



Mogden Sewage Treatment Works

TW Site Inspection

Date of inspection: 2 nd November 2017	
Attendees: Mr Steven Maunders (London Borough of Hounslow) and Mr Dimitrios Kalmantis (Thames Water)	
LB Hounslow Observation	Thames Water Action / Response
<p><u>Storm Water Storage Tanks (SWST)</u></p> <p>Tank 1A – Tank empty and flushed clean -- approximately 5% of tank covered by grit – requires further flushing Hoppers 1, 2 & 3 drained down to bottom level.</p> <p>Tank 1B – Tank empty and flushed clean - approximately 5% of tank covered by grit – requires further flushing - Hoppers 1, 2 & 3 drained down to bottom level.</p> <p>Tank 2A – Tank empty and flushed clean - approximately 5% of tank covered by grit – requires further flushing Hoppers 1, 2 & 3 drained down to bottom level.</p> <p>Tank 2B – Tank empty and flushed clean - approximately 15% of tank covered by grit – requires further flushing - Hoppers 1, 2 & 3 drained down to bottom level.</p> <p>Tank 3A – Tank empty and flushed clean - Hoppers 1, 2 & 3 drained down to bottom level.</p> <p>Tank 3B – Tank empty and flushed clean - approximately 60% of tank</p>	

covered by grit – requires further flushing – Hoppers 1 & 2 full and require draining down/over-pumping. Hopper 3 drained down to bottom level.

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 clean - 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 clean – Hoppers 1, 2 & 3 drained down to bottom level.

Tank 7A – Tank empty and flushed clean – approximately 15% of tank covered by grit – requires further flushing. Hoppers 1, 2 & 3 drained down to bottom level but thick with black sludge – noticeably odorous – requires further flushing.

Tank 7B – Tank empty and flushed clean – approximately 10% of tank covered by grit – requires further flushing - Hoppers 1, 2 & 3 drained down to bottom level.

Tank 8A – Tank empty and flushed clean - Hoppers 1, 2 & 3 drained down to 25% from bottom level – issue with faulty subterranean non-return valve allowing back-filling of hoppers – requires repair/replacement.

Tank 8B – Tank empty and flushed clean – approximately 10% of tank covered by grit – requires further flushing – Hoppers 1, 2 & 3 drained down to 25% from bottom level – issue with faulty subterranean non-return valve allowing back-filling of hoppers – requires repair/replacement.

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

Odour Monitors

The odour readouts (H₂S) for all of the monitors, which were providing data at time of inspection:

Monitor 1	0.003	ppm	13:55
Monitor 2	0.005	ppm	13:55
Monitor 3	0.000	ppm	14:04
Monitor 4	0.000	ppm	14:03
Monitor 5	0.004	ppm	14:04
Monitor 6	0.007	ppm	14:04
Monitor 7	0.006	ppm	14:03
Monitor 8	0.005	ppm	14:04
Monitor 9	0.007	ppm	14:04
Monitor 10	0.004	ppm	14:04
Monitor 11	0.006	ppm	14:04
Monitor 12	0.005	ppm	14:04
Monitor 13	0.004	ppm	14:04
Wind Speed	0	mph	
Wind Direction	332°		

Sludge Screening House

Shutter doors closed at time of inspection – no local odours.

Imported Sludge

Ten imports of 35m³ daily for preceding seven days.

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 Log (Thames) - Photocopies of log entries taken

Thursday 26th October 2017

AM – Cool with Sun, heavy cloud and rain.

All OMU's in use.

Observations: "Monitor No.3 flat-lining otherwise no odour issues.

Actions: No.3 Monitor put in defect book.

PM – Cool with Sun and heavy cloud.

All OMU's in use.

Observations: "No odour issues on site. No spikes on Trends.

Actions: None noted.

Friday 27th October 2017

AM – Warm with Sun and heavy cloud.

All OMU's in use.

Observations: "1-5 = No spikes. 6-13 = No spikes". No odour issues.

Actions: None noted.

PM – No observations noted.

All OMU's in use.

Observations: "No odour issues."

Actions: None noted.

Saturday 28th October 2017

AM – Cool with Sun and heavy cloud.

All OMU's in use.

Observations:

"OM3 – multiple spikes =

0.030ppm @ 13:28

0.056ppm @ 14:23

0.048ppm @ 16:43
0.064ppm @ 17:23
OM12 = 0.021ppm @ 12:48 - 13:00.
OM 6-13 = No spikes.
No issues found.”

Actions: None noted.

PM – No observations noted.

All OMU's in use.

Observations: “Monitor No.3 showing high odours all night. OCU 11 reset several times.”

Actions: “Area does smell. Update needed on work going on with OCU 11.”

Sunday 29th October 2017

AM – Cool with Sun, heavy cloud and rain.

All OMU's in use.

Observations:

“Monitor No.5 spiked twice @ 10:18 and 10:48 – both incidents <15 minutes duration (max 0.016ppm). Monitor No.2 spiked at 16:50 < 15 mins duration (max 0.043ppm) Monitor No.9 spiked at 16:50 < 15 mins duration (max 0.016ppm).”

Actions: “Checked around vicinity of above odour monitors – no odours discovered.”

PM – No observations noted.

All OMU's in use.

Observations: “No odour spikes showing on trends. No odour issues.

Actions: None noted.

Monday 30th October 2017

AM – Cool with Sun and heavy cloud.

OMU - All OMU's in use.

Observations: “*(less than 15 mins)

OM5 0.023 02:02 - 02:15

OM12 0.023 09:02 – 09:15.

No other issues”

Actions: None noted.

PM – Cold with Sun and heavy cloud.

All OMU's in use.

Observations: "Monitor No.2 spiked @ 06:38 less than 15 mins duration (max 0.021ppm). Monitor No.7 spiked at 19:50 for 1 hour (max 0.019)? Storm Tanks empty and nothing else in area?"

Actions: "Area checked – no odours found."

Tuesday 31st October 2017

AM – Warm with Sun and heavy cloud.

All OMU's in use.

Observations: "*" (under 15 mins)

OM3 0.020 16:09-16:20.

OM2 0.021.

No source found. No other issues"

Actions: None noted.

PM – Cool with Sun and heavy cloud.

All OMU's in use.

Observations: "No odour issues & no spikes on Trends."

Actions: None noted.

Wednesday 1st November 2017

AM – Cool with Sun and heavy cloud.

All OMU's in use.

Observations: "No odour spikes."

Actions: None noted.

PM – Cold with Sun and heavy cloud.

All OMU's in use.

Observations: "Monitor No.2 spiked at 20:25 but < 15 mins duration max 0.035ppm."

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 ³					
OMP limit	500					
27/10/17	117	801	61	979	1753	2732
30/10/17	79	928	244	1251	1568	2819
01/11/17	88	1256	0	1344	1264	2608

The sludge stock levels for the West side circular primary settlement tank 1 were **compliant** with the OMP trigger level (500m³) 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. 2ft below coping stones – seal weak and bubbling.

Digester 6 - in use – seal level approx. 3ft below coping stones – seal weak and bubbling.

Digester 7 - in use – seal level approx. 1ft below coping stones – seal weak and bubbling vigorously – ongoing spill from tank spitting requiring clean-up – Bell height high – requires draw down of biogas.

Digester 8 - in use – in use – seal level approx. 1ft below coping stones – seal weak and bubbling vigorously – ongoing spill from tank spitting requiring clean-up – Bell height high – requires draw down of biogas.

Digester 9 - in use – seal level approx. 2ft below coping stones – seal weak and bubbling vigorously – ongoing spill from tank spitting requiring clean-up – Bell height high – requires draw down of biogas.

Digester 10 – in use – seal level approx. 3ft below coping stones – seal weak and bubbling vigorously – ongoing spill from tank spitting requiring clean-up – Bell height high – requires draw down of biogas.

Digester 11 - in use – seal level approx. 1ft below coping stones – seal weak and bubbling.

Digester 12 - in use – seal level approx. 3ft 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. 2ft below coping stones – good seal.

Digester 15 - in use – seal level approx. 1ft below coping stones – seal weak and bubbling vigorously – ongoing spill from tank spitting requiring clean-up. – Bell height high – requires draw down of biogas.

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

Digester 17 - in use – seal level approx. 4ft below coping stones – good seal.

Digester 18 - in use – seal level approx. 3ft below coping stones – good seal.

Digester 19 - out of use – empty and clean – contractor on site undertaking maintenance.

Digester 20 - in use – seal level approx. 2ft below coping stones – seal weak and bubbling vigorously – ongoing spill from tank spitting requiring clean-up – Bell height high – requires draw down of biogas.

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.

2x full, 5x partially filled & 3x 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

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. Tank 77 surface thick with algae – contactors on site about to commence maintenance works.

East Side Screen House

All doors closed. Roller-shutter door showing significant corrosion resulting in large gaps – requires replacement (notification received this is due to be undertaken 03/11/17).

Skips

2x full small grit skips on North/East of site by grit house – covered with “heavy duty” yellow tarpaulin. Ongoing maintenance to this plant requiring over-pumping of grit.

1x large open skip – empty and uncovered located on Service Road by FST’s 71-78 – a mattress has been left alongside skip (still in situ following visit of 19/10/17).

On the West side there was one large enclosed skip awaiting change

over.

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 – requires jetting.

New Works (West Side)

Feed Channel for Aeration Lanes 20 - 25 approximately 75% obstructed – requires jetting.
Approximately 85% of tanks have “fluffy” coverage across surface – worsened since previous inspection. Large quantity of physical detritus in tank that has bypassed screener.

Odour Control Unit (OCU) performance monitoring – (30/10/17)

Plant	Reading (ppm)	Action Level (ppm)	Compliant
Main pumping station inlet	0.003 0.000 0.000	Unknown	Unknown
Main pumping station outlet	0.000 0.000 0.000	0.2	Yes

East OCU	0.000 0.000 0.000	0.05	Yes
West inlet OCU	0.000 0.000 0.000	0.05	Yes
Sludge reception inlet	No Data	Unknown	Unknown
Sludge reception outlet	0,000 0,000 0.000	0.8	Yes
Thickening plant inlet	No data	Unknown	Unknown
Thickening plant outlet	0.004 0.003 0.004	0.6	Yes
Transfer PS inlet	No Data	Unknown	Unknown
Transfer PS outlet	0.004 0.003 0.000	0.6	Yes
New West inlet (OCU 11)	0.004 0.003 0.004	0.5	Yes
OCU 12 (Pasteurisation Plant)	0.01 0.009 0.008	0.5	Yes