



# London Borough of Hounslow

## Mogden Sewage Treatment Works

### TW Site Inspection

**Date of inspection:** Wednesday 22<sup>nd</sup> December 2021 (12:45pm)

**Attendees:** Mr I Inman (London Borough of Hounslow), Mr N Bristow (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. Hoppers 1, 2 and 3 were all drained down.</p> <p><b>Tank 1B</b> was empty and relatively clean except for dry grit along the left hand side of the tank. Hoppers 1 and 2 were drained down, hopper 3 was approx. 25% full and required further draining down or over-pumping.</p> <p><b>Tank 2A</b> was empty and clean but had dry grit along the right hand side of the tank. Hoppers 1 and 2 were drained down, hopper 3 was approx. 25% full and required further draining down or over-pumping.</p> <p><b>Tank 2B</b> was empty and clean but had dry grit along the left hand side of the tank. Hoppers 1, 2 and 3 were all approx. 90% full and required draining down or over-pumping.</p> <p><b>Tank 3A</b> was empty but had wet sludge across 50% of the tanks surface at the hopper end</p>	

Hopper 1 was 10% full, hopper 2 was 50% full and hopper 3 was full. All required drained down or over-pumping.

**Tank 3B** was in use and had a very low level of effluent across the entire tanks surface.

**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 clean but had dry grit across the bottom half of the tank.  
Hoppers 1, 2 and 3 were all 40% full and required draining down or over-pumping.

**Tank 6B** was empty and clean but had dry grit across the bottom half of the tank.  
Hopper 1 was completely full, hoppers 2 and 3 were both 60% full; all required draining down or over-pumping.

**Tank 7A** was empty but was in a filthy state and had dry grit and wet sludge across the entire tanks surface.  
Hoppers 1, 2 and 3 (shallow hoppers) were relatively clean.  
The tank and hoppers required flushing.

**Tank 7B** was empty but had dry grit and wet sludge at the top and along the left hand side of the tank.  
Hoppers 1, 2 and 3 (shallow hoppers) were all overflowing.  
The tank and hoppers required flushing.

**Tank 8A** was in use and 50% full.  
The tank required either returning or flushing.

**Tank 8B** was empty but had wet sludge and dry grit across the top half of the tank.  
Hoppers 1, 2 and 3 were full and overflowing into the tank, all required draining down or over-pumping.

**Storm Feed Channel** - 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 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 that were providing data on 22/12/2021 at the time of the inspection are below.

Monitor 1	0.000	ppm	13:10pm
Monitor 2	0.001	ppm	13:10pm
Monitor 3	0.007	ppm	13:10pm
Monitor 4	0.004	ppm	13:10pm
Monitor 5	0.005	ppm	13:10pm
Monitor 6	0.005	ppm	13:10pm
Monitor 7	0.000	ppm	13:10pm
Monitor 8	0.006	ppm	13:10pm
Monitor 9	0.004	ppm	13:10pm
Monitor 10	0.004	ppm	13:10pm
Monitor 11	0.005	ppm	13:10pm
Monitor 12	0.000	ppm	13:10pm
Monitor 13	0.006	ppm	13:10pm
Wind Speed	5.547	mph	13:10pm
Wind Direction	134.474		13:10pm

### **Odour Log (Thames)**

**Wednesday 15<sup>th</sup> December 2021**

**DAY SHIFT**

**Temp.** Warm.

**Weather.** Cloudy.

**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.** Clear night.

**Odour Readings.** All OMU's in operation.  
**Time:** 05:30.  
**Observations / Customer Complaint.** OM8 0.015ppm 0.:35-03:45.  
**Operational issues / causes observed.** No odour issues. Spike <15 minutes.  
**Actions Taken.** Blank.

**Thursday 16<sup>th</sup> December 2021**

**DAY SHIFT**

**Temp.** Cool.

**Weather.** Cloudy.

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

**Time:** 17:30.

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

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

**Actions Taken.** Blank.

**NIGHT SHIFT**

**Temp.** Cool.

**Weather.** Clear night.

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

**Time:** 05:30.

**Observations / Customer Complaint.** OM5 0.015ppm 19:33-20:31.

**Operational issues / causes observed.** PAS odour. No sludge spills or PAS unit overflows.

**Actions Taken.** Blank.

**Friday 17<sup>th</sup> December 2021**

**DAY SHIFT**

**Temp.** Cool.

**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.** Overcast 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.

**Saturday 18<sup>th</sup> December 2021**

**DAY SHIFT**

**Temp.** Cool.  
**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.** Overcast 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.

**Sunday 19<sup>th</sup> December 2021**

**DAY SHIFT**

**Temp.** Cold.  
**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.** Cold.  
**Weather.** Overcast 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.

**Monday 20<sup>th</sup> December 2021**

**DAY SHIFT**

**Temp.** Cool.  
**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.** 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.

**Tuesday 21<sup>st</sup> December 2021**

**DAY SHIFT**

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

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

**Time:** 05:30.

**Observations / Customer Complaint.** OM3 spiked at 23:15-23:47 and 04:30-04:46, max 0.029ppm.

OM13 spiked at 03:30-04:30, max 0.016ppm.

**Operational issues / causes observed.** Still clear night and frosty. PST12 possible source of odour? Needs cleaning out.

**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					
15/12/2021	0	1405	885	2290	760	3050
20/12/2021	0	928	885	1813	1088	2901

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 have been an average of 30 imports of sludge per day in the preceding week.

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

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

### **Sludge Import Area**

The condition around the sludge import area has improved and was noticeably cleaner.

Both of the two skips present were fully covered and both skips with the tailor made tarpaulins.

### **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.

**Digester 6** was in service and had a very wet seal that was bubbling off minimal amounts of gas.

**Digester 7** was in service and had a very wet seal that was bubbling off minimal amounts of gas. It was noted digester 7 had a high bell and had been spitting on the service road side of the unit that required cleaning.

**Digesters 8, 9, 10, 11 and 12** were all in service and had a very wet seals that was bubbling off minimal amounts of gas. It was noted that digester 10 had a very high seal.

**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 digester 13 had a very high seal that was about to spill and required drawing down.

**Digester 15** was out of service.

**Digesters 16 and 17** were both in service and had a very wet seals that was bubbling off minimal amounts of gas.

**Digester 18** was out of service.

**Digesters 19 and 20** were both in service and had a very wet seals that was bubbling off minimal amounts of gas.

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 was one 14yds closed skip that was clearly signed "Rag only".

Also present was one 20yds open bulk carrier that contained a small amount of grit and was clearly signed "Grit only", and one 20yds open bulk carrier that contained general rubbish (Old flexible pipe).

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 between FST's 20 and 24 was closed 14yds skip that was clearly signed "Rag only".

On the service road next to the raw sludge screening building was a

closed 14yds skip.

All empty/spare skips had been removed from the West side of the works.

### **East Side Screen House**

Both sets of doors and the roller shutter were closed at the time of the inspection.

### **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 60% of its length, there was a significant number of weeds were growing out of it and through the steel grating.

### **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 tank contained a large quantity of solid fat, thick dry sludge, algae, rag and other debris which was not all present during the officers previous visit.

### **Pasteurisation Plant**

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

### **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 on the surface with thick sludge.

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

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

### **Old Inlet Works (West Side)**

A walk around of the existing inlet was carried out and everything appeared in good order.

### **Odour Control Unit (OCU) performance monitoring: 21/12/2021**

<b>Plant</b>	<b>Reading (ppm)</b>	<b>Action Level (ppm)</b>	<b>Compliant</b>
Main pumping station outlet	0.00 0.01 0.02	0.2	Unknown
East OCU	0.00	0.05	Unknown

	0.00 0.00		
West inlet OCU	0.08 0.03 0.00	0.05	Unknown
Thickening plant outlet	0.007 0.00 0.00	0.6	Unknown
New West inlet (OCU 11)	0.00 0.00 0.00	0.5	Unknown
Pasteurisation (OCU 12)	0.09 0.07 0.11	0.5	Unknown
Transfer PS inlet	38.31 34.71 31.28	Unknown	Unknown
Transfer PS outlet	0.00 0.00 0.00	0.6	Unknown
GBT Plant OCU Outlet	0.00 0.00 0.00	Unknown	Unknown