

## Mogden Sewage Treatment Works

### TW Site Inspection

<b>Date of inspection:</b> 27 <sup>th</sup> April 2017	
<b>Attendees:</b> Mr L Phillips (London Borough of Hounslow), Mr Dimitrius Kalamantis (Thames Water)	
<b>LB Hounslow Observation</b>	<b>Thames Water Action / Response</b>
<p><b><u>Storm Water Storage Tanks (SWST)</u></b></p> <p><b>Tank 1A</b> – Tank empty and flushed clean – All hoppers drained down to bottom level</p> <p><b>Tank 1B</b> – Tank empty and flushed clean – drained down to bottom level.</p> <p><b>Tank 2A</b> – Tank empty and flushed clean slight grit build up no odour present - Hoppers all drained down to bottom level.</p> <p><b>Tank 2B</b> – Tank empty and flushed clean slight grit build up however no odour – All hoppers drained to bottom level.</p> <p><b>Tank 3A</b> – Tank empty and flushed clean - Hoppers 1 full and requires over-pumping. Hoppers 2 and 3 drained down to bottom level.</p> <p><b>Tank 3B</b> – Tank empty and flushed clean - Hopper 1, 2 and 3 require over-pumping.</p> <p><b>Tanks 4A, 4B, 5A &amp; 5B</b> which are covered and odour controlled were all empty - unable to gauge condition as lighting system still not working.</p>	

**Tank 6A** – Tank empty and flushed clean – All hoppers drained down to bottom level.

**Tank 6B** – Tank empty and flushed clean – All Hoppers drained down to bottom level.

**Tank 7A** – Tank has recently been returned – Hoppers 1, 2 and 3 drained down to bottom level.

**Tank 7B** – Tank empty and flushed clean – All hoppers drained down to bottom level.

**Tank 8A** – Tank empty and flushed clean – All hoppers drained down to bottom level.

**Tank 8B** – Tank empty and flushed clean – Hopper 1 full and require over-pumping however hoppers 2 & 3 drained down to bottom level.

**Storm Water Channel**

The storm feed channels serving STW's 1A-8B were low. There was no noticeable odours. The sludge in these channels was dark and murky in colour.

**Odour Monitors**

The odour readouts (H<sub>2</sub>S) for all of the monitors, which were providing data at the time of inspection (approx. 14:23).

Monitor 1	0.005	ppm
Monitor 2	0.007	ppm
Monitor 3	0.000	ppm
Monitor 4	0.006	ppm
Monitor 5	0.006	ppm
Monitor 6	0.006	ppm
Monitor 7	0.004	ppm
Monitor 8	0.006	ppm
Monitor 9	0.014	ppm
Monitor 10	0.004	ppm
Monitor 11	0.004	ppm
Monitor 12	0.007	ppm
Monitor 13	0.008	ppm

**Complaints**

**The Council received no complaints via telephone.**

**The Council received eight complaints directly via email in the previous week.**

On the 22<sup>nd</sup> of April an e-mail was received from a resident of the South Western Road, St Margret's at 18:53. The resident is located to the South-east of the works. The resident stated that "The odour has been bad over the past few days". The complaint was followed up during the weekly inspection. The historic trends didn't indicate any issues at the time the complaint was logged. The closest odour monitor unit would be OM9 which displayed 0.006ppm. The PM log stated no spikes in that period. There were a number of issues on site in the previous week which may explain the complaint received as on 18<sup>th</sup> April the carbon was changed in OCU 12 and a notification was sent out by Thames Water advising

that there was likely to be increased odour as a result. On 24<sup>th</sup> April there was a spilt in a digester feed pipe within an enclosed building and a notification was sent out advising of this and this was rectified the following day. There was also a commissioning issue with OCU 12 following the carbon change which caused extractor fans to fail and these fans failed again on 27<sup>th</sup> April but the issue was rectified as specialist contractors attended the same day and the issue was rectified. It is likely that all of these issues explain the odour experienced by the resident on this occasion.

On the 24<sup>th</sup> of April an email was received from a resident of Cole Park Road Twickenham area at 21:39. The resident is located to the South-East of the works. The resident advised that “The smell from Mogden is really bad”. The complaint was then followed up during the inspection. The historic trends did not indicate any issues at the time of the complaint. The closest odour monitor unit would have been OM9 which displayed 0.006ppm at the time of the complaint. The PM log stated no spikes in that period. There were a number of issues on site in the previous week which may explain the complaint received as on 18<sup>th</sup> April the carbon was changed in OCU 12 and a notification was sent out by Thames Water advising that there was likely to be increased odour as a result. On 24<sup>th</sup> April there was a spilt in a digester feed pipe within an enclosed building and a notification was sent out advising of this and this was rectified the following day. There was also a commissioning issue with OCU 12 following the carbon change which caused extractor fans to fail and these fans failed again on 27<sup>th</sup> April but the issue was rectified as specialist contractors attended the same day and the issue was rectified. It is likely that all of these issues explains the odour experienced by the resident on this occasion.

On the 25<sup>th</sup> of April an e-mail was received from a resident of Haweswater House, Summerwood Road, Isleworth area at 15:12. The resident is located South-East of the works. The resident advised "that the odour has been bad". The complaint was followed up by the duty officer carrying out the weekly inspection. The historic trends did not indicate any issues at the time of the complaint. The closest odour monitor unit would have been OM10 which displayed 0.004ppm at the time of the complaint. The PM log stated no issues during that period. There were a number of issues on site in the previous week which may explain the complaint received as on 18<sup>th</sup> April the carbon was changed in OCU 12 and a notification was sent out by Thames Water advising that there was likely to be increased odour as a result. On 24<sup>th</sup> April there was a spilt in a digester feed pipe within an enclosed building and a notification was sent out advising of this and this was rectified the following day. There was also a commissioning issue with OCU 12 following the carbon change which caused extractor fans to fail and these fans failed again on 27<sup>th</sup> April but the issue was rectified as specialist contractors attended the same day and the issue was rectified. It is likely that all of these issues explains the odour experienced by the resident on this occasion.

On the 25<sup>th</sup> of April an e-mail was received from a resident of Church Street, Twickenham at 14:48. The resident is located South of the works. The resident advised "That the odour has been bad". The complaint was followed up by the duty officer carrying out the weekly inspection. The historic trends did not indicate any issues at the time of the complaint. The closest odour monitor unit would have been OM10 which displayed 0.004ppm at the time of the complaint. The PM log stated no issues during that period. There were a number of issues on site in the previous week which may explain the complaint received as on 18<sup>th</sup> April the carbon was changed in OCU 12 and a notification was sent out by Thames Water advising that there was likely to be increased odour as a result. On 24<sup>th</sup> April there was a spilt in a digester feed pipe within an enclosed building and a notification was sent out advising of this and this

was rectified the following day. There was also a commissioning issue with OCU 12 following the carbon change which caused extractor fans to fail and these fans failed again on 27<sup>th</sup> April but the issue was rectified as specialist contractors attended the same day and the issue was rectified. It is likely that all of these issues explains the odour experienced by the resident on this occasion.

On the 26<sup>th</sup> of April an e-mail was received from a resident of Erncroft Way at 16:40. The resident is located South-East of the works. The resident advised "The stink is back". The complaint was followed up by the duty officer carrying out the weekly inspection. The historic trends did not indicate any issues at the time of the complaint. The closest odour monitor unit would have been OM9 which displayed 0.007 at the time of the complaint. The PM log stated no issues during that period. There were a number of issues on site in the previous week which may explain the complaint received as on 18<sup>th</sup> April the carbon was changed in OCU 12 and a notification was sent out by Thames Water advising that there was likely to be increased odour as a result. On 24<sup>th</sup> April there was a spilt in a digester feed pipe within an enclosed building and a notification was sent out advising of this and this was rectified the following day. There was also a commissioning issue with OCU 12 following the carbon change which caused extractor fans to fail and these fans failed again on 27<sup>th</sup> April but the issue was rectified as specialist contractors attended the same day and the issue was rectified. It is likely that all of these issues explains the odour experienced by the resident on this occasion.

On the 25<sup>th</sup> of April an e-mail was received from a resident of Heathfield South area at 21:03. The resident is located South-East of the works. The resident advised "Disgusting foul odour at 13:43". The complaint was followed up by the duty officer carrying out the weekly inspection. The historic trends did not indicate any issues at the time of the complaint. The closest odour monitor unit would have been OM9 which displayed 0.005ppm at the time of the complaint. The PM log stated no

issues during that period. There were a number of issues on site in the previous week which may explain the complaint received as on 18<sup>th</sup> April the carbon was changed in OCU 12 and a notification was sent out by Thames Water advising that there was likely to be increased odour as a result. On 24<sup>th</sup> April there was a spilt in a digester feed pipe within an enclosed building and a notification was sent out advising of this and this was rectified the following day. There was also a commissioning issue with OCU 12 following the carbon change which caused extractor fans to fail and these fans failed again on 27<sup>th</sup> April but the issue was rectified as specialist contractors attended the same day and the issue was rectified. It is likely that all of these issues explains the odour experienced by the resident on this occasion.

On the 26<sup>th</sup> of April an email was received from a resident of Heathfield South at 08:08. The resident is located South-East of the works. The resident advised "Bad odour". The complaint was followed up by the duty officer carrying out the weekly inspection. The historic trends did not indicate any issues at the time of the complaint. The closest odour monitor unit would have been OM9 which displayed 0.006ppm at the time of the complaint. The AM log stated no issues during that period. There were a number of issues on site in the previous week which may explain the complaint received as on 18<sup>th</sup> April the carbon was changed in OCU 12 and a notification was sent out by Thames Water advising that there was likely to be increased odour as a result. On 24<sup>th</sup> April there was a spilt in a digester feed pipe within an enclosed building and a notification was sent out advising of this and this was rectified the following day. There was also a commissioning issue with OCU 12 following the carbon change which caused extractor fans to fail and these fans failed again on 27<sup>th</sup> April but the issue was rectified as specialist contractors attended the same day and the issue was rectified. It is likely that all of these issues explains the odour experienced by the resident on this occasion.

On the 26<sup>th</sup> of April an email was received from a resident of Whitton Road, Twickenham area at 16:48. The resident is located South-East of the works. The resident advised of “Overwhelming stink on 25/04/2017”. The complaint was followed up by the duty officer carrying out the weekly inspection. The historic trends did not indicate any issues at the time of the complaint. The closest odour monitor unit would have been OM9 which displayed 0.001ppm at the time of the complaint. The PM log stated no issues during that period. There were a number of issues on site in the previous week which may explain the complaint received as on 18<sup>th</sup> April the carbon was changed in OCU 12 and a notification was sent out by Thames Water advising that there was likely to be increased odour as a result. On 24<sup>th</sup> April there was a spilt in a digester feed pipe within an enclosed building and a notification was sent out advising of this and this was rectified the following day. There was also a commissioning issue with OCU 12 following the carbon change which caused extractor fans to fail and these fans failed again on 27<sup>th</sup> April but the issue was rectified as specialist contractors attended the same day and the issue was rectified. It is likely that all of these issues explains the odour experienced by the resident on this occasion

**The Council received three complaints via MRAG in the previous week.**

On the 25<sup>th</sup> of April an e-mail was received from a resident of Arnold Crescent, Isleworth. The resident is located South-East of the works. The resident advised of “Overwhelming stink on 25/04/2017”. The complaint was followed up by the duty officer carrying out the weekly inspection. The historic trends did not indicate any issues at the time of the complaint. The closest odour monitor unit would have been OM9 which displayed 0.001ppm at the time of the complaint. The PM log stated no issues during that period. Arnold Crescent is close to the digesters and the PM digester log taken at 20.00 on 25<sup>th</sup> April showed that none of the digesters that were operating showed any evidence of



foam in the annular seals, there were no spillages of sludge via the annular seals of the digesters and none of the pressure relief valves were releasing gas and the digesters were not likely to be the source of odour complained of despite their proximity to the resident. There were a number of issues on site in the previous week which may explain the complaint received as on 18<sup>th</sup> April the carbon was changed in OCU 12 and a notification was sent out by Thames Water advising that there was likely to be increased odour as a result. On 24<sup>th</sup> April there was a spilt in a digester feed pipe within an enclosed building and a notification was sent out advising of this and this was rectified the following day. There was also a commissioning issue with OCU 12 following the carbon change which caused extractor fans to fail and these fans failed again on 27<sup>th</sup> April but the issue was rectified as specialist contractors attended the same day and the issue was rectified. It is likely that all of these issues explains the odour experienced by the resident on this occasion.

On the 25<sup>th</sup> of April an e-mail was received from a resident of Saville Road, Twickenham. The resident is located South of the works. The resident advised of "foul air at 19:51". The complaint was followed up by the duty officer carrying out the weekly inspection. The historic trends did not indicate any issues at the time of the complaint. The closest odour monitor unit would have been OM9 which displayed 0.005ppm at the time of the complaint. The PM log stated no issues during that period. It has not been possible on this occasion to identify the source of odour complained of by the resident. There were a number of issues on site in the previous week which may explain the complaint received as on 18<sup>th</sup> April the carbon was changed in OCU 12 and a notification was sent out by Thames Water advising that there was likely to be increased odour as a result. On 24<sup>th</sup> April there was a spilt in a digester feed pipe within an enclosed building and a notification was sent out advising of this and this was rectified the following day. There was also a commissioning issue with OCU 12 following the carbon change which caused extractor fans to fail and these fans failed again on 27<sup>th</sup> April but the issue was

rectified as specialist contractors attended the same day and the issue was rectified. It is likely that all of these issues explains the odour experienced by the resident on this occasion.

On the 26<sup>th</sup> of April an e-mail was received from a resident of Weavers Close Isleworth at 21:11. The resident is located North of the works. The resident advised of “stench on the evening of 08/4/2017 and on 09/04/2017”. The complaint was followed up by the duty Officer carrying out the weekly inspection. The historic trends did not indicate any issues at the time of the complaint. The closest odour monitor unit would have been OM2 which displayed 0.005ppm at 21:00 and the following day 09/04/2017 OM2 reading 0.006ppm. The PM log stated no issues during that period. The storm water tanks are part of the works closest to the resident and the PM log taken at 23.00 on 8<sup>th</sup> April showed that none of the uncovered tanks required flushing and only tanks 3b, 8a and 8b required over pumping. The log for the AM shift taken at 11.00 on 9<sup>th</sup> April showed that showed that none of the uncovered tanks required flushing and only tanks 3b, 8a and 8b required over pumping and is it unlikely that issues associated the storm tanks are likely to be the source of odour complained of. It has not been possible on this occasion to identify the source of odour complained of by the resident.

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

**Thursday 20<sup>th</sup> April 2017**

**AM** – Monitor 5 Two spikes @ 0.020ppm under 15 minutes each. Monitor 8 two spike maximum 0.024ppm 24 minutes. OCU 12 undergoing maintenance carbon media replacement.

**PM** – Odour monitor No 8 high 0.016ppm from 19:53to 20:48. Area around power house checked, small odour coming from Pas area. Area checked and all ok. OCU 12 being serviced.

**Friday 21<sup>st</sup> April 2017**

**AM** – No8 O/M peak to max of 0.025ppm. 10:05-10:35 breach.

**PM** – No odour spikes on trends no odour issues on site.

**Saturday 22<sup>nd</sup> April 2017**

**AM** – ERG working on OCU 12 No9 monitor spiked @ 16:55 to 0.02ppm.

**PM** – No spikes on trends.

**Sunday 23<sup>rd</sup> April 2017**

**AM** – O/M No5 and 8 spiked but less than 15 mins. MTS at No5 station cleaning spillage inside Taylor and Goodman fixing VJ coupling.

**PM** – Odour monitors 5- Spiked to 0.017 lasted 55 minutes. Investigated no odour detected.

**Monday 24<sup>th</sup> April 2017**

**AM** – No odour issues reported odour inside P'STN No5 from sludge spill at weekend but no spikes on trends

**PM** – No odour issues onsite no spikes on trends.

**Tuesday 25<sup>th</sup> April 2017**

**AM** – Monitors 8 & 9 occasional but 15mins duration (max 0.032) odour monitor No3 flat lining.

**PM** – Odour monitor No9 showing odours. Digester level reduced and trend under trigger point OCU 12 off.

**Wednesday 26<sup>th</sup> April 2017**

**AM** – Monitor No9 spiked once but 15 mins duration (max 0.016ppm)

**PM** – Odour monitor No9 showing odours between 8:30 and 10:40pm. OCU 12 fan No2 showing running when not No1 fan running. Digester checked and all ok waste gas burner set point reduced to 27.5m from 28.

**Sludge Dip Records**

Date	West PSTs 1	West PSTs 2	West PSTs 3	West Total	East PSTs	Grand Total
	All units in m <sup>3</sup>					
OMP limit	500					
21/4/2017	0	1593	0	1593	4622	6215
24/4/2017	20	1260	61	1341	4140	5481
26/4/2017	0	1593	0	1593	3924	5517

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.

### **Imported Sludge**

There have been 7 deliveries per day of imported sludge each of 30m<sup>3</sup> in the last week.

### **Digesters**

Digesters - 1-4 are permanently out of use.

Digester- 5 In use and had a weak sloppy seal. No evidence of spillage.

Digester- 6 In use and had reasonable seal. No evidence of spillage.

Digester -7 In use had a weak sloppy seal. No evidence of spillage.

Digester -8 In use and had weak sloppy seal. No evidence of spillage.

Digester 9 In use and had weak sloppy seal. No evidence of spillage.

Digesters -10 In use and had a good seal crusty in places. No evidence of spillage.

Digester -11 was in use weak sloppy seal. No evidence of spillage.

Digester -12 was in use and had weak sloppy seal. No evidence of spillage.

Digester 13 is currently out of use.

Digesters 14 & 15 were both in use and had good seals. No evidence of spillage.

Digester 16- is currently out of use.

Digesters 17 & 18 were both in use and had pellets in use both had good dry seals. No evidence of any spillages.

Digester 19 is currently out of service.

Digester 20 was in use and had weak sloppy seal. No evidence of an spillages.

Automatic dosing of anti-foaming agent in 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 RAS channel (which runs in the ground between FST's 61-64 & 65-67) were free flowing, there were no deposits or sludge.

**West side primary settlement tanks (PST)**

Rectangular PSTs are now covered and odour controlled.

Circular PSTs 9, 10, 11 & 12 were all in operation with no noticeable issues and no algae build up.

**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 the tanks were in operation. All tanks have hose and sprinkler systems fitted onto the sweeper bridges. Thames Water confirmed that there were currently no issues with these tanks. There was sign of algae build up but no fatty solids.

**East Side Screen House**

The screen house now has new doors fitted, both sets of doors were closed at the time of the inspection. Thames Water confirmed all screens were in operation. There were no skips outside the screen house. There was pipework and metal outside however Thames Water advised that this would be removed and no odour was noted in the area

**Skips**

**East side**

1 x 16 yard skip – covered

**West side**

2 x 6 yard skip carrier – empty and covered

1 x bulk carriers which were closed units

**Pasteurisation Plant**

The pasteurisation plant was in service at the time of the inspection with no reported problems. Works are ongoing with OCU12 where replacement activated carbon is being installed. This means that OCU12 is intermittently shut down whilst works are being carried out which may be the source of odour complaints. There was one 6 yard skip covered (tarpaulin pulled over) outside the PAS screening house

**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 and looked as if they were operating effectively.

**New Works (West Side)**

West side aeration lanes seemed to have a lot of sludge and rag that had collected in part of the lane. TW explained that MTS regularly are on

site to draw out the rag and allow free flow of effluent. Thames confirmed that crews would be on site to clear this out manually.

**New Inlet Works (West Side)**

There were no reported issues on this part of the site.

**Odour Control Unit (OCU) performance monitoring – 02/05/2017**

<b>Plant</b>	<b>Reading (ppm)</b>	<b>Action Level (ppm)</b>	<b>Compliant</b>
Main pumping station outlet	0.000(av)	0.2	Yes
East OCU	0.005(av)	0.05	Yes
West inlet	0.000(av)	0.05	Yes
Sludge reception outlet	0.000(av)	0.8	Yes
Thickening plant outlet	0.000(av)	0.6	Yes
Pasteurisation plant outlet (OCU 12)	0.0003(av)	0.5	Yes
Transfer PS outlet	0.000(av)	0.6	Yes
New West OCU 11 outlet	0.000(av)	0.6	Yes

# Jerome reading