London Borough of Hounslow

**9Mogden Sewage Treatment Works**

**TW Site Inspection**

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| **Date of inspection:** 26th October 2017 | |
| **Attendees:** Mr A Devine (London Borough of Hounslow) and Mr D Kalamantis (Thames Water) | |
| **LB Hounslow Observation** | **Thames Water Action / Response** |
| **<u>Storm Water Storage Tanks (SWST)</u>**<br><br>**Tank 1A** was empty and clean. Hoppers 1, 2 and 3 were all less than 1/3 full, no odours detected.<br><br>**Tank 1B** was empty and clean. Hoppers 1, 2 and 3 were all less than 1/3 full, no odours detected.<br><br>**Tank 2A** was empty. Hoppers 1, 2 and 3 were approximately 1/3 full, no odours detected.<br><br>**Tank 2B** was empty and clean. Hoppers 1, 2 and 3 were all less than 1/3 full, no odours detected.<br><br>**Tank 3A** was empty and clean. Hoppers 1, 2 and 3 were all less than 1/3 full, no odours detected.<br><br>**Tank 3B** had some grit/sludge in part of the tank. Hoppers 1, 2 and 3 required over pumping, no odours detected.<br><br>**Tanks 4A, 4B, 5A & 5B** are all covered and odour controlled. | |

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| **Tank 6A** was empty and clean. Hoppers 1, 2 and 3 were all less than 1/3 full, no odours detected.<br><br>**Tank 6B** was empty and clean. Hoppers 1, 2 and 3 were all less than 1/3 full, no odours detected.<br><br>**Tank 7A - 7B** tank was empty and clean. All hoppers were drained down but there was some residual sludge and water in the hoppers. .<br><br>**Tank 8A** - was empty and clean. Hoppers 1, 2 and 3 were all less than 1/3 full, no odours detected.<br><br>**Tank 8B** - was empty and clean. Hoppers 1, 2 and 3 were approximately 1/3 full, no odours detected.<br><br>**Feed Channel** – The feed channel level was very low. The base of the channel feeding tanks 4-8 contained some sludge and was locally odorous. Thames Water advised that the feed channel would be flushed. | |

**Odour Monitors**

The odour readouts ($H_2S$) for all of the monitors, which were providing data at time of inspection (14:40pm) are as follows:

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| Monitor 1 | 0.000 | ppm |
| Monitor 2 | 0.004 | ppm |
| Monitor 3 | 0.000 | ppm |
| Monitor 4 | 0.000 | ppm |
| Monitor 5 | 0.000 | ppm |
| Monitor 6 | 0.004 | ppm |
| Monitor 7 | 0.004 | ppm |
| Monitor 8 | 0.010 | ppm |
| Monitor 9 | 0.004 | ppm |
| Monitor 10 | 0.000 | ppm |
| Monitor 11 | 0.004 | ppm |
| Monitor 12 | 0.005 | ppm |
| Monitor 13 | 0.000 | ppm |

All readings accessed using Envirosuite which provides data in ppb.

**Complaints**

**The Council received no complaints by telephone in the preceding week. No complaints were received via e-mail.**

**The Council received no complaints by email from MRAG**

**The Council received one complaint by email.**

On 24th October 2017 at 09:16am a complaint was received by email from a resident of Weavers Close located to the north of the Works to advise of a stink in the close arising from *Mogden STW*s the previous night. The historic odour monitoring trends were inspected during the weekly inspection and Odour Monitors 1 to 13 did not record any elevated levels at the time of the complaint. The odour log for AM shift on 23rd October detailed that odour monitor 2 spiked at 0.016ppm

between 08:23am and 08:38am and Odour monitor 12 spiked at 0.022ppm between 13:03am and 13:18pm. The area was investigated and no odours were detected. The Odour log for the PM shift recorded two spikes on odour monitor 2 the first spike was at 00:52am at 0.021ppm, the second was at 03:06am at 0.022ppm both were recorded as less than 15 minutes duration. The east inlet area was checked and no obvious odours were found. The storm tank logs for both the AM and PM shift for the 23rd October show that none of the open uncovered tanks were in use. However the PM log recorded that Hoppers in tanks 3B, 6B, 8A and 8B required overpumping. The digester records for the 23rd October show that there were no spillages at the digesters. No information is available for the PM digester log. It has therefore not been possible on this occasion to identify the source of odour complained of.

**Odour Log (Thames)**

**Thursday 19th October 2017**
**AM –** No odour issues on site. No spike on trends.
**PM –** No odour issues found or reported. No spikes on trends.

**Friday 20th October 2017**
**AM** – Odour monitor 3 – Four spikes at 0.027ppm between 10:24am to 10:39am, 10:54am to 11:09am, 11:47 to 12:22pm and 16:09pm to 16:24pm. No odour detected in local area. OCU11 discharging 0.0338ppm
**PM** – Odour monitor 2 spiked to 0.017ppm at 05:20for less than 15 minutes.

**Saturday 21nd October 2017**
**AM –** Odour monitor 5 – one spike at 0.015ppm between 16:48pm and 17:01pm. No issues on site.
**PM** – Odour monitor 3 spiked 3 times over 0.015ppm but less than 15 minutes.

**Sunday 22nd October 2017**

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| **AM** – Customer complaint from waste control 2am. An odour monitor at 19:09 gave reading of0.019ppm for 20 minutes. Odour monitor 3 spiked during shift at 0.036ppm at 21:24pm, 0.023ppm at 22:53pm and 0.023ppm at 01:09am but all less than 15 minutes. Odour monitor 2 spiked at 05:06 to 0.032ppm.<br>**Actions Taken** – Tech 1 went on odour patrol inside and outside of perimeter. No unpleasant odour found whilst on patrol.<br>**PM** – Odour monitor 3 – multiple spikes/breaches throughout shift. See odour investigation form. Odour monitor 2 one spike.<br>**Investigation** – 22/10/17 at 11:30 am. Multiple spikes on odour monitor 3, peaked at 0.055ppm.<br>**Odour Noticed/Description** – Odour monitor 3 seven spikes from monitor already. Area investigated, no odour detected, windy conditions.<br>**Operational Issues Observed** – Gas bell height low 24 metres. Odour monitor 11 working good. Odour monitor 12 – Bob has cleaned wash water filter which has tripped the OCU this morning. No sludge spills round PAS<br>**Action Taken:** No action taken.<br><br>**Monday 23rd October 2017**<br>**AM** – Odour monitor 12 – peaked at 0.022ppm between 13:03pm and 13:18pm. Odour monitor 2 peaked at 0.016ppm between 08:23am and 08:38am. Investigated area. No odour detected.<br>**PM –** Odour monitor 2 spiked at 0.021ppm at 00:52am less than 15 minutes duration. Odour monitor 2 spiked at 0.022ppm at 03:06am, less than 15 minutes duration.<br>**Action Taken** – East inlets checked, no obvious odours found.<br><br>**Tuesday 24th October 2017**<br>**AM** – Odour monitor 12 spiked at 0.025ppm at 13:00pm to 13:14pm. Digester gas levels high all engines tripped. Waste gas burner tripped/started in manual and digesters gas level reduced.<br>**PM** – Odour monitor 9 one spike peaked at 0.016ppm between 03:06am and 04:04am. Area investigated no odour detected. Digester bell height low – 23.5 meters.<br>**Investigation** – 24/10/17. Digesters inspected. Odour monitor 12 spike. | |

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| **Operational Issues Observed** – Digesters gas level high.<br>**Action Taken:** Waste gas burner rest and run in manual to reduce gas levels.<br><br>**<u>Wednesday 25th October 2017</u>**<br>**AM** – Odour monitor 3 spiked at 0.022ppm between 13:23pm and 13:25pm. Odour monitor 9 spiked at 0.016ppm between 15:04 and 15:17pm.<br>**PM** – Odour monitor 1 – one spike 0.017ppm between 18:54pm and 19:04pm – less than 15 minutes. Odour monitor 2 multiple spikes. See odour investigation.<br>**Action Taken** – Area checked and no odours found.<br>**Investigation** – 25/10/17 at 20:30 pm. Odour monitor 2 peaked at 0.027ppm between 18:54 and 19:22 and 19:52 and 20:52.<br>**Odour Noticed/Description** – Odour monitor 2 multiple spikes between 19:00 and 21:00 hours. Unable to identify source. No odour detected.<br>**Operational Issues Observed** – Screen house doors closed already.<br>**Action Taken:** No action taken. | |

**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** | | | | | |
| 20/10/17 | 399 | 928 | 328 | 1655 | 3891 | 5546 |
| 23/10/17 | 0 | 1406 | 0 | 1406 | 2561 | 3967 |
| 25/10/17 | 381 | 1486 | 61 | 1928 | 2266 | 4194 |

The sludge stock levels for the West side circular primary settlement tank 1 were **compliant** with the OMP trigger level (500$m^3$) for all dates on 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.

**Sludge Screening House**

Shutter doors closed at time of inspection.

**Imported Sludge**

Six imports of 35$m^3$ daily for preceding seven days.

**Digesters**

**Digesters 1-4** – Out of use (permanent),

**Digester 5** – was in use but had a good seal.

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| **Digester 6** – was in use but had a weak seal.<br><br>**Digester 7** – was in use but had a weak seal and the seal was bubbling vigorously. Thames Water advised this would be actioned.<br><br>**Digester 8** – was in use but had a weak seal and the seal was bubbling vigorously. Thames Water advised this would be actioned.<br><br>**Digester 9** – was in use and had a weak seal.<br><br>**Digester 10** – was in use and had a weak seal.<br><br>**Digester 11** – was in use but had a weak seal.<br><br>**Digester 12** – was in use but had a weak seal.<br><br>**Digester 13** – was out of use for maintenance.<br><br>**Digester 14** – was in use and had a good seal.<br><br>**Digester 15** – was in use but had a weak seal and there was evidence of a spillage. Thames Water advised this would be cleaned up.<br><br>**Digester 16** – was out of use for maintenance.<br><br>**Digester 17** – was in use and had a good seal.<br><br>**Digester 18** – was in use and had a good seal.<br><br>**Digester 19** – was out of use for maintenance.<br><br>**Digester 20** – was in use and had a good seal.<br><br>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 nearside RAS channel (which runs in the ground between FST's 61-64 & 65-67) was clogged along a quarter of its length with thick dry sludge at the time of the inspection. Thames advised a tanker is cleaning this out on a weekly basis.

**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.

**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). Tank 71 had been drained down and was not in use at the time of the inspection.

**East Side Screen House**

All doors closed. Metal pipework left outside on the floor. Slight localised odour from the bin compactor area.

**Other Skips**

1 x 15 yd. open general waste skip at East Side screen house
1 x 15 yd. open general waste skip at rear of PAS screen house.
1 x 15 yd. skip at West Side screen house

**Pasteurisation Plant**

The pasteurisation plant is in service and fully operational.

**Section 106 agreement**

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

**West Side Aeration Lanes (Old)**

Battery C aeration feed channel approximately 50% obstructed – requires jetting.

**New Works (West Side)**

Feed Channel for Aeration Lanes 20 - 25 approximately 75% obstructed – requires jetting or a tanker to remove.

Approximately 60% of the aeration tanks have “fluffy” coverage across surface – worsened since previous inspection. Large quantity of physical detritus in tank that has bypassed screener.

**Odour Control Unit (OCU) performance monitoring – (23/10/17)**

| **Plant** | **Reading (ppm)** (Average) | **Action Level (ppm)** | **Compliant** |
|---|---|---|---|
| Main pumping station outlet | 0.000 | 0.2 | Yes |
| East OCU | 0.000 | 0.05 | Yes |
| West inlet OCU | 0.000 | 0.05 | Yes |
| Sludge reception outlet | 0.000 | 0.8 | Yes |
| Thickening plant outlet | 0.000 | 0.6 | Yes |
| Transfer PS outlet | 0.000 | 0.6 | Yes |
| New West inlet (OCU 11) | 0.004 | 0.5 | Yes |
| OCU 12 (Pasteurisation Plant) | 0.000 | 0.5 | Yes |