



# London Borough of Hounslow

## Mogden Sewage Treatment Works

### TW Site Inspection

| <b>Date of inspection:</b> 8 <sup>th</sup> November 2018   |                                       |
|--|---------------------------------------|
| <b>Attendees:</b> Mr Steven Maunders (London Borough of Hounslow) and Mr Waleed Janjua (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 50% of tank covered by dried grit and sludge – requires further flushing - Hoppers 1, 2 &amp; 3 drained down to bottom level.</p> <p><b>Tank 1B</b> – Tank empty and flushed clean. Hoppers 1, 2 &amp; 3 approximately 50% full – require draining/over-pumping.</p> <p><b>Tank 2A</b> – Tank empty and flushed clean - Hopper 1 approximately 80% full, Hopper 2 approximately 50% full and Hopper 3 drained down to bottom.</p> <p><b>Tank 2B</b> – Tank recently returned – whole tank covered by grit and sludge – requires further flushing - Hoppers 1, 2 &amp; 3 approximately 80% full - requires draining/over-pumping.</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 recently returned – whole tank covered by grit and sludge – requires further flushing - Hoppers 1, 2 &amp; 3 drained down to</p> |                                       |

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. Window hatch removed to enable access for over-pumping – requires replacement.

**Tank 6A** – Tank empty and flushed - Hoppers 1, 2 & 3 drained down to bottom level.

**Tank 6B** – Tank empty and flushed - approximately 25% of tank covered by dried grit and sludge – requires further flushing. – Hoppers 1, 2 & 3 full - requires draining/over-pumping.

**Tank 7A** – Tank recently returned – whole of tank covered by dried grit and sludge – requires further flushing - Hoppers 1, 2 & 3 drained down to bottom.

**Tank 7B** – Tank recently returned – whole of tank covered by grit and sludge – requires further flushing - Hoppers 1, 2 & 3 drained down to bottom level.

**Tank 8A** – Tank empty and flushed clean. Hopper 1, 2 & 3 approximately 75% full – requires draining/over-pumping.

**Tank 8B** – Tank empty and flushed - approximately 25% of tank covered by dried grit and sludge – requires further flushing. Hoppers 1 & 2 approximately 80% full. Hopper 3 empty.

**Feed Channel** - The level of effluent in both feed channels was approximately 30-40% – 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 (although this contradicts Odour Log).

**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      | 0.007 | ppm | 13:08 |
| Monitor 2      | 0.010 | ppm | 13:08 |
| Monitor 3      | 0.003 | ppm | 13:08 |
| Monitor 4      | 0.006 | ppm | 13:08 |
| Monitor 5      | 0.006 | ppm | 13:08 |
| Monitor 6      | 0.008 | ppm | 13:08 |
| Monitor 7      | 0.008 | ppm | 13:08 |
| Monitor 8      | 0.008 | ppm | 13:08 |
| Monitor 9      | 0.005 | ppm | 13:08 |
| Monitor 10     | 0.007 | ppm | 13:08 |
| Monitor 11     | 0.007 | ppm | 13:08 |
| Monitor 12     | 0.006 | ppm | 13:08 |
| Monitor 13     | 0.007 | ppm | 13:08 |
| Wind Speed     | 8     | mph |       |
| Wind Direction | 209°  |     |       |

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

**Thursday 1<sup>st</sup> November 2018**

**AM** – Cool - Rain

All OMU's in use.

**Observations/Complaints:** None noted.

**Operational Issues/Causes:** "No odour issues. Nothing of note on trends."

**Actions:** None noted.

**PM** – Cold – Clear Night.

All OMU's in use.

**Observations/Complaints:** "OM2 – 0.016 @ 21:45-22:45. OM8 0.016 @ 19:13-21:13."

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

**Actions:** "Aram visited areas nothing found."

#### **Friday 2<sup>nd</sup> November 2018**

**AM** – Cool – Sunny w/Patchy Clouds.

All OMU's in use.

**Observations/Complaints:** "OM3 0.021ppm 13:09-13:24, OM3 0.021ppm 14:24-14:39."

**Operational Issues/Causes:** "OCU11 chemical dosing out of range. Recirculation pumps not available."

**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 3<sup>rd</sup> November 2018**

**AM** – Cool – Sunny w/Patchy Clouds.

All OMU's in use.

**Observations/Complaints:** "None noted."

**Operational Issues/Causes:** "No odour issues. No spikes on trends."

**Actions:** None noted.

**PM** – Cool – Overcast Night.

All OMU's in use.

**Observations/Complaints:** None noted.

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

**Actions:** None noted.

#### **Sunday 4<sup>th</sup> November 2018**

**AM** – Cool – Sunny w/Patchy Clouds.

All OMU's in use.

**Observations/Complaints:** None noted.

**Operational Issues/Causes:** "No odour issues. Nothing of note on trends."

**Actions:** None noted.

**PM** – Cool – Overcast Night.

All OMU's in use.

**Observations/Complaints:** "om 3 spiked multiple times through night to a max of 0.045 @ 02:10 for 1 hour."

**Operational Issues/Causes:** "OCU11 chemical dosing out of range. Recirculation pumps not available. Output at exhaust showing 767ppm. Area checked for odours. No significant smells detected."

**Actions:** None noted.

### **Monday 5<sup>th</sup> November 2018**

**AM** – Warm – Sunny w/ Patchy Clouds.

OMU - 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:** "om 3 spiking through night to max of 0.055 @ 02:10 for 1 hour."

**Operational Issues/Causes:** "OCU11 chemical dosing out of range. Recirculation pumps not available. Output at exhaust showing 767ppm. Area checked for odours. No significant smells detected."

**Actions:** None noted.

### **Tuesday 6<sup>th</sup> November 2018**

**AM** – Warm – Cloudy.

All OMU's in use.

**Observations/Complaints:** None noted.

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

**Actions:** None noted.

**PM** – Cool – Rain.

All OMU's in use.

**Observations/Complaints:** "OM3 spike 0.025ppm 03:10-04:25."

**Operational Issues/Causes:** "No odour identified in the area. OCU11 chemical dosing out of range."

**Actions:** None noted.

**Wednesday 7<sup>th</sup> November 2018**

**AM** – Warm – Rain.

All OMU's in use.

**Observations/Complaints:** None noted.

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

**Actions:** None noted.

**PM** – Cool – Rain.

All OMU's in use.

**Observations/Complaints:** None noted.

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

**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                         |             |             |            |           |             |
| 05/11/18  | 0                           | 1162        | 801         | 1963       | 4428      | 6391        |
| 06/11/18  | 0                           | 1449        | 0           | 1449       | 5093      | 6542        |
| 07/11/18  | 0                           | 1546        | 389         | 1935       | 2902      | 4837        |

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.

**Digester 5** - in use – seal level approx. 3ft below coping stones – seal weak and bubbling. Ongoing spitting/spill – requires anti-foam and clean-up.

**Digester 6** - in use – seal level approx. 2ft below coping stones – seal weak and bubbling – Ongoing spitting/spill – requires anti-foam and clean-up.

**Digester 7** - in use – seal level approx. 3ft below coping stones – good seal.

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

**Digester 9** - in use – seal level approx. 1ft below coping stones – seal weak and bubbling. Ongoing spitting/spill – requires anti-foam and clean-up.

**Digester 10** – in use – seal level approx. 1ft below coping stones – seal weak and bubbling – evidence of recent spill – requires anti-foam and clean-up.

**Digester 11** - in use – seal level approx. 1ft below coping stones – seal weak and bubbling. Ongoing spitting/spill – requires anti-foam and clean-up.

**Digester 12** - in use – seal level approx. 1ft below coping stones – good seal.

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

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

**Digester 15** - in use – seal level approx. 1ft below coping stones – seal weak and bubbling. Ongoing spitting/spill around whole tank – requires anti-foam and 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 – good seal.

**Digester 18** -- in use – seal level approx. 2ft below coping stones – good seal.

**Digester 19** - in use – seal level approx. 3ft below coping stones – seal weak and bubbling.



**Digester 20** - in use – seal level approx. 3ft below coping stones – good seal.

Approximately six weeks ago experienced complete failure of “auto-dosing” system for anti-foam agent to all digesters – relevant parts for repair have proven difficult to source and process has taken a number of weeks to complete – this has resulted in additional anti-foam being required to be manually added to each tank daily – the dosing of which has proven difficult to achieve which has decreased the quality of the Digester seals and has increased the number of spit/spill incidents. Large quantity of full and empty small canisters of anti-foam located around Digesters.

## **GENERAL**

### **Sludge Screening House**

Shutter doors open at time of inspection – contractors on site replacing flooring throughout whole building.

### **Imported Sludge**

Estimated average of ten 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 open empty general waste skip containing 1x black sack positioned in service road by FST's 71-78.

1x large enclosed skip containing waste metals and 1x large open

general waste skip 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.

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

Rectangular PSTs – no issues  
Circular PST's 9, 10, 11 & 12 all in use. Currently installing trial of odour control “mistors” on Tank 10 – pipe installed around tank top tail with nozzle sprays at regular intervals which can be utilised to create a plume of deodoriser (same as current mobile units on site) – intention to roll this out to all “odorous areas” on site if proves effective during trial period.

### **East Side Raw Sludge Screen House**

Doors closed at time of inspection.

### **Pasteurisation Plant**

All pasteurisation plant in service and fully operational.

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

Battery C aeration feed channel approximately 10% obstructed in one channel – requires jetting.

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

Feed Channel for Aeration Lanes 21-23 totally obstructed – requires jetting.  
 Condition of Tanks improved markedly since last inspection - “fluffy” coverage across surface completely removed and quantity of physical detritus in tank bypassing screener also reduced.

**Odour Control Unit (OCU) performance monitoring – (05/11/18)**

| Plant                       | Reading (ppm)           | Action Level (ppm) | Compliant |
|-----------------------------|-------------------------|--------------------|-----------|
| Main pumping station inlet  | 0.123<br>0.116<br>0.100 | Unknown            | Unknown   |
| Main pumping station outlet | 0.000<br>0.000<br>0.000 | 0.2                | Yes       |
| East OCU                    | 0.000<br>0.000<br>0.000 | 0.05               | Yes       |
| West inlet OCU              | 0.000<br>0.000<br>0.000 | 0.05               | Yes       |
| Sludge reception inlet      | No data                 | Unknown            | Unknown   |
| Sludge reception outlet     | 0.000<br>0.000<br>0.000 | 0.8                | Yes       |
| Thickening plant inlet      | No data                 | Unknown            | Unknown   |
| Thickening plant outlet     | 0.000<br>0.000<br>0.000 | 0.6                | Yes       |
| Transfer PS inlet           | No Data                 | Unknown            | Unknown   |
| Transfer PS outlet          | 0.000<br>0.000<br>0.000 | 0.6                | Yes       |
| New West inlet (OCU 11)     | 0.121<br>0.118<br>0.118 | 0.5                | Yes       |

|                                  |                         |     |     |  |
|----------------------------------|-------------------------|-----|-----|--|
| OCU 12 (Pasteurisation<br>Plant) | 0.000<br>0.000<br>0.000 | 0.5 | Yes |  |
|----------------------------------|-------------------------|-----|-----|--|