



# London Borough of Hounslow

## Mogden Sewage Treatment Works

### TW Site Inspection

<b>Date of inspection:</b> Tuesday 26 <sup>th</sup> October 2021 (1pm)	
<b>Attendees:</b> Mr I Inman (London Borough of Hounslow), Ms C Simmonds (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> was empty and clean. Hopper 1 was approx. 20% full, hoppers 2 and 3 were both approx. 5% full.</p> <p><b>Tank 1B</b> was empty but filthy. The tank appeared to have been recently returned and had wet odorous sludge along the left hand side and top end of the tank. Hopper 1 was approx. 15% full, hopper 2 was approx. 5% full and hopper 3 was approx. 40% full. Hopper 3 required draining down.</p> <p><b>Tank 2A</b> was empty but had dry grit along the entire right hand side of the tank. Hoppers 1 and 2 were both approx. 10% full, hopper 3 was approx. 5% full.</p> <p><b>Tank 2B</b> was empty but had dry grit along the entire left hand side of the tank. Hopper 1 was approx. 70% full, hopper 2 was approx. 30% full and hopper 3 was approx. 45% full.</p>	

All hoppers required draining down.

**Tank 3A** was empty but had wet odorous sludge across approx. 70% of the tanks surface.

Hoppers 1 and 3 were both approx. 40% full, hopper 2 was approx. 15% full.

All hoppers drained down.

**Tank 3B** was empty but filthy. The tank appeared to have been recently returned and had thick wet odorous sludge was across the entire tanks surface, which appeared very gritty in places.

Hoppers 1, 2 and 3 were all completely full and overflowing.

All hoppers required draining down.

**Tanks 4A, 4B, 5A & 5B** All tanks are covered and odour controlled. Still unable to gauge condition of these tanks as the internal lighting system is still not working.

**Tank 6A** was empty and relatively clean except for an area of dry grit on the right hand side at the bottom end of the tank

Hoppers 1, 2 and 3 were all completely full and contained stagnant odorous effluent.

All hoppers required draining down.

**Tank 6B** was empty but had an area of wet gritty sludge along the left hand side and the bottom end of the tank

Hoppers 1, 2 and 3 were all virtually full and contained stagnant effluent that was noticeably odorous.

All hoppers required draining down.

**Tank 7A** was empty but had effluent back-filling from the hoppers which were overflowing. The first half of the tank had dried grit and wet sludge that was green in areas.

Hoppers 1, 2 and 3 were therefore full and noticeably odorous.

All hoppers required draining down.

**Tank 7B** was empty but had thick grit and patchy green sludge along the left hand side and top end of the tank.

Hoppers 1, 2 and 3 (shallow hoppers) all appeared clogged with grit and sludge that was noticeably odorous, rag was also hanging from the

metal framework within the tank.

**Tank 8A** had effluent that was back-filling from the hoppers (all of which were full), that was inky black in colour and covering >50% of the tanks surface.

All hoppers required draining down.

**Tank 8B** was empty but had grit and sludge along the left hand side, middle section and top end of the tank, some of which was green in colour and noticeably odorous.

Hoppers 1, 2 and 3 were all completely full.

All hoppers required draining down.

**Storm Feed Channel** - The condition of the storm channel appears to be steadily deteriorating.

Although the level of effluent in both feed channels was low, bottomed out in some areas, it was again noted that large amounts of grit (possibly 18" thick in places) was present, along with sludge containing solid deposits in a number of areas.

This material was present in both the near and far side channel, and both were very odorous in places.

### **Complaints**

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

The Council received no complaints by either email or the on-line web system in the preceding week.

The Council received no complaints by email from MRAG in the preceding week.

### Odour Monitors

The odour readouts (H<sub>2</sub>S) for all monitors were not providing data on 28/09/2021 at the time of the inspection due to a complete failure of the SCADA system.

TW advised an engineer was due on site shortly to try and rectify the problem

Monitor 1	-----	ppm	13:00pm
Monitor 2	-----	ppm	13:00pm
Monitor 3	-----	ppm	13:00pm
Monitor 4	-----	ppm	13:00pm
Monitor 5	-----	ppm	13:00pm
Monitor 6	-----	ppm	13:00pm
Monitor 7	-----	ppm	13:00pm
Monitor 8	-----	ppm	13:00pm
Monitor 9	-----	ppm	13:00pm
Monitor 10	-----	ppm	13:00pm
Monitor 11	-----	ppm	13:00pm
Monitor 12	-----	ppm	13:00pm
Monitor 13	-----	ppm	13:00pm
Wind Speed	-----	mph	13:00pm
Wind Direction	-----		13:00pm

### Odour Log (Thames)

#### Wednesday 20<sup>th</sup> October 2021

##### **DAY SHIFT**

**Temp.** Warm.

**Weather.** Rain with s/spells.

**Odour Readings.** All OMU's in operation.

**Time:** 17:30.

**Observations / Customer Complaint.** No odour issues found or reported.

**Operational issues / causes observed.** Blank.

**Actions Taken.** Blank.

##### **NIGHT SHIFT**

**Temp.** Cool.  
**Weather.** Rain.  
**Odour Readings.** All OMU's in operation.  
**Time:** 05:30.  
**Observations / Customer Complaint.** No odour issues.  
**Operational issues / causes observed.** Blank.  
**Actions Taken.** Blank.

**Thursday 21<sup>st</sup> October 2021**

**DAY SHIFT**

**Temp.** Cool.  
**Weather.** Sunny w/patchy clouds.  
**Odour Readings.** All OMU's in operation.  
**Time:** 17:30.  
**Observations / Customer Complaint.** No odour issues.  
**Operational issues / causes observed.** Blank.  
**Actions Taken.** Blank.

**NIGHT SHIFT**

**Temp.** Cold..  
**Weather.** Clear night.  
**Odour Readings.** All OMU's in operation.  
**Time:** 05:30.  
**Observations / Customer Complaint.** No odour issues.  
**Operational issues / causes observed.** Blank.  
**Actions Taken.** Blank.

**Friday 22<sup>nd</sup> October 2021**

**DAY SHIFT**

**Temp.** Cool.  
**Weather.** Sunny w/patchy clouds.  
**Odour Readings.** All OMU's in operation.  
**Time:** 17:30.  
**Observations / Customer Complaint.** No odour issues.  
**Operational issues / causes observed.** Blank.  
**Actions taken.** Blank.

**NIGHT SHIFT**

**Temp.** Cold.  
**Weather.** Clear night.

**Odour Readings.** All OMU's in operation.

**Time:** 05:30.

**Observations / Customer Complaint.** No odour issues found or reported.

**Operational issues / causes observed.** Blank.

**Actions taken.** Blank.

**Saturday 23<sup>rd</sup> October 2021**

**DAY SHIFT**

**Temp.** Warm.

**Weather.** Cloudy w/sunny spells.

**Odour Readings.** All OMU's in operation.

**Time:** 17:30.

**Observations / Customer Complaint.** No odour issues.

**Operational issues / causes observed.** Blank.

**Actions taken.** Blank.

**NIGHT SHIFT**

**Temp.** Cool.

**Weather.** Overcast night.

**Odour Readings.** All OMU's in operation.

**Time:** 05:30.

**Observations / Customer Complaint.** No odour issues found or reported.

**Operational issues / causes observed.** Blank.

**Actions taken.** Blank.

**Sunday 24<sup>th</sup> October 2021**

**DAY SHIFT**

**Temp.** Warm.

**Weather.** Sunny w/patchy spells.

**Odour Readings.** All OMU's in operation.

**Time:** 17:30.

**Observations / Customer Complaint.** No odour issues.

**Operational issues / causes observed.** Blank.

**Actions taken.** Blank.

**NIGHT SHIFT**

**Temp.** Cool.

**Weather.** Overcast night.

**Odour Readings.** All OMU's in operation.

**Time:** 05:30.

**Observations / Customer Complaint.** No odour issues found or reported.

**Operational issues / causes observed.** Blank.

**Actions Taken.** Blank.

**Monday 25<sup>th</sup> October 2021**

**DAY SHIFT**

**Temp.** Warm.

**Weather.** Sunny w/patchy clouds.

**Odour Readings.** All OMU's in operation.

**Time:** 17:30.

**Observations / Customer Complaint.** No odour issues found or reported.

**Operational issues / causes observed.** Blank.

**Actions taken.** Blank.

**NIGHT SHIFT**

**Temp.** Cool.

**Weather.** Patchy rain.

**Odour Readings.** All OMU's in operation.

**Time:** 05:30.

**Observations / Customer Complaint.** OM5 spiked at 19:03-19:17 but <15 mins duration, max 0.024ppm.

**Operational issues / causes observed.** Blank.

**Actions Taken.** Blank.

**Tuesday 26<sup>th</sup> October 2021**

**DAY SHIFT**

**Temp.** Warm.

**Weather.** Cloudy.

**Odour Readings.** All OMU's in operation.

**Time:** 17:30.

**Observations / Customer Complaint.** No odour issues found or reported.

**Operational issues / causes observed.** Blank.

**Actions taken.** Blank.

**NIGHT SHIFT**

**Temp.** Cool.

**Weather.** Rain w/sunny spells.

**Odour Readings.** All OMU's in operation.

**Time:** 05:30.

**Observations / Customer Complaint.** No odour issues.

**Operational issues / causes observed.** Blank.

**Actions Taken.** Blank.



### **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					
20/10/2021	0	885	885	1770	2124 <b>2094*</b>	3894 <b>3864*</b>
25/10/2021	0	946	740	1686	456	2142

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.

\* **Incorrect figures entered on Thames Water paperwork.**

### **Imported Sludge**

There have been an average of 10 imports of sludge per day in the preceding week.

### **No.5 Pumping Station**

The door and one window of No.5 pumping station were open at the time of the inspection.

### **Sludge Import Area**

It was noted that the condition around the sludge import area is starting to deteriorate again.

One of the two skips present was only part covered and both skips

were virtually full and giving off odour. It was also noted that general rubbish and plastics had been dumped in one of these skips.

TW were again requested to change these skips and ensure they are kept covered when being used.

### **Raw Sludge Screening House**

The large roller shutter door of the Raw Sludge Screening building was open at the time of the inspection.

Thames advised this unit is currently out of use due to ongoing maintenance, which appeared to be taking place at the time of the inspection.

### **Digesters**

**Digesters 1-4** Out of use (permanent).

Thames advised of a long term project currently initiated to bring these units back into service that will require significant investment.

**Digester 5** was out of service.

**Digesters 6, 7, 8, 9, 10 and 11** were all in service and had a very wet seals that was bubbling off minimal amounts of gas, it was noted that all of the seal levels appeared abnormally low.

**Digester 12** was out of service.

**Digesters 13 and 14** were both in service and had a very wet seals that was bubbling off minimal amounts of gas, it was noted that both of the seal levels appeared abnormally low.

**Digester 15** was out of service.

**Digester 16** was in service and had a very wet seal that was bubbling off minimal amounts of gas, it was noted that the seal level appeared abnormally low.

There was evidence of a very recent spill that required cleaning.

**Digester 17** was in service and had a very wet seal that was bubbling off minimal amounts of gas, it was noted that the seal level appeared abnormally low.

**Digester 18** was out of service.

**Digester 19** was in service and had a very wet seal that was bubbling off minimal amounts of gas.

**Digester 20** was in service and had a very wet seal that was bubbling off minimal amounts of gas, it was noted that the seal level appeared abnormally low.

Anti-foaming agent is in use, which TW advised was being applied manually to all operational digesters due to the automatic dosing equipment not operating.

## **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).

All tanks were in operation at the time of the inspection. It was noted that all 8 tanks had varying amounts of green algae and/or scum on tanks surface, some of which appeared lumpy. However, no odour was present.

### **Skips**

On the East side there two 14yds open skips.

One contained a quantity of general rubbish and the other contained a small amount of sodden wet rag and cloth, the skip was uncovered and the tarpaulin cover was on the floor.

Thames were again requested to remove these skips and ensure they are kept covered when in use.

Also present was one 40yds closed bulk carrier that was empty and one 20yds open bulk carrier that was full of grit. This skip was uncovered and the tarpaulin to cover it was lying on the floor.

Two of the three roller shutter doors on the East side grit building were open and a Bobcat Skidsteer loader was parked inside.

On the service road next to the raw sludge screening building was a closed 14yds skip.

On the West side there was one 20yds open bulk carrier that was empty.

#### **East Side Screen House**

The first set of doors to the screen house were open at the time of the inspection, TW were unable to confirm why they were open. No other issues appeared evident.

#### **Return Activated Sludge Channel**

The nearside RAS channel (which runs in the ground between FST's 61-64 & 65-67) was free flowing and clear.

The far side channel was clogged along 50% of its length, there was a significant number of weeds were growing out of it and through the steel grating.

It was noted that FST's 61 to 64 were in a very poor condition. Surface sludge was evident in some of the tanks and a hose was being used to break this up.

A significant sludge spill had recently occurred in the area around the tanks which required cleaning.

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

Rectangular PSTs are now covered and odour controlled.  
TW advised no issues.

Circular PST's 9, 10 and 11 were all in use. All had some surface scum that appeared to be fatty type algae.

Circular PST 12 is currently out of service. It was noted that the area in the middle of the tank contained a large quantity of solid fat, algae, rag and other debris.

### **Pasteurisation Plant**

The pasteurisation plant is in service. TW advised 10 streams are currently operational.

During the inspection it was also noted that a spillage(s) had taken place by the plant and machinery and pipework was splashed with sludge, which appeared to have clogged the box channel.

### **Section 106 agreement**

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

### **West Side Aeration Lanes**

The previous biological issues in all lanes now seems to have been resolved and the effluent appeared to be free-flowing with reduced surface foam.

A large number of the sprinklers were still out of operation and floating debris was present in most of these areas.

The surface area of the mixed liquor feed channel serving the aeration lanes of E-Battery was free-flowing between lanes 22-25. However, lane 22 was partially clogged with floating debris.

**New Inlet Works (West Side)**

No issues appeared evident at the new inlet works and everything appeared to be in a good tidy order.

**Odour Control Unit (OCU) performance monitoring:**

No OCU data was available due to high numbers of Covid cases amongst day ops staff.

<b>Plant</b>	<b>Reading (ppm)</b>	<b>Action Level (ppm)</b>	<b>Compliant</b>
Main pumping station outlet	Not Available	0.2	Unknown
East OCU	Not Available	0.05	Unknown
West inlet OCU	Not Available	0.05	Unknown
Thickening plant outlet	Not Available	0.6	Unknown
New West inlet (OCU 11)	Not Available	0.5	Unknown
Pasteurisation (OCU 12)	Not Available	0.5	Unknown
Transfer PS inlet	Not Available	Unknown	Unknown
Transfer PS outlet	Not Available	0.6	Unknown
GBT Plant OCU Outlet	Not Available	Unknown	Unknown