Sewage Pumping Station telemetry. Prior to the sewer sealing, to prevent infiltration, there was a strong correlation between groundwater level and the sump level at Ham Lane. Post sealing, the reported flooding incidents in Compton Dundon 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). Further sealing out of groundwater infiltration in the sewer network is planned for 2020/21.