



# London Borough of Hounslow

## Mogden Sewage Treatment Works

### TW Site Inspection

**Date of inspection:** Tuesday 13<sup>th</sup> April 2021 (12:45pm)

**Attendees:** Mr I Inman (London Borough of Hounslow) and Mr T Costin (Thames Water)

#### LB Hounslow Observation

#### Thames Water Action / Response

#### **Storm Water Storage Tanks (SWST)**

**Tank 1A** was empty and clean.

Hopper-1 was >25% full, hoppers-2 and 3 were drawn down to low level.

**Tank 1B** was empty but had dry grit across 25% of the top end of the tank.

Hoppers-2 and 3 were both >25% full, hopper-3 was 25% full.

**Tank 2A** was empty but had large areas of dry grit on the tanks surface (top and bottom end and along right hand side).

Hopper-1 was >25% full, hopper-2 was 75% full and hopper-3 was approx. 30% full.

**Tank 2B** was empty but had large areas of dry grit on the tanks surface (top end and along left hand side).

Hoppers-1, 2 and 3 were all 75% full.

**Tank 3A** was empty and clean.

Hoppers-1, 2 and 3 were all 75% full.

**Tank 3B** was empty and clean.  
Hoppers-1 and 2 were full, hopper-3 was 75% full.

**Tanks 4A, 4B, 5A & 5B** All tanks are covered and odour controlled.  
Unable to gauge condition as lighting system still not working.

**Tank 6A** was not in use but had full hoppers and effluent across 75% of tanks surface due to faulty non-return valve.

**Tank 6B** was empty but had dry grit across 25% of the bottom end of the tank.  
Hopper-1 was full, hoppers-2 and 3 were both 75% full.  
Odour was noticeably present in this location.

**Tank 7A** was empty but had dry grit across 25% of the bottom end of the tank.  
Hoppers-1, 2 and 3 (shallow hoppers) were all full of green stagnant water.

**Tank 7B** was empty but had dry grit and sludge across the entire tanks surface.  
Hoppers-1, 2 and 3 (shallow hoppers) were all full of stagnant water.  
Odour was noticeably present in this location.

**Tank 8A** was not in use but had full hoppers and effluent across 50% of tanks surface.

**Tank 8B** was not in use but had full hoppers and effluent across 50% of tanks surface. Dry grit was also present at the top end of the tank

**Storm Feed Channel** - The level of effluent in both feed channels was very low along their entire lengths (almost bottomed out). However, large amounts of grit and solid matter was present which required flushing.

Thames were advised by the inspecting officer that the current standard of the storm tanks was not acceptable. Works were urgently required to clean the tanks and over-pump or drain down the hoppers.

**Complaints**

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

The Council directly 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.

**Odour Monitors**

The odour readouts (H<sub>2</sub>S) for all monitors that were providing data on 13/04/2021 at the time of the inspection are below.

Monitor 1	0.004	ppm	12:51pm
Monitor 2	0.000	ppm	12:51pm
Monitor 3	0.000	ppm	12:51pm
Monitor 4	0.000	ppm	12:51pm
Monitor 5	0.004	ppm	12:51pm
Monitor 6	0.003	ppm	12:51pm
Monitor 7	0.004	ppm	12:51pm
Monitor 8	0.005	ppm	12:51pm
Monitor 9	0.004	ppm	12:51pm
Monitor 10	0.000	ppm	12:51pm
Monitor 11	0.003	ppm	12:51pm
Monitor 12	0.005	ppm	12:51pm
Monitor 13	0.000	ppm	12:51pm
Wind Speed	4.324	mph	12:51pm
Wind Direction	288.517		12:51pm

**Odour Log (Thames)**

**Wednesday 7<sup>th</sup> April 2021**

**DAY SHIFT**

**Temp.** Cool.

**Weather.** Sunny with patchy clouds.

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

**Time:** 17:30.

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

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

**NIGHT SHIFT**

**Temp.** Cold.

**Weather.** Clear night.

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

**Time:** 05:30.

**Observations / Customer Complaint.** OM5 00.17ppm 04:05-05:05.

**Operational issues / causes observed.** Occasional odour from PAS area. No sludge spills.

**Thursday 8<sup>th</sup> April 2021**

**DAY SHIFT**

**Temp.** Warm.

**Weather.** Sunny with patchy clouds.

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

**Time:** 17:30.

**Observations / Customer Complaint.** OM5 0.028ppm 10:49-11:05, 0.017ppm 16:20-16:35.

**Operational issues / causes observed.** PAS area checked, odour from vent on main drive.

**NIGHT SHIFT**

**Temp.** Cool.

**Weather.** Clear night.

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

**Time:** 05:30.

**Observations / Customer Complaint.** OM5 0.016ppm 21:20-21:35, 0.024ppm 23:05-23:30, 0.017ppm 01:20-01:35, 0.017ppm 04:21-04:35.

**Operational issues / causes observed.** PAS area checked. No sludge spills. Overflow water traps checked. Confirmed that OCU12 is running.

**Friday 9<sup>th</sup> April 2021**

**DAY SHIFT**

**Temp.** Warm.

**Weather.** Sunny with 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.

**NIGHT SHIFT**

**Temp.** Cool.

**Weather.** Clear night.

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

**Time:** 05:30.

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

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

**Saturday 10<sup>th</sup> April 2021**

**DAY SHIFT**

**Temp.** Cool.

**Weather.** Rain with sunny 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.

**NIGHT SHIFT**

**Temp.** Cold.

**Weather.** Clear night.

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

**Time:** 05:30.

**Observations / Customer Complaint.** OM10 0.016ppm 03:54-04:06.

**Operational issues / causes observed.** High bell heights, flare running.

**Sunday 11<sup>th</sup> April 2021**

**DAY SHIFT**

**Temp.** Cool.

**Weather.** Sunny with 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.

#### **NIGHT SHIFT**

**Temp.** Freezing.

**Weather.** Clear night.

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

**Time:** 05:30.

**Observations / Customer Complaint.** OM1 at 01:05-02:03, max 0.015ppm.

OM5 at 01:51-03:19, max 0.018ppm.

**Operational issues / causes observed.** Storm tanks. Vent on main drive.

**Actions Taken.** Pump down storm tanks.

#### **Monday 12<sup>th</sup> April 2021**

##### **DAY SHIFT**

**Temp.** Cool.

**Weather.** Sunny with patchy cloud.

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

**Time:** 17:30.

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

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

##### **NIGHT SHIFT**

**Temp.** Freezing.

**Weather.** Clear night.

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

**Time:** 05:30.

**Observations / Customer Complaint.** OM2, OM3 and OM5 spiked for less than 15 minutes.

**Operational issues / causes observed.** Vent on main drive. Storm tanks.

#### **Tuesday 13<sup>th</sup> April 2021**

**DAY SHIFT**

**Temp.** Cool.

**Weather.** Cloudy with sunny spells.

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

**Time:** 17:30.

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

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

**NIGHT SHIFT**

**Temp.** Cold.

**Weather.** Clear night.

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

**Time:** 05:30.

**Observations / Customer Complaint.** OM2 spiked at 21:40-21:55, max 0.028ppm.

**Operational issues / causes observed.** No odour sources found, east inlet area hosed down.

### **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					
07/04/2021	0	1260	2530	3790	1720	5510
09/04/2021	0	740	1073	1813	2376	4189
12/04/2021	0	801	1218	2019	2704	4723

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.

### **Imported Sludge**

There has been no imports of sludge in the preceding week.

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

The doors of No.5 pumping station were closed at the time of the inspection.

### **Sludge Import Area**

It was noted that the condition around the sludge import area was much improved and noticeably clean.

TW were advised they are frequently hosing this area down.

### **Raw Sludge Screening House**

The large roller shutter door of the Raw Sludge Screening building was closed 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 in service and had a reasonable seal with no visible sign of bubbling off gas

**Digester 6** was out of service.

**Digester 7** was in service and had a wet seal that was bubbling off minimal amounts of gas. However, one side of the digester was bubbling and spitting and it was not that the bell height was high.

**Digesters 8, 9, 10, 11, 12, 13 and 14** were all in service. All had very wet seals (virtually no seals) that were all bubbling off minimal amounts of gas.

**Digester 15** was out of service.

**Digester 16** was in service and had a wet seal that was bubbling off minimal amounts of gas. However, one side of the digester was bubbling and spitting and a spill had occurred; It was not that the bell height was high.

**Digester 17** was in service and had a very wet seal (virtually no seal) that was bubbling off minimal amounts of gas.

**Digesters 18 and 19** were both out of service.

**Digester 20** was in service and had a very wet seal (virtually no seal) that was bubbling off minimal amounts of gas.

Although there was evidence of anti-foaming agent in use, which TW advised was being applied daily to all operational digesters, there is currently an issue with the automatic anti-foam pumps.

Thames advised this is being partly addressed by manually dosing the digesters.

**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 and other than surface scum covering approx. 30% of tank 75-77, no other issues were evident.

**Skips**

On the East side there two 14yds open skips. One contained only general waste and the other was covered with a tarpaulin. Also present was one 40yds closed bulk carrier that was empty and one 20yds open bulk carrier that was also empty.

In the Sludge Import area there were two 8yds open skips, both of which contained rag and other debris, only one was covered with a tarpaulin.

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**

Both sets of doors of the screen house were closed at the time of the inspection. No 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 approx. 60% of its length, there were visibly crusty areas and a number of weeds were growing out of it.

### **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 and had relatively fat free surfaces.

No other issues were evident with these tanks.

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 and other floating debris.

### **Pasteurisation Plant**

The pasteurisation plant is in service. TW advised 7 streams are currently operational.

### **Section 106 agreement**

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

### **West Side Aeration Lanes**

All lanes are continuing to have biological issues and little surface movement was visible. Thick fluffy scum covered virtually the entire surface area of all lanes and the dividing walls were barely visible.

A number of the sprinklers were out of operation and floating debris was present in a number of areas.

The surface area of the mixed liquor feed channel serving the aeration lanes of E-Battery was clogged (including floating debris) along at least 80% of its length (noticeably between lanes 25, 24, 22 and 21).

**New Inlet Works (West Side)**

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

Combi-pactor 13 is currently being replaced and out of service.

**Odour Control Unit (OCU) performance monitoring: 13/04/2021**

Plant	Reading (ppm)	Action Level (ppm)	Compliant
Main pumping station inlet	0.03 0.02 0.02	Unknown	Unknown
Main pumping station outlet	0.03 0.03 0.03	0.2	Unknown
East OCU	0.03 0.04 0.04	0.05	Yes
West inlet OCU	0.00 0.00 0.00	0.05	Yes
Sludge reception inlet	Blank	Unknown	Unknown

Sludge reception outlet	Blank	0.8	Unknown
Thickening plant inlet	Blank	Unknown	Unknown
Thickening plant outlet	0.03 0.03 0.03	0.6	Yes
New West inlet (OCU 11)	0.02 0.01 0.01	0.5	No
Pasteurisation (OCU 12)	0.04 0.03 0.04	0.5	Yes
Transfer PS inlet	Blank	Unknown	Unknown
Transfer PS outlet	0.00 0.00 0.00	0.6	Yes