



# London Borough of Hounslow

## Mogden Sewage Treatment Works

### TW Site Inspection

<b>Date of inspection:</b> 8 <sup>th</sup> February 2018	
<b>Attendees:</b> Mr Steven Maunders (London Borough of Hounslow) and Mr Dimitrios Kalmantis (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 -- approximately 25% of tank covered by sludge – requires further flushing. Hoppers 1, 2 &amp; 3 drained down to 25% from bottom level.</p> <p><b>Tank 1B</b> – Tank empty and flushed clean - Hoppers 1, 2 &amp; 3 drained down to bottom level.</p> <p><b>Tank 2A</b> – Tank empty and flushed clean - Hoppers 1, 2 &amp; 3 drained down to bottom level.</p> <p><b>Tank 2B</b> – Tank empty and flushed - approximately 25% of tank covered by grit and sludge – requires further flushing - Hoppers 1, 2 &amp; 3 drained down to bottom level.</p> <p><b>Tank 3A</b> – Tank empty and flushed clean - Hoppers 1, 2 &amp; 3 drained down to bottom level.</p> <p><b>Tank 3B</b> – Tank empty and flushed - approximately 10% of tank covered by grit – requires further flushing – Hoppers 1, 2 &amp; 3 drained down to bottom level.</p>	

**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 5% of tank covered by grit – requires further flushing - Hoppers 1, 2 & 3 drained down to bottom level.

**Tank 6B** – – Tank empty and flushed - approximately 5% of tank covered by grit – requires further flushing - Hoppers 1, 2 & 3 drained down to bottom level

**Tank 7A** – Tank empty and flushed - approximately 10% of tank covered by grit – requires further flushing. Hoppers 1, 2 & 3 drained down to bottom level but Hopper 2 thick with black sludge – requires further flushing.

**Tank 7B** – Tank empty and flushed – approximately 5% of tank covered by grit – requires further flushing - Hoppers 1, 2 & 3 full – issue with faulty subterranean non-return valve allowing back-filling of hoppers – requires repair/replacement.

**Tank 8A** – Tank recently returned – approximately 80% of tank covered by grit and sludge – requires further flushing – Hoppers 1, 2 & 3 drained down to 50% from bottom level.

**Tank 8B** – Tank empty and flushed - approximately 5% of tank covered by grit – requires further flushing. Hoppers 1, 2 & 3 drained down to 50% from bottom level.

**Feed Channel** - The level of effluent in both feed channels was low – approximately 5-10% - almost bottomed out in places – some grit and sludge – no local odour.

### **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	0.006	ppm	13:30
Monitor 2	0.009	ppm	13:30
Monitor 3	0.000	ppm	13:30
Monitor 4	0.009	ppm	13:30
Monitor 5	0.007	ppm	13:30
Monitor 6	0.010	ppm	13:30
Monitor 7	0.006	ppm	13:30
Monitor 8	0.009	ppm	13:30
Monitor 9	0.007	ppm	13:30
Monitor 10	0.008	ppm	13:30
Monitor 11	0.000	ppm	13:30
Monitor 12	0.006	ppm	13:30
Monitor 13	0.009	ppm	13:30
Wind Speed	6	mph	
Wind Direction	181°		

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

**Thursday 1<sup>st</sup> February 2018:**

**AM** – Cold with Sun and light cloud.  
All OMU's in use.

**Observations:** "Odour monitors being serviced today. Spike from Monitor 5 0.038ppm (or 0.088?) @ 09.44 till 09.57.

**Actions:** "No action".

**PM** – Cool.

All OMU's in use.

**Observations:** "No odour issues. Nothing to report on Trends."

**Actions:** None noted.

#### **Friday 2<sup>nd</sup> February 2018:**

**AM** – Cold with Sun and heavy cloud.

All OMU's in use.

**Observations:** "No odour problems."

**Actions:** None noted.

**PM** – Sun with heavy cloud and rain.

OMU 11 out of use.

**Observations:** "No odour problems."

**Actions:** None noted.

#### **Saturday 3<sup>rd</sup> February 2018:**

**AM** – Cool with Partial Sun and heavy cloud and rain.

All OMU's in use.

**Observations:**

"Odour monitor 5 spiked @ 11:28 (0.021) for under 15 minutes. No odour problems.

**Actions:** None noted.

**PM** – Cold with Partial Sun and heavy cloud and rain.

All OMU's in use.

**Observations:** "No odour spikes."

**Actions:** None noted.

#### **Sunday 4<sup>th</sup> February 2018:**

**AM** – No observations made.

All OMU's in use.

**Observations:** "Odour monitor No.5 spiked @ 0.027ppm at 15:44 -

15:58.”

**Actions:** “No odours found.”

**PM** – No observations noted.

All OMU’s in use.

**Observations:** “Mon 2 0.015 @ 18:02 – 18:59.”

**Actions:** None noted.

### **Monday 5<sup>th</sup> February 2018:**

**AM** – Cold with Sun and partial cloud.

OMU - All OMU’s in use.

**Observations:** “Monitor 5 – spike 15:40 – 15:55 0.030ppm. Monitor 9 – spike 13:40 – 13:55 0.020ppm. Spikes investigated. Unable to identify source of odour.”

**Actions:** None noted.

**PM** – Cold.

All OMU’s in use.

**Observations:** “OM 1-5 No spikes.”

**Actions:** None noted.

### **Tuesday 6<sup>th</sup> February 2018:**

**AM** – Cold with Sun and partial cloud.

All OMU’s in use.

**Observations:** “Monitor 4 – one spike 0.018ppm. No odour identified.”

**Actions:** None noted.

**PM** – No observations noted.

All OMU’s in use.

**Observations:** “Odour monitor 4 spiked 0.018ppm. Area at back of Power House checked and all OK.

**Actions:** None noted.

### **Wednesday 7<sup>th</sup> February 2018:**

**AM** – Cold with Sun and partial cloud.

All OMU’s in use.

**Observations:** “Monitor 10 – one spike 0.018ppm 16:09 – 16:25.”

**Actions:** "Digester Bell height high. Waste gas burner on."

**PM** – Freezing with bright Sun.

All OMU's in use.

**Observations:** "No odour spikes."

**Actions:** None noted.

## 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					
02/02/18	0	2174	970	3144	7592	10736
05/02/18	0	1987	2906	4893	7925	12818
08/02/18	0	1861	970	2831	4232	7063

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 within three days.

## 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.

**Digester 5** - in use – seal level approx. 1ft below coping stones – seal weak and bubbling – evidence of dried spill requiring clean-up.

**Digester 6** - in use – seal level approx. 2ft below coping stones – seal weak and bubbling – evidence of dried spill requiring clean-up.

**Digester 7** - in use – seal level approx. 3ft below coping stones – seal weak and bubbling vigorously – ongoing spill from tank requiring clean-up – Bell height high – requires draw down of biogas.

**Digester 8** – in use – seal level approx. 3ft below coping stones – seal

weak and bubbling vigorously – ongoing spill from tank requiring clean-up – Bell height high – requires draw down of biogas.

**Digester 9** - in use – seal level approx. 2ft below coping stones – good seal (stones in use).

**Digester 10** – in use – seal level approx. 2ft below coping stones – seal weak and bubbling.

**Digester 11** - in use – seal level approx. 3ft below coping stones – seal weak and bubbling vigorously – ongoing spill from tank requiring clean-up.

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

**Digester 13** - out of use – empty and clean – contractor on site undertaking maintenance.

**Digester 14** - in use – seal level approx. 1ft below coping stones – good seal (stones in use).

**Digester 15** - in use – seal level approx. 1ft below coping stones – seal weak and bubbling – ongoing spill from tank requiring clean-up.

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

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

**Digester 18** - in use – seal level approx. 3ft below coping stones – seal weak and bubbling.

**Digester 19** -- in use – seal level approx. 4ft below coping stones – seal weak and bubbling.

**Digester 20** - in use – seal level 5ft below coping stones - seal weak and bubbling.



There was evidence of anti-foaming agent in use and TW advised that this is applied daily to all of the digesters that are operational.

3x full, 5x partially filled & 6x empty tanks of anti-foaming agent seen positioned throughout area. Installation of "auto-dosing" for anti-foam agent to all digesters operational – currently using 2-3 tanks weekly.

## **GENERAL**

### **Sludge Screening House**

Shutter doors open at time of inspection – contractors on site undertaking maintenance - no local odours.

### **Imported Sludge**

Ten imports of 35m<sup>3</sup> 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). Tank 71 drained down and out of service.

### **Skips**

1x small open skip containing general waste located by Main Pumping Station

2x empty small grit slips. – Ongoing spill from plant above – with ponded sludge/grit and rag hanging from plant – requires removal.

1x large open skip – half full of general waste and one small open empty skip located on Service Road by FST's 71-78.

By the pasteurization plant there was one small open skip containing

rag – covered by frame with yellow tarpaulin.

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

1x small open skip approximately 50% full of mixture of rag and timber offcuts located by West side Inlet Works.

### **East Side Screen House**

All doors closed.

### **Pasteurisation Plant**

The pasteurisation plant is in service and fully operational.

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

Rectangular PSTs – no issues

Circular PST's 9, 10, 11 & 12 all in use.

### **West Side Aeration Lanes (Old)**

Battery C aeration feed channel approximately 30% obstructed in one channel – requires jetting.

### **New Works (West Side)**

Feed Channel for Aeration Lanes 20 & 22 – 25 clear. Aeration Lane 21 approximately 20% obstructed – requires jetting.

Approximately 900% of tanks have again developed “fluffy” coverage across surface – worsened since previous inspection. Quantity of physical detritus in tank that has bypassed screener has decreased

significantly. Sprinkler head performance has been improved (cleaned/pressure increase).

**Odour Control Unit (OCU) performance monitoring – (07/02/18)**

<b>Plant</b>	<b>Reading (ppm)</b>	<b>Action Level (ppm)</b>	<b>Compliant</b>
Main pumping station inlet	2.470 2.196 2.100	Unknown	Unknown
Main pumping station outlet	0.152 0.146 0.137	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	No Data	Unknown	Unknown
Sludge reception outlet	0,00 0,00 0.00	0.8	Yes
Thickening plant inlet	No data		Unknown
Thickening plant outlet	0.005 0.005 0.005	0.6	Yes
Transfer PS inlet	No Data	Unknown	Unknown
Transfer PS outlet	0.00 0.00 0.00	0.6	Yes
New West inlet (OCU 11)	0.00 0.00 0.00	0.5	Yes
OCU 12 (Pasteurisation Plant)	0.00 0.00 0.00 0.008	0.5	Yes

