

Mogden Sewage Treatment Works

TW Site Inspection

Date of inspection: 7th December 2017	
Attendees: Mr A Devine (L B Hounslow) & Mr D Kalamantis (Thames Water).	
LB Hounslow Observation	Thames Water Action / Response
<p><u>Storm Water Storage Tanks (SWST)</u></p> <p>Tank 1A and 1B were both empty & clean. Hoppers 1, 2 & 3 of Tank 1 A were empty. Hopper 3 of Tank 1B required overpumping.,</p> <p>Tanks 2A and 2B were both empty & clean. Hopper 1,2 and 3 were empty in Tank 2A however in Tank 2B hoppers 1, 2 and 3 required overpumping.</p> <p>Tank 3A and 3B were empty and tank 3A was clean, however tank 3B had some grit at the base of the tank. Hoppers 1, 2 & 3 of Tank 3A was all clear of effluent however in Tank 3B hoppers 1, 2 and 3 required overpumping.</p> <p>Tanks 4A, 4B, 5A & 5B are covered and odour controlled.</p> <p>Tank 6A and 6B were empty & clean. Hoppers 1, 2 & 3 of both tanks required further overpumping.</p>	

Tank 7A and 7B had a small amount of grit in the tank. Hoppers 1, 2 & 3 (shallow hoppers) of both Tanks were mostly drained down. Tank 8A and 8B were empty & clean. Hoppers 1, 2 and 3 of Tank 8A and 8B were full. Thames Water confirmed that this was due to a backfilling issue. These hoppers required overpumping.

Storm Water Channel

The storm feed channel serving STW's 1A-8B was empty of effluent and only had a shallow level of water (<5%) along its entire length. Between tanks 5 and 8 the channel required flushing through.

Odour Monitors

The odour readouts (H₂S) for all of the monitors, which were providing data at the time of inspection (approx. 13:44).

Monitor 1	0.004	ppm
Monitor 2	0.008	ppm
Monitor 3	0.000	ppm
Monitor 4	0.007	ppm
Monitor 5	0.007	ppm
Monitor 6	0.005	ppm
Monitor 7	0.005	ppm
Monitor 8	0.008	ppm
Monitor 9	0.007	ppm
Monitor 10	0.007	ppm
Monitor 11	0.007	ppm
Monitor 12	0.008	ppm
Monitor 13	0.008	ppm

Complaints

The Council received no complaints by phone or email in the preceding week.

Odour Log (Thames) - Photocopies of log entries taken

Thursday 30th November 2017

AM

Odour Monitor 8 two spikes between 06:39am to 06:51am (0.017ppm) and 11:19am to 11:36 (0.021ppm). Odour coming from PAS area. Unable to identify exact location. Lots of sludge imports throughout shift.

PM

Odour monitor 1 to 13 no spikes.

Friday 1st December 2017

AM

No odour issues. No spikes on trends.

PM

Odour monitor 5 spiked to 0.016ppm between 21:50pm and 22:49pm

Saturday 2nd December 2017

AM

No odour issues. No spikes on trends.

PM

No spikes on trends.

Sunday 3rd December 2017

AM

Odour monitor 2 – one spike at 0.045ppm between 06:27am to 06:42am.

Tech checked east inlet. No odour detected.

Odour monitor 8 – one spike 0.016ppm under 15 minutes.

PM

Odour monitor 4 spiked at 0.019ppm between 01:50am to 01:59am

Odour monitor 8 spiked at 0.020ppm between 01:35am to 01:49am

Monday 4th December 2017

AM

Trends failed. No odour texts from phone.

PM

No notes on sheet.

Tuesday 5th December 2017

AM

No odour issues, no spikes on trends.

Any Actions Taken

Chemical deliveries for odour control units received today

PM

Odour Monitor 9 one spike at 0.016ppm. No other odour issues.

Inspection 06/12/17

Monitor spike – odour monitoring 9 at 0.016ppm between 01: 56am – 02:49am.

Odour noticed/description

No odour detected in the area around monitor 9

Operational issues observed

Wind direction to the north. Blowing away from monitor 9. All OCU's on site running.

<p>Action Taken No action taken.</p> <p><u>Wednesday 6th December 2017</u> AM No odour spikes. No odour problems. PM No odour issues/spikes on trends.</p>	
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Sludge Dip Records

Date	West PSTs	West PSTs	West PSTs	West Total	East PSTs	Grand Total
	1	2	3			
	All units in m ³					
OMP limit	500					
01/12/17	1563	1776	305	3644	2263	5907
04/12/17	1285	801	305	2391	1592	3983
06/12/17	223	1486	450	2159	1234	3393

The sludge stock levels for the West side circular primary settlement tank 1 were **not compliant** with the OMP trigger level (500m³) on the 01/12/17 and 04/12/17 for which data has been provided.

There are no limits for the East Side Primary Settlement tanks as these are covered and odour controlled. Thames is required by the terms of the abatement notice agreed in 2005 to notify LBH on the next working day of any such exceedance and notify LBH within three working days of any appropriate remedial measure taken within three days and which has been complied with in this instance

Explanation to the high levels of sludge in the PSTs: TW advised that the sludge readings are not true readings for sludge in the West Side PSTs 1. Thames Water advised that there is clean water being pumped to the head of the circular PSTs (West Side) and into circular PST 9. The force of this water entering PST 9 is causing the thin layer of sludge within the tank to be blown up and mixed throughout the tank (mixing blanket). When the tanks are dipped for sludge they are encountering it at a much higher level due to this mixing. Thames Water has to record when they encounter sludge as part of their procedures and this is why

they believe they consider they have the false higher readings. Another reason why they believe these are false positives is due to the flow out of the PST. If the levels of sludge present in the tank are correct they would expect to see flows at 40l/s however they have flows of 60l/s with current levels. Thames Water advised they would have flow like this with lower levels of sludge in the tank and therefore they do not believe it is an issue and would also not be an odour issues.

Imported Sludge

There have been 70 imports of sludge over the last week (10 deliveries daily), each import containing 30m³ of sludge.

Sludge Screening House

The large roller shutter doors of the Raw Sludge Screening building was closed at the time of the inspection.

Digesters

Digesters 1-4 are permanently out of use.

Digester 5 was in use and had a weak seal.

Digester 6 was in use and had a thick crusty seal.

Digester 7 was in use and had a weak seal.

Digester 8 was in use and had a weak seal.

Digester 9 was in use and had a thick crusty seal.

Digester 10 was in use and had a weak seal.

Digester 11 was in use and had a weak seal.

Digester 12 was in use and had a thick crusty seal.

Digester 13 is currently out of use.

Digester 14 was in use and had a thick crusty seal.

Digester 15 was in use and had a thick crusty seal.

Digester 16 is currently out of use.

Digester 17 was in use and had a thick crusty seal.

Digester 18 was in use and had a weak seal.

Digester 19 was in use and had a weak seal.

Digester 20 was in use and had a weak seal.

Automatic dosing of anti-foaming agent is now in use and TW advised that this is also applied manually at least twice a day to all operational digesters.

Return Activated Sludge Channel

The nearside RAS channel (which runs in the ground between FST's 61-64 & 65-67) was relatively free flowing- no build-up of scum or rag along the run.

West side primary settlement tanks (PST)

Rectangular PSTs are now covered and odour controlled.

Circular PSTs 9, 10, 11 & 12 were all in operation at the time of the inspection, all had clean fat free surfaces.

GENERAL

Final Settlement Tanks East Side of Works

The 8 circular tanks previously used as PSTs are now being used as final tanks (71-78). At the time of the inspection all tanks were in operation with the exception of tank 71 which was drained down.

East Side Screen House

The screen house doors were open at the time of the inspection and part of one of the screening units were outside. Thames Water confirmed that work was being undertaken on the screening units.

Skips

On the East side there was one low level open bulk carrier on site, this contained general waste and no odour was present (Not covered).
On the West side there was one empty large Bulk carrier which was empty and uncovered. One 16yd skip which was empty and uncovered and there was also a 6 yard skip which was empty.

Pasteurisation Plant

The pasteurisation plant was in service at the time of the inspection. The TW officer confirmed all 12 streams were running.

Section 106 agreement

There have been no breaches of the s106 agreement in the last week.

West Side Aeration Lanes (Old)

No issues appeared evident.

New Works (West Side)

The mixed liquor feed channel serving the aeration lanes were being cleaned out by a tanker. The flow into the tanks was free from rag at the time of the inspection. The sprinkler system for the aeration lanes were working but some of the sprinklers were still not working properly at the time of the inspection, again being clogged with pondweed.

Odour Control Unit (OCU) performance monitoring – 04/12/2017

Plant	Reading (ppm)	Action Level (ppm)	Compliant
Main pumping station outlet	0.008(av)	0.2	Yes
East OCU	0.00(av)	0.05	Yes
West inlet	0.00(av)	0.05	Yes
Sludge reception outlet	0.00(av)	0.8	Yes
Thickening plant outlet	0.00(av)	0.6	Yes
Pasteurization plant outlet (OCU 12)	0.000(av)	0.5	Yes
Transfer PS outlet	0.020(av)	0.6	Yes
New West OCU 11 outlet	0.003(av)	0.6	Yes
# Jerome reading			