Bexhill Environmental group

28th June 2023

from
Southern
Water

Agenda

- Bexhill bathing water quality.
- Misconnection team investigation in Bexhill
- Adler & Allan outfall survey / outfall Awareness Program
- Local Customer Engagement
- Smart Digital Networks
- Clean seas and rivers
- Glyne Gap update

Bexhill bathing water results

Environment Agency Samples 2023

- So far this season the EA have taken 6 samples. All are within the ‘Excellent’ thresholds.

Sample Time and Date	IE (cfu/100ml)	EC (cfu/100ml)
05/05/2023	45	18
19/05/2023	10	10
25/05/2023	10	18
30/05/2023	10	10
06/06/2023	73	36
14/06/2023	10	10

- The samples for 2023 so far are better than the equivalent samples from the last two years.

Sample Time and Date	IE (cfu/100ml)	EC (cfu/100ml)	Sample Time and Date	IE (cfu/100ml)	EC (cfu/100ml)
05/05/2021	130	160	09/05/2022	10	10
16/05/2021	10	10	20/05/2022	630	420
25/05/2021	10	10	25/05/2022	10	36
27/05/2021	10	82	31/05/2022	10	10
09/06/2021	27	73	07/06/2022	130	27
21/06/2021	45	64	13/06/2022	64	18

- - Samples on 19.05.23, 30.05.23 and 14/06/2023 were below the detection limit
- Excellent threshold – IE (Intestinal Enterococci) is 100 cfu/100ml and E.coli is 250 cfu/100/ml

Bexhill Investigations

Misconnection team investigations

- AMP7 investigations have been ongoing since 2019. An action plan was developed to investigate the microbiological impacts from Southern Water assets on Bathing Water quality at Bexhill. The objective of this study is to investigate and identify the sources of faecal contamination into this area.
- Monitoring and investigations to understand the inputs and sources of faecal contamination to the bathing water, covering both summer and winter and including wet and dry weather conditions.

What have we done

- Cage monitoring investigation
- Inspected decommissioned sewers
- Manhole lift & looks
- Outfall inspections
- EA holding tank sampled
- Catchment walkovers
- Sampling E.coli & Ammonia
- Technical Group with EA & Rother District Council
- Spill reporting checked over SW assets after high sample

Key observations

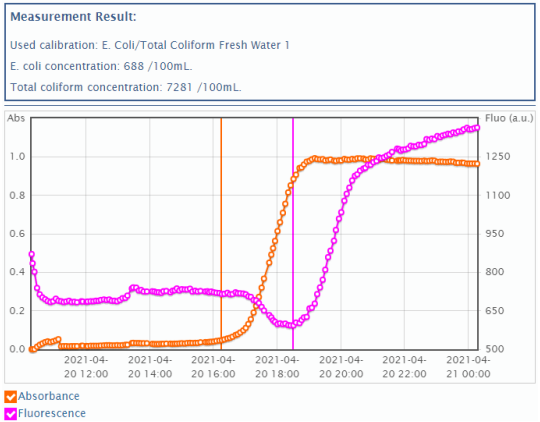
- The culverted watercourse has only low levels of E.coli
- 2 examples of sewer Misuse shared with network protection team
- Cages are not catching household waste
- Decommissioned combined sewers not leaking
- Public toilets dye traced and going to foul
- Egerton Park Bowles club have a cess collection point regularly emptied
- EA holding tank clear

Cage Survey

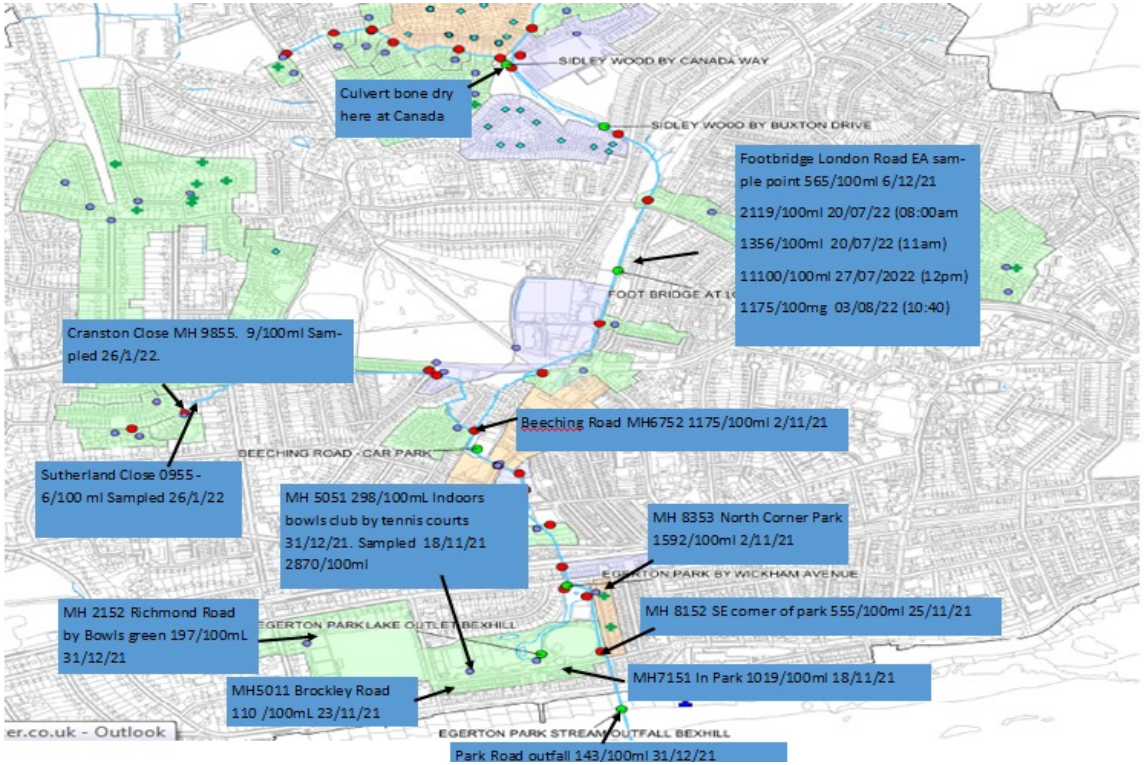
- Cages act like traps, are prefabricated steel and come in a range of sizes to fit most sewers
- Cages installed within the surface water network in strategic locations to catch incoming lines
- Cages were kept in place for 2 weeks then removed with observations logged
- No evidence of household waste observed
- Where outfalls were not accessible, sample was taken instead

What is fluidion? - A portable device which allows the user to test out in the field with an easy to carry portable lab.

- Sample setup time 15 minutes
- GPS and GSM connectivity to fluidion.com
- 6 samples
- Measures level of E.coli in clear water and saline conditions
- Results within 2-8 incubation



Fluidion Sample collection map



Locations around the Egerton Park lake and upstream catchment have been chosen to complete sampling, using the fluidion alert lab that can test samples for E.coli

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Adler & Allan outfall investigation & Outfall Awareness

Adler & Allan investigation

Independent environmental specialists, Adler & Allen, are undertaking a comprehensive study of the Bexhill coastline and upstream culverted stream, past Beaching Road. Project objectives include

- Inspect all known Southern Water outfalls
- Identify unknown pipework
- Samples each outfall for ammonia, record observation
- Complete a dry and wet weather survey for comparison
- Provide detailed reports with recommendations

Project progress

Dry weather survey completed in December. No concerns have been recorded. Wet weather survey completed in March 2023

Outfall awareness pilot

The results will be used to raise public awareness of coastal outfalls. Signage will be developed to ensure better information is a available

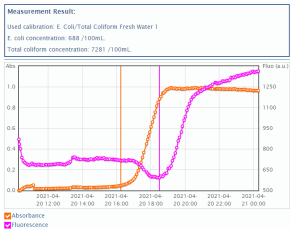
Example Signs

There are 11 visible coastal outfalls in Bexhill. Mixture of CSO, Surface Water Outfalls, Watercourse Outfall. Signs are tailored to the individual use.

Shadow Bathing Water Sampling

- Frequent sampling throughout bathing water season
- Near real time results using Fluidion Auto Sampler (can analyse 6 samples)
- 14 sample locations including official EA Bathing Water sample point
- Expert analysis and specialist response standing by to act on any high results

- Sample setup time 15 minutes
- GPS and GSM connectivity to fluidion.com
- 6 samples
- Measures level of E.coli in clear water and saline conditions



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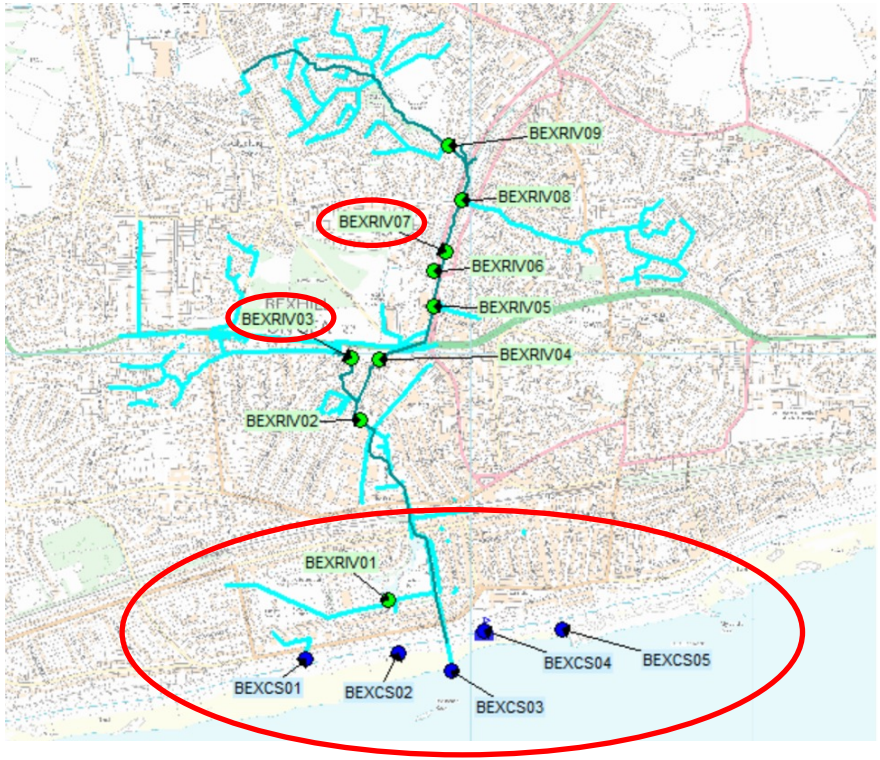
Sample collection map



Note: E.coli threshold for Excellent is 250/100ml. Results ranged from 12/100ml to 137/100ml.

Samples taken this week focused on the area circled.

Coastal samples are our priority, followed by inland, working with the limitations of the equipment.

All results taken this week are within the ‘excellent’ threshold.

The highest results 137/100ml at BEXCS01 and 81/100ml at BEXRIV01

Next focus is on the inland sample locations

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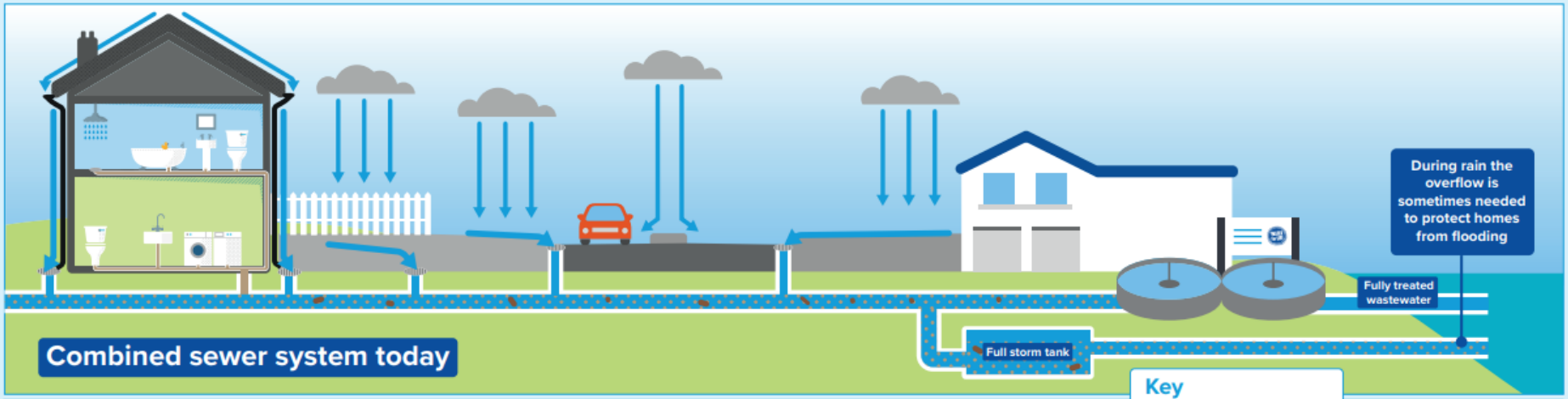
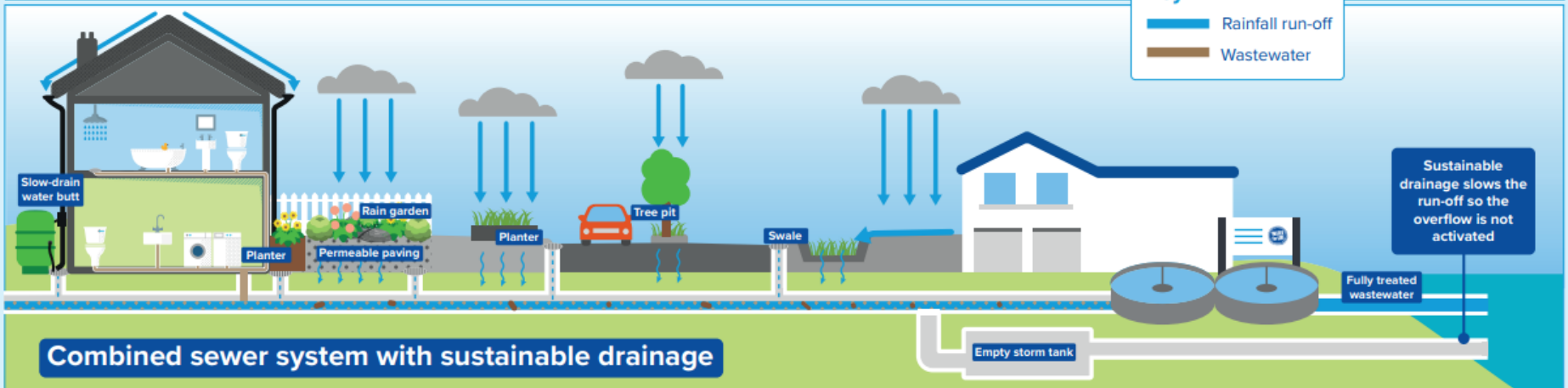
Clean seas and rivers team

Gary Sanders

Reducing the use of storm overflows





What might the solutions look like?

Working in partnership

- We want to work in **collaboration** with a range of partners at all levels and across industries to achieve this.
- We also want to promote the simple actions that everyone can do to help such as installing water butts to recycle rain water or reducing the amount of pavement in gardens.

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Customer Engagement

Working with local communities

- Continuation of our efforts to engage with customers on the 3P's
- Proactively seeking opportunities for group talks
- Working with the Town Council on opportunities to attend drop ins and open meetings with residents
- Active collaboration with the Foreshore Team

Customer Engagement

Smart Digital Network

Protecting customers and the environment by making preventative interventions

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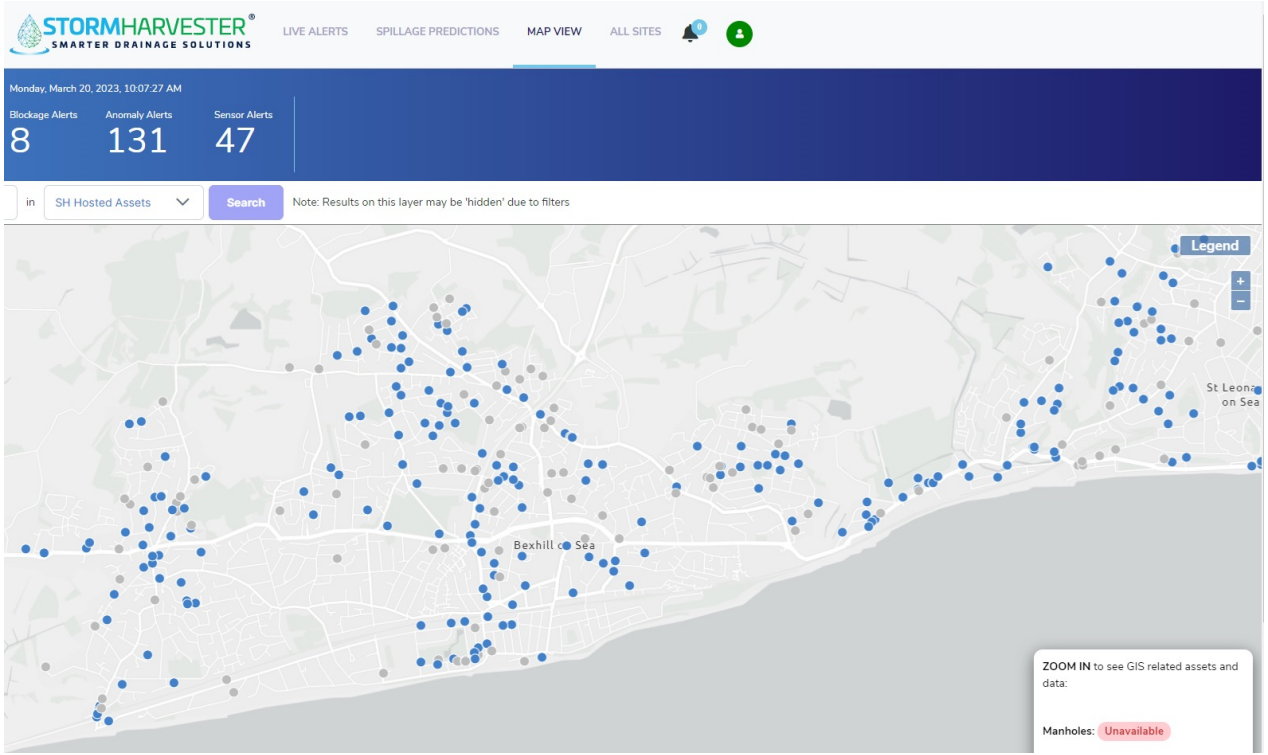
More than 23,000 sensors installed across our region



- Machine learning providing valuable insight
- Dedicated analysts driving proactive blockage clearances
- Clearing blockages before they cause an impact to customers or the environment

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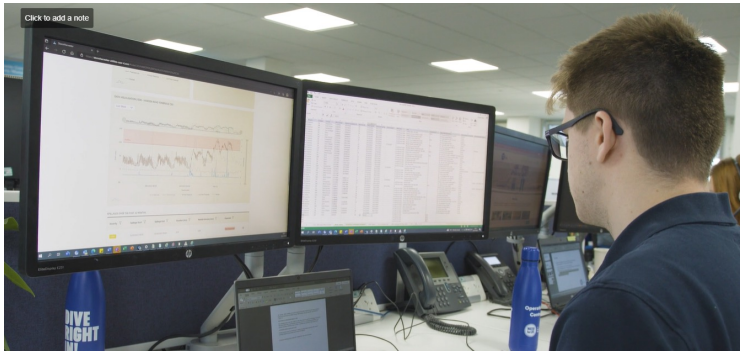
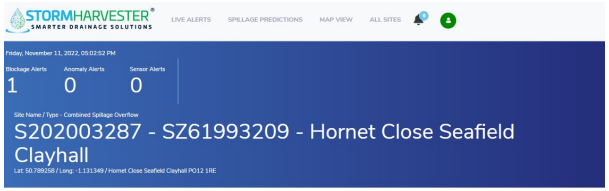
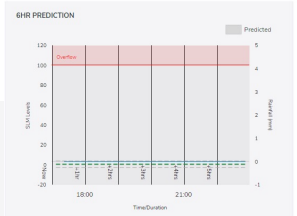
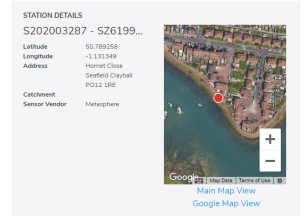
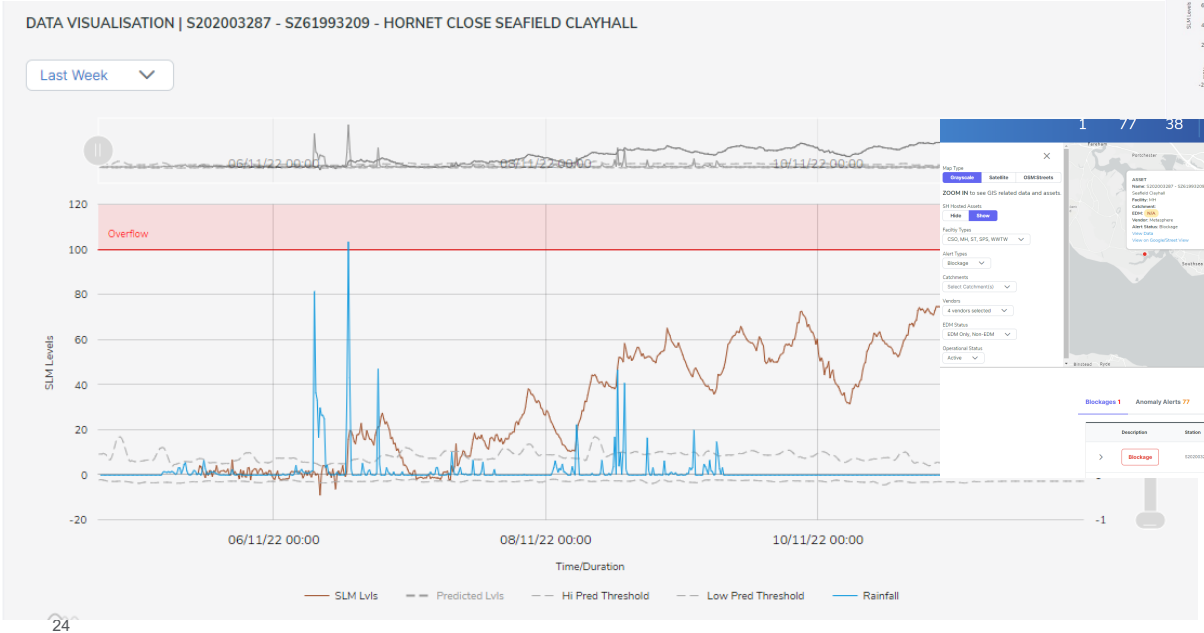
Blockage

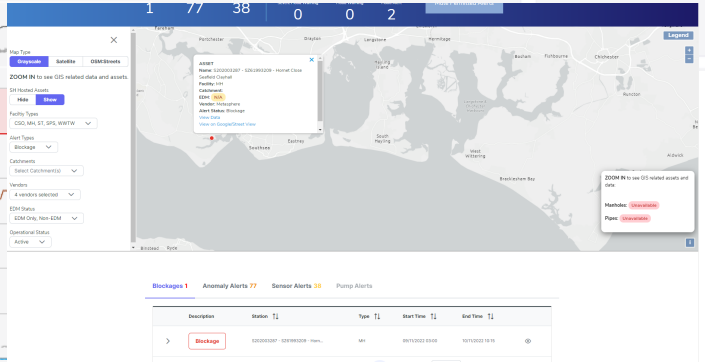












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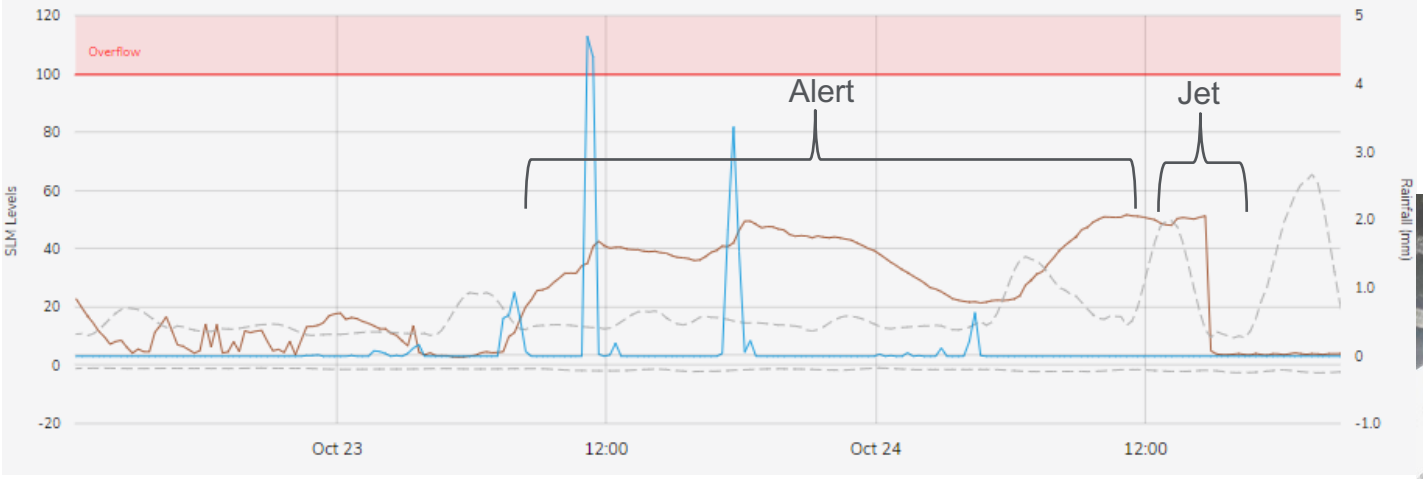
Proactive Response Example - ASH CLOSE 8 WIMPEY ESTATE BROADSTAIRS

Generated → PAC Reviewed → Work Order Generated → Work Order Scheduled → W/O Attended in RBD → Feedback Received

- Alerted 24/10 for Levels above expected. Job raised and attended same day.
- Blockage located and cleared with high pressure water jetting.
- Sewer level returned to normal with no impact to customers or the environment

Before

During



After

Thank you