



London Borough of Hounslow

Mogden Sewage Treatment Works

TW Site Inspection

Date of inspection: 1 st February 2018	
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 was empty but had sludge at the bottom end of the tank. Hopper 1 was full and required overpumping. Hoppers 2 & 3 were all approx <1/4 full and needed overpumping.</p> <p>Tank 1B was empty & clean. Hoppers 1 & 2 were all drained down. Hopper 3 was full and required overpumping.</p> <p>Tank 2A was empty & clean. Hoppers 1, 2 & 3 were all drained down.</p> <p>Tank 2B was empty & clean. Hoppers 1, 2 & 3 were all approx 1/4 full and needed overpumping.</p> <p>Tank 3A was empty & clean. Hoppers 1, 2 & 3 were all approx <1/4 full and needed overpumping.</p> <p>Tank 3B was empty & clean. Hoppers 1, 2 & 3 were all approx <1/4 full and needed overpumping.</p> <p>Tanks 4A, 4B, 5A & 5B are covered and odour controlled.</p> <p>Tank 6A was empty & clean. Hoppers 1, 2 & 3 were all full and needed overpumping.</p> <p>Tank 6B was empty & clean. Hoppers 1, 2 & 3 were all full and needed overpumping.</p>	

Tank 7A had some grit in the tank. Hoppers 1, 2 & 3 (shallow hoppers) were all drained down but clogged with grit.

Tank 7B had some grit in the tank. Hoppers 1, 2 & 3 (shallow hoppers) were drained down but hoppers 1 & 2 were clogged with grit.

Tank 8A had a backfilling issue and there was a small amount of effluent in the tank. Hoppers 1, 2 & 3 were all full and needed overpumping.

Tank 8B was empty but had grit across a lot of the surface area. Hoppers 1, 2 & 3 were all approx half full and needed overpumping.

Storm Water Channel

The storm feed channel serving STW's 1A-8B was approximately 70% full of effluent along its entire length.

Odour Monitors

The odour readouts (H₂S) for all of the monitors, which were providing data at the time of inspection (approx 14:24).

Monitor 1	0.000	ppm
Monitor 2	0.008	ppm
Monitor 3	0.000	ppm
Monitor 4	0.009	ppm
Monitor 5	0.006	ppm
Monitor 6	0.008	ppm
Monitor 7	0.000	ppm
Monitor 8	0.004	ppm
Monitor 9	0.007	ppm
Monitor 10	0.008	ppm
Monitor 11	0.000	ppm
Monitor 12	0.007	ppm
Monitor 13	0.007	ppm

Complaints

The Council received no complaints in the preceding week.

Odour Log (Thames) - Photocopies of log entries taken:

Thursday 25th January 2018

AM No odour issues.

PM Odour monitor 5 spiked to 0.033ppm at 06:24am but less than 15 minutes. Odour monitor 5 also spiked to 0.027ppm at 07:20am but less than 15 minutes.

Friday 26th January 2018

AM No odour issues found or reported.

PM Odour monitor 5 spiked to 0.049ppm for 1 hour. Area along main drive checked and around aeration units. No obvious odours found.

Saturday 27th January 2018

AM Odour monitor 8 spiked to 0.026ppm at 10:38am for 30 minutes. Area checked and no obvious odours found.

PM Odour monitor 4 spiked at 0.016ppm between 21:40pm to 21:50pm. No odour source found.

Sunday 28th January 2018

AM Odour monitor 5 spiked to 0.070ppm. Less than 15 minutes.

PM No odour spikes. No other issues.

Monday 29th January 2018

AM No odour issues. Nothing to report on trends.

PM Odour monitor 5 spiked at 0.046ppm between 23:24pm to 23:38pm (under 15 minutes). Odour monitor 8 spiked at 0.021 between 19:24pm to 19:32pm. No other issues.

Actions Taken No odour source found.

Tuesday 30th January 2018

AM Odour monitor 5 spiked at 0.032ppm between 09:28am to 09:41am. Odour monitor 6 spiked at 0.015ppm between 17:17pm to 17:51pm. Odour monitor 8 spiked at 0.022ppm between 10:12am to 10:25am.

PM Odour monitor 7 peaked at 0.017ppm for 1 hour.

Actions Taken Storm Tank area check. No obvious odours found.

Wednesday 31st January 2018

AM Odour monitor 4 spiked at 0.017ppm between 10:44am and 10:54am.

PM Odour monitor 5 spiked at 0.034ppm between 01:25am to 02:09am.

Actions Taken Area along drive checked. Nothing of note found

Sludge Dip Records

Date	West PSTs 1	West PSTs 2	West PSTs 3	West Total	East PSTs	Grand Total
	All units in m ³					
OMP limit	500					
26/01/18	4380	2798	783	7961	2795	10756
29/01/18	1462	2817	1593	5872	5910	11782
31/01/18	1377	2049	1405	4831	7875	12706

The sludge stock levels for the West side circular primary settlement tank 1 were **not compliant** with the OMP trigger level (500m³) on the 26/01/18, 29/01/18 and 31/01/18 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.

Thames Water have confirmed that the high readings shown have now been addressed by diverting the return flow to the covered rectangular PSTs. Thames Water have also confirmed that the sludge dip readings for the West PSTs 1 have returned to below 500m³. Thames Water took 4 portable Jerome monitor readings while the sludge dip readings were above 500m³ and the results were all zero.

Imported Sludge

There have been 70 imports of sludge over the last week, each import containing 30m³ of sludge.

Sludge Screening House

The large roller shutter door 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 were both in use but had a very weak seals. Digester 5 had a large spill which went over the coping stones and onto the tarmac.

Digester 7 was in use but had a very weak seal that was bubbling off gas.

Digester 8 was in use but had a very weak seal.

Digester 9 was in use and had a good seal.

Digesters 10 was in use but had a very weak seal.

Digester 11 had a very large spill around the entirety of the tank. The spill had come over the coping stones and was flowing across the tarmac.

Digester 12 were in use but had very weak seals

<p>Digester 13 is currently out of use.</p> <p>Digester 14 was in use and had a good dry seal.</p> <p>Digester 15 was in use but had a very weak seal and there was evidence of a spill over the copping stones onto the tarmac.</p> <p>Digester 16 is currently out of use.</p> <p>Digester 17, 18, 19 & 20 were all in use but had very weak seals. Digester 19 was noted to have a very high seal.</p> <p>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.</p> <p>Thames Water advised the spills would be cleaned up today.</p>	
<p><u>Return Activated Sludge Channel</u></p> <p>The nearside RAS channel (which runs in the ground between FST's 61-64 & 65-67) was relatively free flowing but was clogged along one third of its length on the nearside with thick dry sludge at the time of the inspection.</p> <p><u>West side primary settlement tanks (PST)</u></p> <p>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.</p>	
<p><u>GENERAL</u></p> <p><u>Final Settlement Tanks East Side of Works</u></p> <p>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 except 71 were in operation.</p>	

East Side Screen House

The screen house doors were closed at the time of the inspection. Thames confirmed all screens are in operation but undergoing cleaning work.

Skips

On the East side there was one open bulk carrier that had general waste that was open and uncovered.

On the West side there was one 6yd skip that contained rag which was uncovered. Thames Water advised that this would be covered.

Pasteurisation Plant

The pasteurisation plant was in service at the time of the inspection. The TW officer confirmed that 9 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 was free flowing at the time of the inspection.

The surface of the aeration lanes had got worse with a foam covering much of the surface of the tanks and much rag a debris noted in the lanes.

The sprinkler system for the aeration lanes was in use and all sprinklers appeared to be working at the time of the inspection.

New Inlet Works (West Side)

No issues appeared evident at the new inlet works.

Odour Control Unit (OCU) performance monitoring – 01/02/2018

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
Pasteurisation plant outlet (OCU 12)	0.00(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