Southern Water PPF Quarterly Meeting

25.4.23

WATER for LIFE from Southern Water

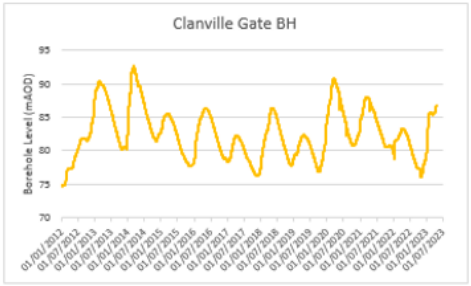
Agenda

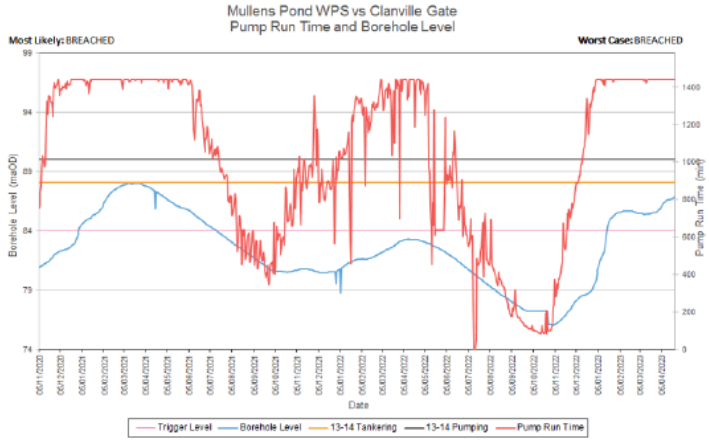
- Intro from Nick and Chris
- Groundwater (FC)
- Flow restoration (FC)
- Water Quality (FC)
- Emergency exercise (FC)
- Monitoring (KH)
- Programme update (KH)
- Wetland Learnings (NM)
- Q&A

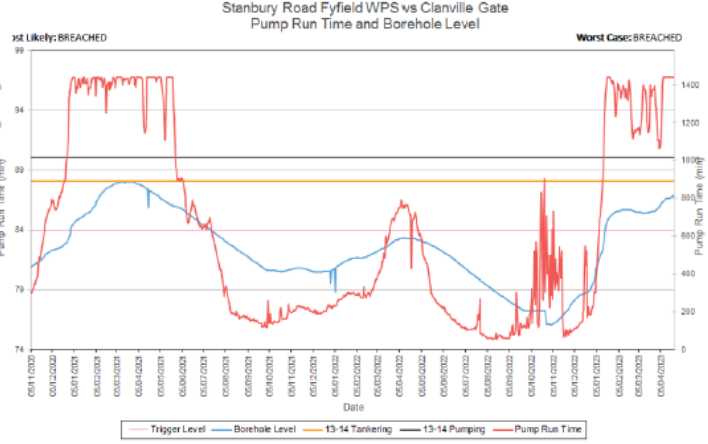
Groundwater Pack

Unusual Pattern

This year we have seen an unusual pattern in the behaviour of groundwater with a second late peak







Stanbury Road, Fyfield WPS

Site power upgrade

SSE are currently applying for a permit with the EA due to the proximity of the preparation work to the pill-hill brook

Flow management

Recent increases in flow have seen the need for tankers support – the site has sufficient power to run an electric pump for loading

Mullens Pond

Re-installation of water monitoring sondes

Instruction given to install sondes at Mullens Pond following their recent removal

Further Baseline samples collected

Lab sampling carried out this week in the event that over-pumping should be necessary with rising levels

MITA Cloth filter – Mullens Pond

System advantages

- Gravity filtration with limited head loss
- Continuous filtration without standby units for the backwash phases
- Cloth filter in **polstoff** free fibre provided with high mechanical strength
- High filtration rate (concentrations of TSS < 5 mg/l at discharge)
- Cloth backwash with very low energy consumption
- No aerosols and noise pollution
- Flexibility in case of overloading and self-regulating with regard to the input parameters
- Minimum dimensions
- Reduced electrical consumption (max. 1.9 kW per equipment)
- Low backwash water volumes
- Simple operation, in monobloc or concrete tanks models
- Limited maintenance
- Direct access to all utilities
- Limited environmental impact

- Upstream pre-filtration disinfection with UV: the disinfection of purified wastewater before the inflow of receiving water bodies is increasingly done with UV systems. These systems for reasons of UV functioning efficiency, reducing energy consumption and fouling on the surfaces of UV lamps require that water to be treated should have a very low content of suspended solids; in general a concentration under 10 mg/l is requested. The cloth filter can be perfectly included in the upstream UV treatment, generously ensuring the quality of the water requested and therefore the efficiency of the disinfection system.

Incident Management - Training Exercise

Live Exercise

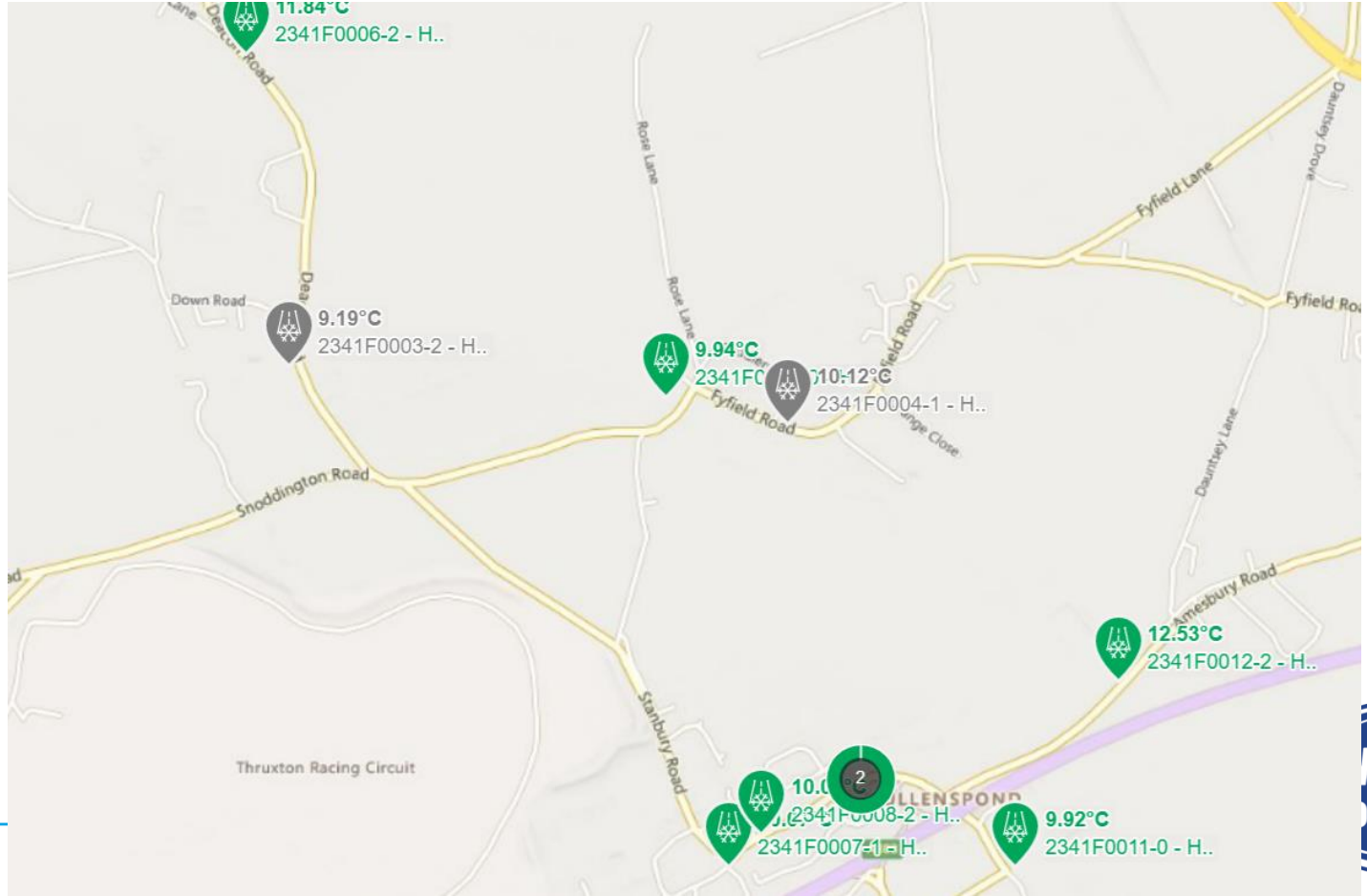
To test our Operational Continuity Plans, and customer & stakeholder communication capabilities, we will soon be planning our Pan-Parish incident management training exercise

WATER for LIFE from Southern Water

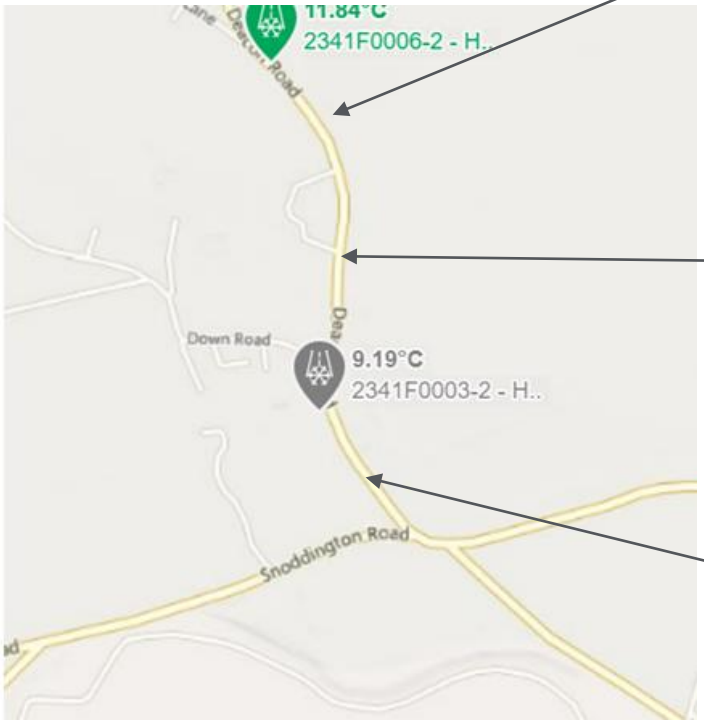
Groundwater

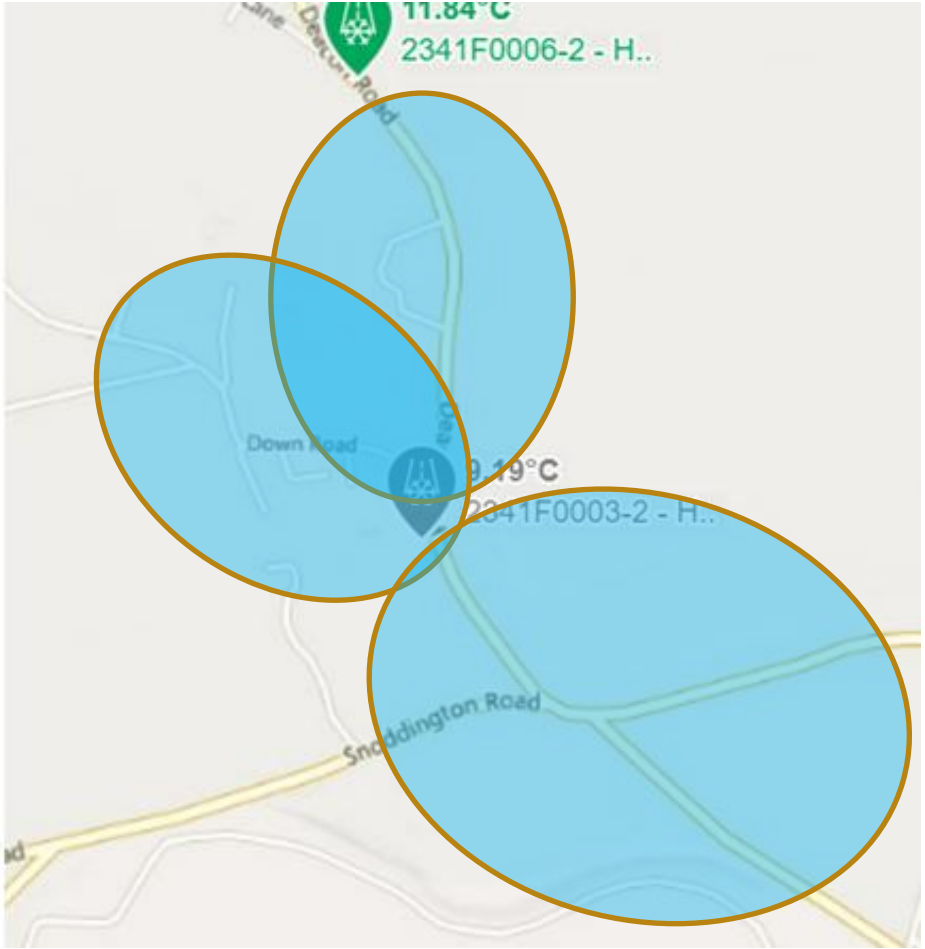
Week	Amport Rainfall (mm)	Clanville Gate* (101.55 AOD)	Change	Stanbury Road (76.63 m AOD)	Change	Mullens Pond (69.35 m AOD)	Change	Monxton (62.52 m AOD)	Change
6/1/23	22.0	81.07	↑	-	-	-	-	-	-
13/1/23	45.0	82.22	↑	-	-	-	-	-	-
20/1/23	20.5	84.77	↑	76.18	↓	69.09	↓	61.84	↓
27/1/23	0.0	85.34	↑	76.13	↓	69.06	↓	61.80	↓
3/2/23	0.5	85.55	↑	76.11	↓	69.03	↓	61.80	↓
10/2/23	0.0	85.64	↑	76.08	↓	69.00	↓	61.71	↓
17/2/23	1.0	85.67	↑	76.07	↓	68.99	↓	61.69	↓
24/2/23	5.2	85.59	↓	76.05	↓	68.98	↓	61.71	↑
3/3/23	0.0	85.45	↓	76.04	↓	68.96	↓	61.68	↓
10/3/23	27.0	85.37	↓	76.04	=	68.96	=	61.71	↑
17/3/23	11.5	85.44	↑	76.04	=	68.97	↑	61.69	↓
24/3/23	30.5	85.53	↑	76.04	=	69.01	↑	61.71	↑
31/3/23	28.0	85.79	↑	76.08	↑	69.05	↑	61.76	↑
7/4/23	8.50	86.31	↑	76.11	↑	69.06	↑	61.74	↓
14/4/23	17.50	86.62	↑	76.13	↑	69.09	↑	61.78	↑

Temperature Sensors North

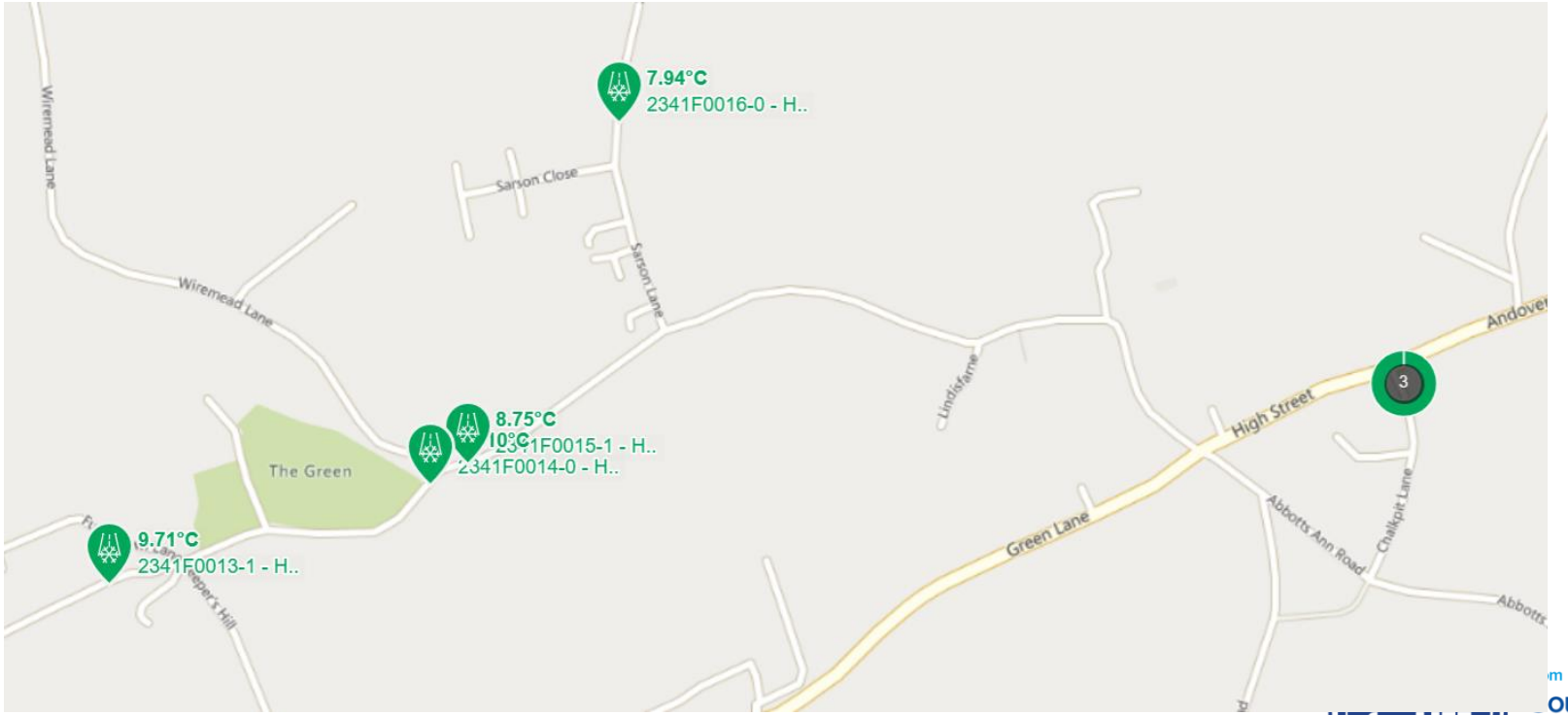


from Southern Water


11.84°C
2341F0006-2 - H..
Down Road
9.19°C
2341F0003-2 - H..
Snoddington Road

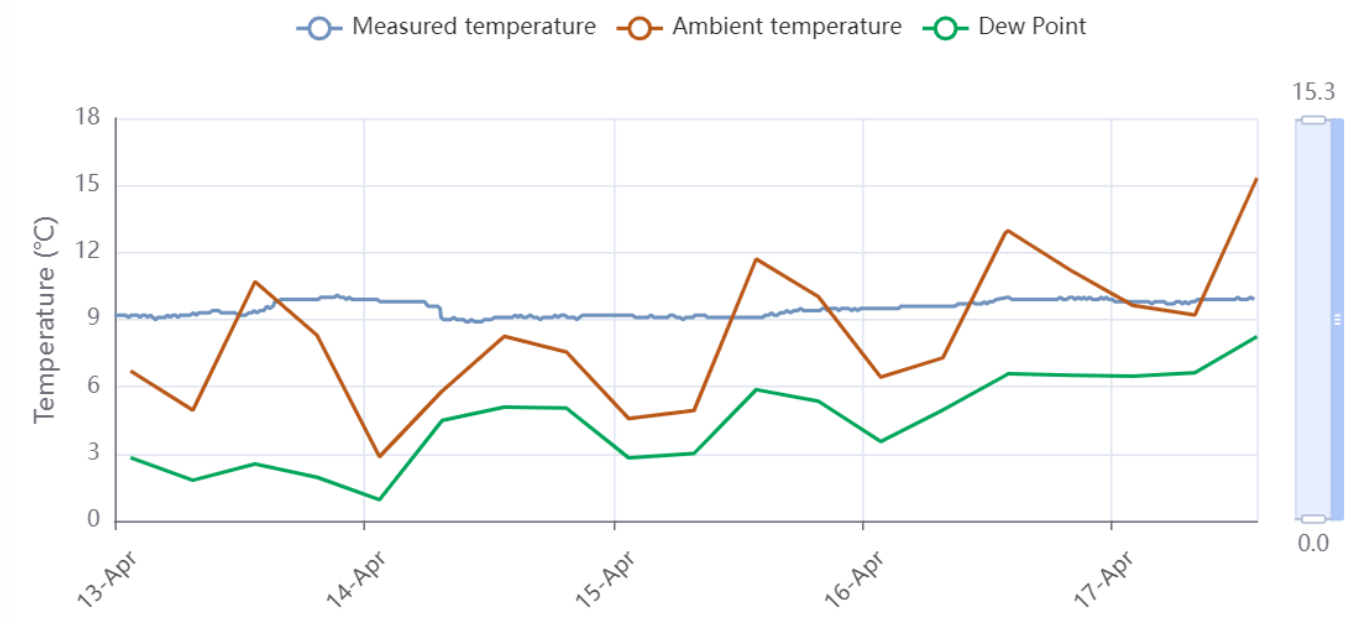

11.84°C
2341F0006-2 - H..
Down Road
9.19°C
2341F0003-2 - H..
Sneddington Road

Temp sensors South



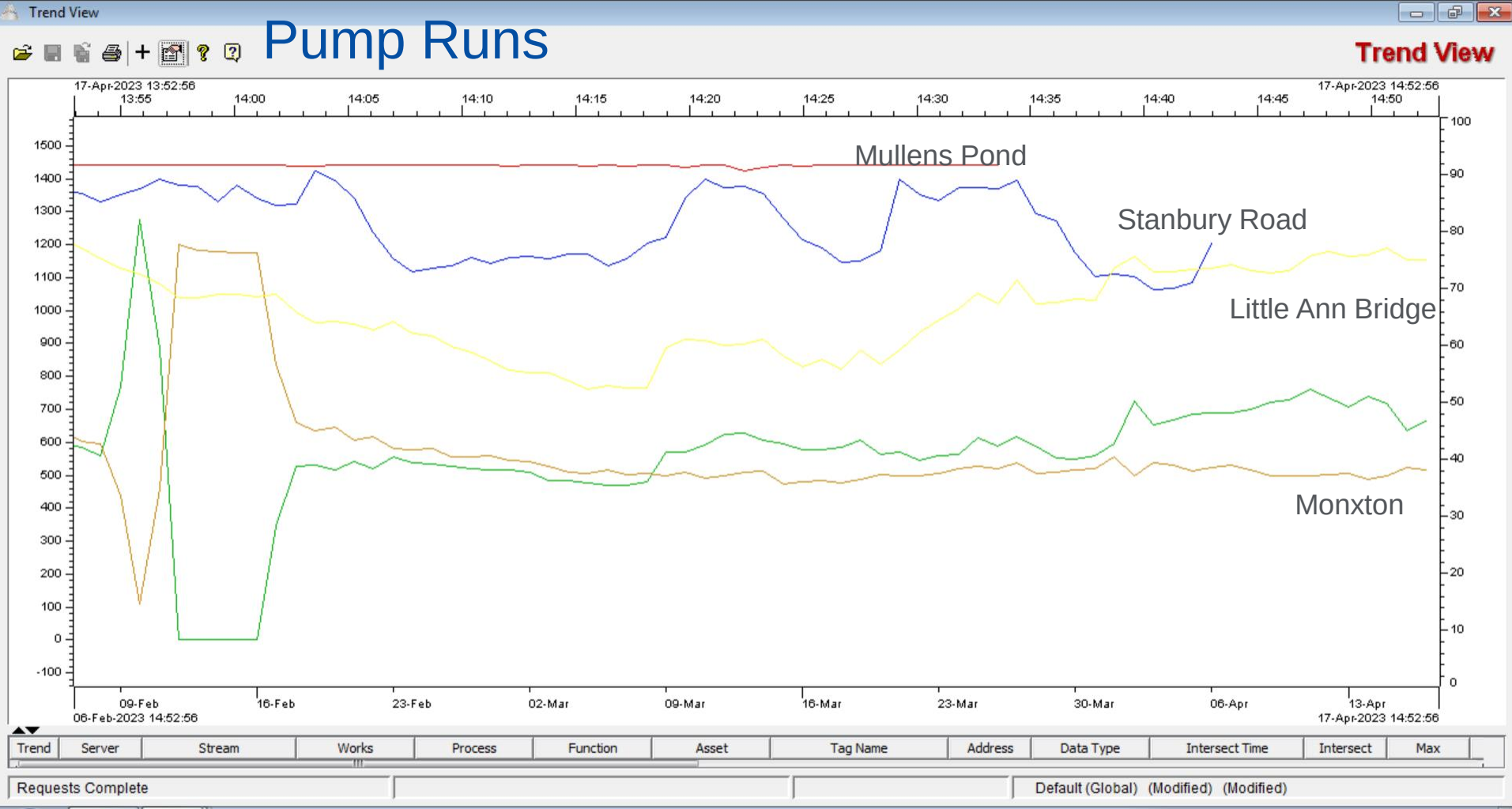
Wiremead Lane E Cholderton

Temperature



from Southern Water

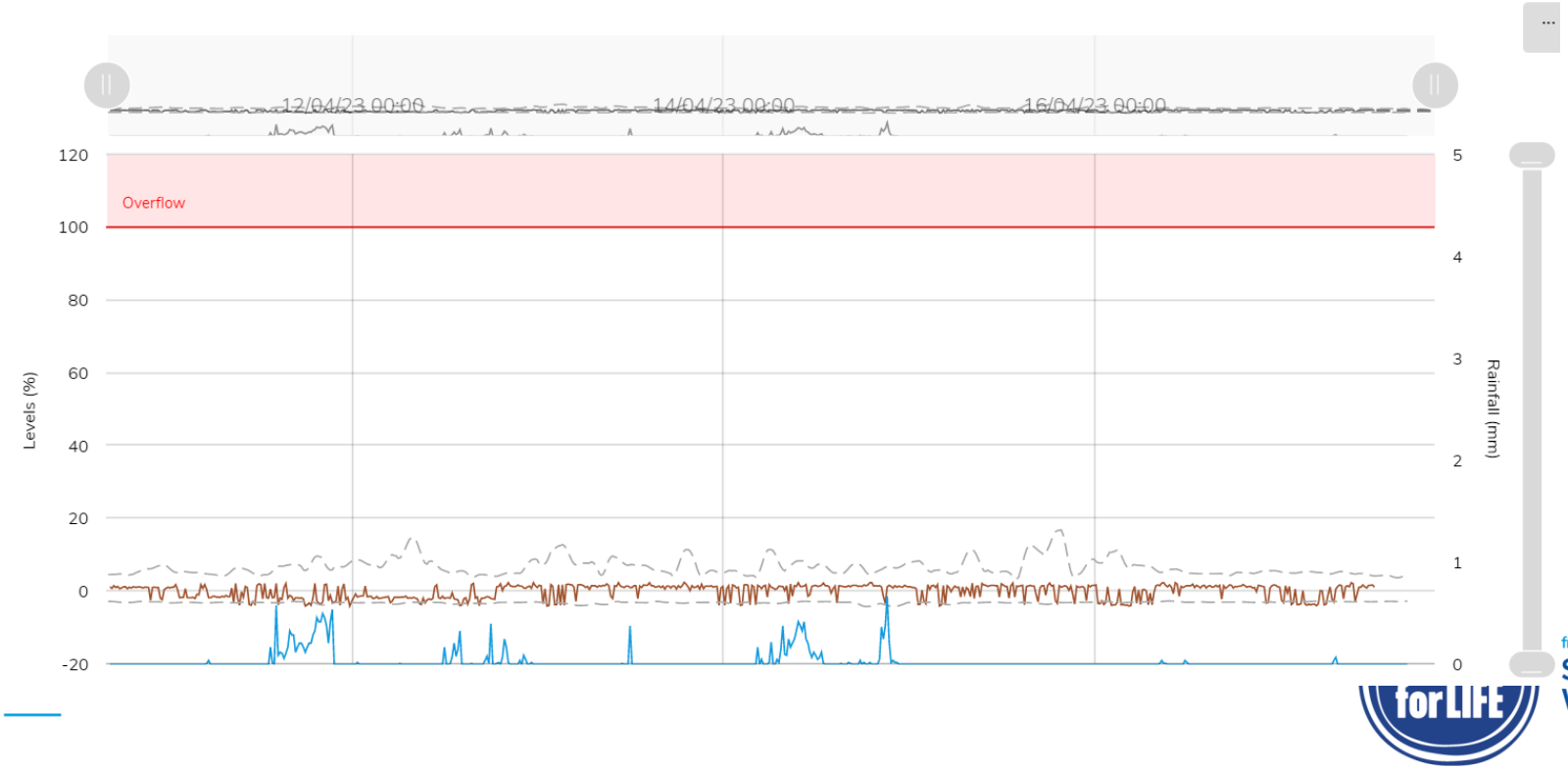
Pump Runs


Trend View
Trend View
17-Apr-2023 13:52:56
17-Apr-2023 14:52:56
Mullens Pond
Stanbury Road
Little Ann Bridge
Monxton
06-Feb-2023 14:52:56
17-Apr-2023 14:52:56
Trend
Server
Stream
Works
Process
Function
Asset
Tag Name
Address
Data Type
Intersect Time
Intersect
Max
Requests Complete
Default (Global) (Modified) (Modified)
15:54
17/04/2023

S202001821 - SU29457403 - Wiremead Lane East Cholderton Amport - Last Week

Sensor Details

ID: S202001821 **Name**: N/A **Unit**: mm **Vendor**: Metasphere **Model**: Metasphere



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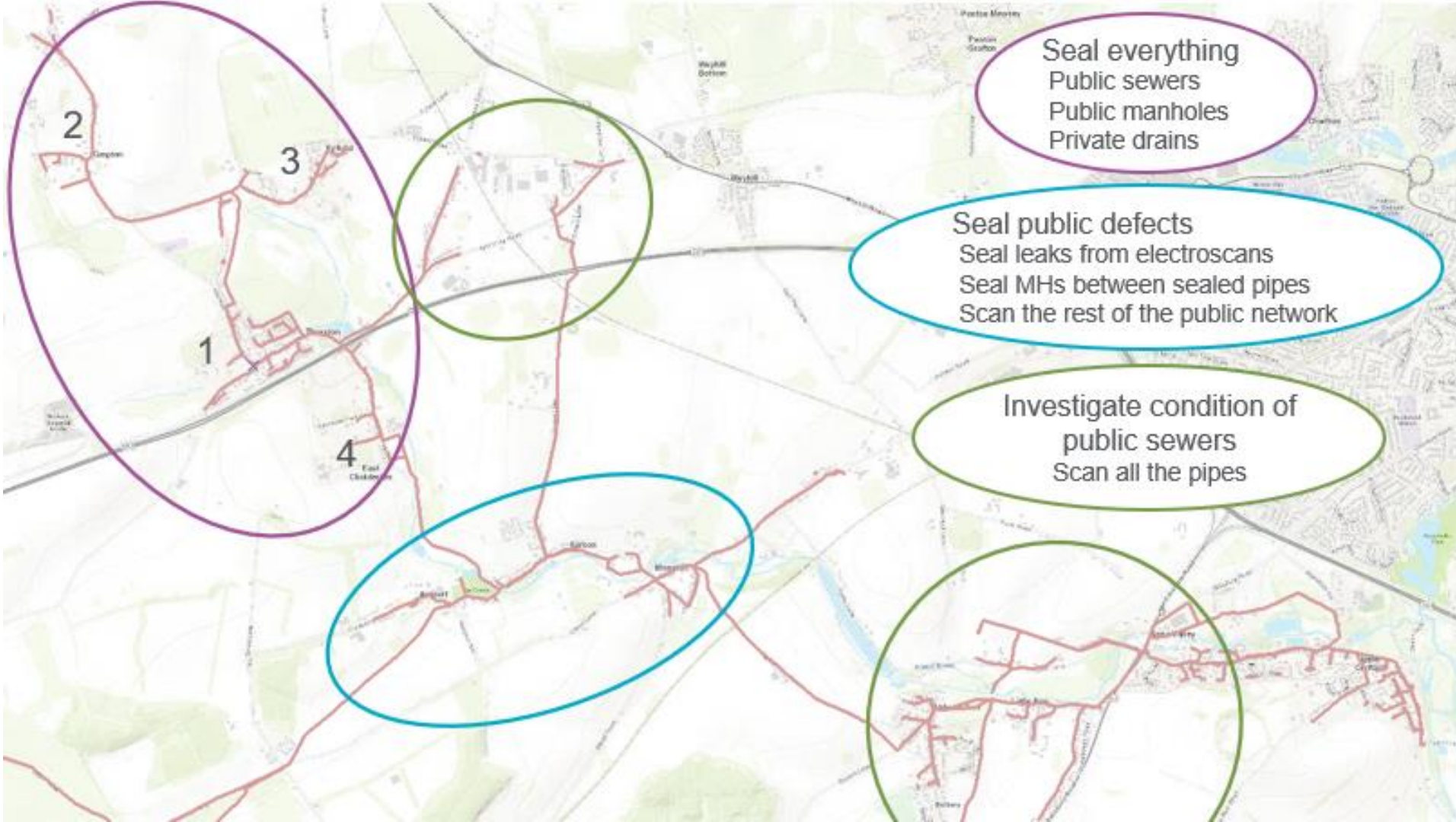
2
3
1
4
Seal everything
Public sewers
Public manholes
Private drains
Seal public defects
Seal leaks from electroscans
Seal MHs between sealed pipes
Scan the rest of the public network
Investigate condition of public sewers
Scan all the pipes

Seal Everything

Thruxton, Kimpton, Fyfield & East Cholderton

Aim: no tankering from these villages

Scope:
Seal leaky public sewers – 4.5km
Seal public manholes – 134
Seal private drains – 559 properties (~8.4km)
Scan remaining public sewers – 1.9km

Aspiration: completion by Nov '22

Expectation: Seal Thruxton and Kimpton by Nov '22, follow with Fyfield & E Cholderton by Nov '23

Seal Public Defects

Amport & Monxton

Aim: no infiltration into the public network. Learn from "seal everything" villages and monitoring.

Scope:
Seal leaky public sewers – 1.4km
Seal public manholes – 65
Scan remaining public sewers – 3.2km
Monitor impact of upstream work
Plan future private drain sealing if required

Aspiration: sealing completed by Nov '22

Expectation: TBC

Investigate Everything

Weyhill, Abbotts Ann & Little Ann

Aim: understand how much infiltration can occur into the public network. Learn from monitoring and other villages.

Scope:
Scan public sewers – 10.4km

Aspiration: scans completed by Nov '22

Expectation: scans carried out between May '23 and Nov '23 (TBC)

Monitoring

All villages

Aim: Improve understanding local groundwater levels. Improve understanding on where infiltration is entering the network. Improve speed of reactive maintenance. Evidence suitability of sealing technique.

Scope: Observation boreholes and improved groundwater model
Temperature sensing
AMP cycle electro scan programme

Aspiration: Monitoring in place for Nov '22.

Private Lateral Sealing

Connectivity and Tubogel Progress

Village	Status	Total	Complete	Unable to Complete	Remaining
Fyfield	Complete	154	141	13	0
Kimpton	Complete	111	96	15	0
Thruxton	In progress	230	211	19	0
Weyhill	Not started	5	5	0	0
East Cholderton	Complete	64	60	4	0
	total	564	513	51	

Kimpton Tubogel				
	Pipes for Tubogel	Complete	Unable to Complete	Remaining
Number	113	106	7	0
Length (m)	1,344.70	1,248.15	96.55	0

11 weeks for Fyfield
15 weeks for Thruxton
3 weeks for East Cholderton

WATER for LIFE from Southern Water

Public Sewer Sealing

54 sections or 2.6km of sewer – in the area

16 sections or 700m put forward from Electroscan

Scheduled in for May 2023

Langford Lakes, Wiltshire

Langford Lakes, Wiltshire

Q&A