



# London Borough of Hounslow

## Mogden Sewage Treatment Works

### TW Site Inspection

<b>Date of inspection:</b> 22 <sup>nd</sup> May 2019	
<b>Attendees:</b> Mr Steven Maunders and Mr Channi Varsani (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 - approximately 40% of tank covered by dried grit and sludge – requires flushing/hosing to remove - Hopper 1 approx. 20% full. Hoppers 2 &amp; 3 drained down to bottom.</p> <p><b>Tank 1B</b> – Tank empty and flushed - approximately 10% of tank covered by dried grit – requires further flushing – Hoppers 1, 2 &amp; 3 drained down to bottom.</p> <p><b>Tank 2A</b> – Tank empty and flushed clean – Hopper 1 approx. 20% full. Hoppers 2 &amp; 3 full to brim and require draining/over-pumping.</p> <p><b>Tank 2B</b> – Tank empty and flushed - approximately 25% of tank covered by dried grit – requires further flushing – Hopper 1 approx. 10% full. Hoppers 2 &amp; 3 full to brim and require draining/over-pumping.</p> <p><b>Tank 3A</b> – Tank empty and flushed clean – Hoppers 1 &amp; 3 drained down to bottom, Hopper 2 approx. 50% full – requires draining/over-pumping.</p> <p><b>Tank 3B</b> – Tank empty – approx. 50% of tank covered by dried grit and</p>	

sludge – requires flushing/hosing to remove – Hoppers 1, 2 & 3 drained down to bottom.

**Tanks 4A, 4B, 5A & 5B** which are covered and odour controlled were all empty - unable to gauge condition as lighting system still not working.

**Tank 6A** – Tank empty and flushed - approximately 10% of tank covered by dried grit – requires further flushing - Hopper 1 approximately 30% full - requires draining/over-pumping. Hoppers 2 & 3 drained down to bottom.

**Tank 6B** – Tank empty and flushed - approximately 20% of tank covered by grit and sludge – requires further flushing/hosing to remove. – Hoppers 1, 2 & 3 approximately 30% full - requires draining/over-pumping.

**Tank 7A** – Tank empty – approx. 50% of tank covered by grit and sludge – requires further flushing/hosing to remove – Hoppers 1 & 2 full – requires draining/over-pumping. Hopper 3 drained down to bottom.

**Tank 7B** – Tank empty – approx. 50% of tank covered by grit and sludge – requires further flushing/hosing to remove – Hoppers 1, 2 & 3 drained down to bottom.

**Tank 8A** – Tank backfilling from faulty valve – Hoppers 1, 2 & 3 full – requires draining/over-pumping.

**Tank 8B** – Tank empty – approx. 15% of tank covered by dried grit and sludge – requires further flushing/hosing to remove – Hoppers 1, 2 & 3 approximately 10% full – requires draining/over-pumping.

**Feed Channel** - The level of effluent in both feed channels was low – no local odours.

### **Complaints**

**The Council directly received no complaints by telephone in the preceding week.**

**The Council directly received no complaints by email in the preceding week.**

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

***Thames Water controller advised that they had received no direct complaints in the preceding week.***

**Odour Monitors**

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

Monitor 1	0.003	ppm	14:00
Monitor 2	0.008	ppm	14:00
Monitor 3	0.000	ppm	14:00
Monitor 4	0.004	ppm	14:00
Monitor 5	0.000	ppm	14:00
Monitor 6	0.006	ppm	14:00
Monitor 7	0.007	ppm	14:00
Monitor 8	0.008	ppm	14:00
Monitor 9	0.005	ppm	14:00
Monitor 10	0.008	ppm	14:00
Monitor 11	0.006	ppm	14:00
Monitor 12	0.008	ppm	14:00
Monitor 13	0.004	ppm	14:00
Wind Speed	3.3	mph	
Wind Direction	199°		

**Odour Log (Thames)**

**Thursday 16<sup>th</sup> May 2019**

**AM – Warm - Sunny.**

All OMU's in use.

**Observations/Complaints:** None noted.

**Operational Issues/Causes:** "No odour issues".

**Actions:** None noted.

**PM** – Cool – Overcast Night.

All OMU's in use.

**Observations/Complaints:** None noted.

**Operational Issues/Causes:** "OM6 spiked at 20:08-21:06 Max 0.018".

**Actions:** "Checked area around Storm Tanks – no odours found".

### **Friday 17<sup>th</sup> May 2019**

**AM** – Warm – Cloudy with Sunny spells.

All OMU's in use.

**Observations/Complaints:** None noted.

**Operational Issues/Causes:** "No odour issues".

**Actions:** None noted.

**PM** – Cool – Clear Night.

All OMU's in use.

**Observations/Complaints:** None noted.

**Operational Issues/Causes:** "No odour issues."

**Actions:** None noted.

### **Saturday 18<sup>th</sup> May 2019**

**AM** – Warm – Sunny with patchy clouds.

All OMU's in use.

**Observations/Complaints:** None noted.

**Operational Issues/Causes:** "OM2 spiked 0.027 12:59-13:17"

**Actions:** "Area investigated, No source found."

**PM** – Cool – Clear Night.

All OMU's in use.

**Observations/Complaints:** None noted.

**Operational Issues/Causes:** "OM9 0.016ppm 22:05-23:04, 0.016ppm 00:35-00:50. OM3 0.016ppm max 23:39-23:53."

**Actions:** "Area checked. Unable to identify any source of odour. Digester bell height low at the time of the spikes. No spills or overflows in PAS/digester area."

**Sunday 19<sup>th</sup> May 2019**

**AM** – Warm – Sunny with patchy clouds.

All OMU's in use.

**Observations/Complaints:** None noted.

**Operational Issues/Causes:** "No odour issues."

**Actions:** None noted.

**PM** – Cool – Clear Night.

All OMU's in use.

**Observations/Complaints:** None noted.

**Operational Issues/Causes:** No odour issues."

**Actions:** None noted.

**Monday 20<sup>th</sup> May 2019**

**AM** – Cool – Sunny with Patchy Clouds.

All OMU's in use.

**Observations/Complaints:** None noted.

**Operational Issues/Causes:** "OM7 spiked at 11:30-11:58, max 0.019ppm."

**Actions:** "No sources of odour found, storm tank hopper valves being worked on."

**PM** – Cool – Clear Night.

All OMU's in use.

**Observations/Complaints:** None noted.

**Operational Issues/Causes:** None noted.

**Actions:** None noted.

**Tuesday 21<sup>st</sup> May 2019**

**AM** – Warm – Sunny.

All OMU's in use.

**Observations/Complaints:** None noted.

**Operational Issues/Causes:** "No odour issues."

**Actions:** None noted.

**PM** – Warm – Clear Night.

All OMU's in use.

**Observations/Complaints:** None noted.

**Operational Issues/Causes:** "OM7 0.021 21:28–22:20."

**Actions:** "Area investigated, no source found."

**Wednesday 22<sup>nd</sup> May 2019**

**AM** – Hot – Sunny.

All OMU's in use.

**Observations/Complaints:** None noted.

**Operational Issues/Causes:** "No odour issues."

**Actions:** None noted.

**PM** – Warm – Clear Night.

All OMU's in use.

**Observations/Complaints:** None noted.

**Operational Issues/Causes:** "OM5 0.021ppm 02:35–02:05, OM2 0.022 00:15-00:34 various spikes less than 15 mins. OM7 0.022 21:13-22:13."

**Actions:** "Area investigated, No source found."

### 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					
20/05/19	59	206	0	265	608	873
21/05/19	39	473	0	512	760	1272
22/05/19	0	534	0	534	1601	2135

The sludge stock levels for the West side circular primary settlement tank 1 were **compliant** with the OMP trigger level (500m<sup>3</sup>) for all of the dates 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.

### Digesters

**Digesters 1-4** – Out of use (permanent) – noticeable quantity of water accumulated to the brim of these tanks which is thick with algae – requires draining. Long term project currently initiated to bring these units back into service – will require significant investment.

**Digester 5** - in use – seal level approx. 3ft below coping stones - seal weak and bubbling.

**Digester 6** - in use – seal level approx. 2ft below coping stones - seal weak and bubbling.

**Digester 7** - in use – seal level approx. 2ft below coping stones – seal weak and bubbling - Ongoing spitting/spill – tank “gurgling” - requires anti-foam and clean-up – Bell height high – requires draw down of

biogas.

**Digester 8-** in use – seal level approx. 4ft below coping stones - seal weak and bubbling.

**Digester 9** - in use – seal level approx. 2ft below coping stones - seal weak and bubbling.

**Digester 10** - in use – seal level approx. 3ft below coping stones - seal weak and bubbling.

**Digester 11** - in use – seal level approx. 18” below surface of coping stones – seal weak and bubbling – evidence of dried spill accumulated under adjacent cabling ducting – requires anti-foam and clean-up.

**Digester 12** - in use – seal level approx. 2ft below coping stones - seal weak and bubbling.

**Digester 13** in use – seal level approx. 6” below surface of coping stones – seal weak and bubbling – evidence of recent spill accumulated under adjacent cabling ducting – requires anti-foam and clean-up.

**Digester 14** - out of use – empty and clean – contractor on site undertaking maintenance.

**Digester 15** -- in use – good seal approx. 2ft below coping stones.

**Digester 16** - out of use – empty and clean – contractor on site undertaking maintenance.

**Digester 17** - in use – seal level approx. 3t below coping stones - seal weak and bubbling.

**Digester 18** - in use – seal level approx. 2ft below coping stones – - seal weak and bubbling – evidence of prior dried spill - requires anti-foam and clean-up.

**Digester 19** - in use – seal level approx. 2ft below coping stones – seal weak and bubbling – evidence of prior dried spill - requires anti-foam



and clean-up.

**Digester 20** - in use – seal level approx. 4ft below coping stones – seal weak and bubbling.

**GENERAL**

**Sludge Screening House**

All doors closed at time of inspection.

**Imported Sludge**

Average of 10 imports daily for preceding seven days.

**Final Settlement Tanks East Side of Works**

The 8 circular tanks previously used as PSTs are now being used as final tanks (71-78). Green Algae on 100% of surface of Tanks 73 & 74.

**Skips**

1x large enclosed skip and 1x 20 yard open skip & 1x (8 yard) open general waste skips (covered with tarpaulin) located in Service Road by Storm Water Tanks.

1x partially filled small grit slips by Sludge Screening House.

1x open skip in use for transfer materials from mobile screening plant located by Pasteurisation Plant.

1x large enclosed grit/rag skips located by PST's 9-12 – elevated at one end to drain liquid from within as exceed safe carriage weight for vehicles – advised that management of fluids draining from within requires improvement as currently ponding within areas of broken hard-standing where currently located.

**Pasteurisation Plant**

Pasteurisation plant currently six streams out of service (number unspecified).

**East Side Raw Sludge Screen House**

Doors partially open at time of inspection – to provide ventilation for contractors on site working in structure.

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

Rectangular PSTs – no issues

Circular PST's 9, 10, 11 & 12 all in use. Tank 12 has fat across 75% of surface.

**West Side Aeration Lanes (Old)**

Battery C aeration feed channel approximately 60% obstructed in one channel – requires jetting.

**New Works (West Side)**

Feed Channel for Aeration Lanes 21-24 completely clear.

“Fluffy” coverage across surface broken down significantly since previous visit - internal dividing walls within tank now visible. Still significant quantity of sanitary items by-passing screener.

**Odour Control Unit (OCU) performance monitoring – (23/05/19)**

Plant	Reading (ppm)	Action Level (ppm)	Compliant
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Main pumping station inlet	0.00 0.00 0.00	Unknown	Unknown
Main pumping station outlet	0.00 0.00 0.00	0.2	Yes
East OCU	0.00 0.00 0.00	0.05	Yes
West inlet OCU	0.00 0.00 0.00	0.05	Yes
Sludge reception inlet	0.00 0.00 0.00	Unknown	Unknown
Sludge reception outlet	No data	0.8	Yes
Thickening plant inlet	No data	Unknown	Unknown
Thickening plant outlet	0.475 0.451 0.438	0.6	Yes
Transfer PS inlet	No data	Unknown	Unknown
Transfer PS outlet	No data	0.6	Yes
New West inlet (OCU 11)	0.00 0.00 0.00	0.5	Yes
OCU 12 (Pasteurisation Plant)	0.3 0.3 0.3	0.5	Yes