

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 & 3 of Tank 1 A were approximately 40% full and required overpumping. Hoppers 1, 2 & 3 of Tank 1B required overpumping.,</p> <p>Tanks 2A and 2B were both empty & clean. Hopper 1,2 and 3 were approximately 30% full in Tanks 2A and 2B and required overpumping.</p> <p>Tank 3A and 3B were empty and clean. Hoppers 1, 2 & 3 of Tank 3A were approximately 30% full while in Tank 3B hoppers 1, 2 and 3 were approximately 50% full and all hoppers required overpumping.</p> <p>Tanks 4A, 4B, 5A & 5B are covered and odour controlled.</p> <p>Tank 6A was approximately 10% full and required draining down. Tank 6B was empty & clean. Hoppers 1, 2 & 3 of tank 6B 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 had a small amount of grit in the tank. Hoppers 1, 2 and 3 of Tank 8A were full. Hoppers 1, 2 and 3 of Tank 8A were approximately 50% full. All hoppers required overpumping. Thames Water confirmed that this was due to a backfilling issue.

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 1 and 8 the channel required flushing through as there was sludge in the base of the channel and a slight localised odour was noted.

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	0.003	ppm
Monitor 2	0.003	ppm
Monitor 3	0.000	ppm
Monitor 4	0.005	ppm
Monitor 5	0.005	ppm
Monitor 6	0.003	ppm
Monitor 7	0.005	ppm
Monitor 8	0.007	ppm
Monitor 9	0.000	ppm
Monitor 10	0.006	ppm
Monitor 11	0.006	ppm

Monitor 12	0.000	ppm		
Monitor 13	0.007	ppm		

Complaints

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

Odour Log (Thames) - Photocopies of log entries taken

Thursday 14th December 2017

AM

Odour monitor 2 spike to 0.1 at 11:27 at one point greater than 15 minutes.

PM

Trends failure between 05:15 to 11:00. Odour monitor 3 flat lining

Actions Taken

ICA systems engineer called to reboot system.

Friday 15th December 2017

AM

No odour issues.

PM

No odour issues.

Saturday 16th December 2017

AM

Nothing to report from trends.

PM

No odour issues.

Sunday 17th December 2017

AM

No odour issues.

PM

No odour issues.

Monday 18th December 2017

AM

Odour monitors 1 to 13 no spikes.

PM

Odour monitor 6 spike at 0.021ppm between 20:05 to 21:00. No other issues.

Any Actions Taken

Checked area. No source found.

Tuesday 19th December 2017

AM

Odour monitor 5 spike at 0.022ppm between 13:06 to 13:19.

PM

No odour issues. Nothing to report on trends.

Wednesday 06th December 2017

AM

No odour spikes on monitors 1 to 13.

PM

No odour issues. Nothing to report on trends.

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					
15/12/17	1379	1195	244	2818	2409	5227
18/12/17	0	1134	1406	2540	3600	6140
20/12/17	392	1152	534	2078	2314	4392

The sludge stock levels for the West side circular primary settlement tank 1 were **not compliant** with the OMP trigger level (500m³) on the 15/12/17.

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:

Thames Water advised that they have a Picket Fence Thickener (PFT) on site that is used to settle sludge. A layer of sludge settles out at the bottom of the tank and a band of water/supernatant forms on top. This water is collected from the top of the tank and was previously returned by a drainage system to the PSTs 1-8 on the East Side of the works. Thames Water advised that they currently have construction work in the PFT area, which has demolished some equipment in the area and have

found that some of the drainage system now floods. To prevent the flooding they have turned on a pumping station, which now returns the PFT water to the circular PSTs 9-12 rather than the rectangular ones (1-8).

Thames Water advised that since doing this it has periodically caused the circular PST (9-12) sludge stocks to be reported high because the water is unclear, which triggers the equipment we used to measure the depth of the sludge in the PSTs.

Thames Water advised that therefore the current sampling technique is leading to higher levels of sludge being reported in the PSTs. Verification has confirmed the genuine sludge stocks are below the trigger level by using a sludge judge and checking the flowrate from the base of the tanks. Sludge judging will be used daily now to ensure accurate reporting.

Imported Sludge

There have been 35 imports of sludge over the last week (5 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.

Digesters 5, 6, 7 and 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. There was evidence of a spill on the coping stones.

Digester 11 was in use and had a weak seal.

Digester 12 was in use and had a weak 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 weak seal. There was evidence of a spill on the coping stones.

Digester 16 is currently out of use.

Digester 17 was in use and had a weak seal.

Digester 18 was in use and had a weak seal. There was evidence of a spill on the coping stones and tarmac.

Digester 19 was in use and had a weak seal.

Digester 20 was in use and had a weak seal.

Thames Water advised that all spills would be cleaned up that day.

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. There was a tanker on site outside the screen house during the inspection and 1 16yrd skip for general waste. Metal pipework was noted on the floor outside. Thames Water confirmed that the doors would all be closed once the works had finished for the day. A very slight odour was noted in this area.

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).

There was one skip outside the digester are which had doors that were closed at the time of the inspection. There was also one 16yd skip outside the PAS screening house.

On the West side there was 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 that 8 streams were running.

Section 106 agreement

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

<u>West Side Aeration Lanes (Old)</u>			
No issues appeared evident.			
<u>New Works (West Side)</u>			
The mixed liquor feed channel serving the aeration lanes had a scum on the surface between lanes 21 to 22 and 23 to 25 with rag and other material. 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.			
<u>New Inlet Works (West Side)</u>			
No issues appeared evident at the new inlet works.			
<u>Odour Control Unit (OCU) performance monitoring – 18/12/2017</u>			
Plant	Reading (ppm)	Action Level (ppm)	Compliant
Main pumping station outlet	0.00(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	0.00(av)	0.6	Yes

New West OCU 11 outlet	0.00(av)	0.6	Yes	
# Jerome reading				