Mogden Sewage Treatment Works

TW Site Inspection

Date of inspection: Tuesday 24th October 2023 (13:30pm)	
Attendees: Mr Z Kadri (LB Hounslow) and Ms Chantelle Dixon (Thames Water)	
LB Hounslow Observation	**Thames Water Action / Response**
<u>Storm Water Storage Tanks (SWST)</u> **Tank 1A** – Tank empty – significant sections of weed growth –. All Hoppers approx. over 50% full of effluent Requires flushing and draining/over-pumping. **Tank 1B** – Tank empty – significant sections of weed growth and sludgy remanence –. All Hoppers were empty. **Tank 2A** – Tank empty – significant sections of weed growth and patches of sludgy remanence –. All Hoppers were empty. **Tank 2B** – Tank empty – significant sections of sludgy remanence –. All Hoppers contained minimum effluent. **Tank 3A** – Tank empty and flushed clean. All Hoppers contained minimal amounts of effluent. **Tank 3B** – Tank contained effluent at hopper end – hoppers were overspilling and needed to be drained down/over pumped.	We will look within our summer maintenance to remove weeds from tanks. Ongoing maintenance programme when possible.

Storm Feed Channel - The level of effluent in this feed channel was approx. 10% throughout the channels. The effluent looked brown and murky and bottomed out in places. **Tanks 4A, 4B, 5A & 5B** All tanks are covered, and odour controlled. I was able to gauge the conditions which demonstrated the tanks as being full and in use. **Tank 6A** – Tank empty and flushed clean. All Hoppers approx. over 70% full of effluent. Required draining/over-pumping. **Tank 6B** – Tank empty –– All Hoppers approx. 40% full of effluent. Required draining/over-pumping. **Tank 7A** – Tank in use – All Amajets in operation as Tank being returned. **Tank 7B** – Tank empty – 100% of tank covered with thick layer of grit and sludge –All Hoppers were full to the brim of effluent however at the time of inspection operatives had started manually over pumping and emptying the tanks. **Tank 8A** – Tank empty - Approx. 50% of tank covered by grit and sludge – required flushing – All Hoppers full of blanket of sludge– requires draining/over-pumping. **Tank 8B** – Tank empty however covered by layer of thick sludge – required flushing – All Hoppers full of blanket of sludge– required draining/over-pumping. **Storm Feed Channel** - The level of effluent in this feed channel was approx. 10% throughout the channels. The effluent looked brown and murky and bottomed out in places.	

Complaints

There were no odour complaints in the preceding week.

Odour Monitors

The odour readouts (H_2S) at 13:30 on the 24th of October 2023.

Monitor 1	0.000	ppm
Monitor 2	0.001	ppm
Monitor 3	0.000	ppm
Monitor 4	0.000	ppm
Monitor 5	0.000	ppm
Monitor 6	0.000	ppm
Monitor 7	0.000	ppm
Monitor 8	0.003	ppm
Monitor 9	0.000	ppm
Monitor 10	0.004	ppm
Monitor 11	0.000	ppm
Monitor 12	0.000	ppm
Monitor 13	0.000	ppm
Wind Speed	0.212	mph
Wind Direction	253.728	Deg

Odour logs for the 24th of October 2023

Wednesday 18th October 2023
DAY SHIFT
Temp. Cool
Weather. Rain
Odour Readings. All OMU's in operation
Time: 17:30.
Observations / Customer Complaint.
OM3 spiked to 0.025 at 13:09-13:33
OM3 spiked to 0.025 at 14:09-14:22
Operational issues / causes observed.
OCU11 poor performance/PST21 removed from service.
Actions taken. Blank

NIGHT SHIFT
Temp. Cool
Weather. Rain
Odour Readings. All OMU's in operation
Time: 05:30.
Observations / Customer Complaint.
OM3 spiked to 0.018 at 18:09-19:08
Operational issues / causes observed.
OCU11 poor performance
Actions taken. Blank.

Thursday 19th October 2023

DAY SHIFT
Temp. Cool
Weather. Patchy rain
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. Storm
Odour Readings. All OMU's in operation
Time: 05:30
Observations / Customer Complaint.
OM3 spiked to 0.033 at 22:24-22:40
OM3 spiked to 0.042 at 01:09-01:25
OM3 spiked to 0.053 at 02:09-02:25
Operational issues / causes observed.
OCU11 discharging high odours from stack.
Actions taken. Blank

Friday 20th October 2023
DAY SHIFT
Temp. Cool
Weather. Rain
Odour Readings. All OMU's in operation
Time: 17:30.
Observations / Customer Complaint.
No odours found or reported.
Operational issues / causes observed.
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

Saturday 21st October 2023
DAY SHIFT
Temp. Warm
Weather. Rain
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.** OM5 @05:08 - 05:30 max spike 0.019ppm **Operational issues / causes observed.** Vent on main drive "smelly" (odorous) **Actions taken.** Blank **<u>Sunday 22nd October 2023</u>** **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 **Actions taken.** Blank **NIGHT SHIFT** **Temp.** Cool **Weather.** Clear Night **Odour Readings.** All OMU's in operation **Time:** 05:30. **Observations / Customer Complaint.** OM3 spiked at 00:10- 02:37 spiked to 0.024ppm **Operational issues / causes observed.** OCU11 poor performance **Actions taken.** Blank	

Monday 23rd October 2023 **DAY SHIFT** **Temp.** Cool **Weather.** Cloudy **Odour Readings.** All OMU's in operation **Time:** 17:30. **Observations / Customer Complaint.** No odours 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.** OM3 spiked at 02:26-02:39 max spike to 0.007ppm **Operational issues / causes observed.** Blank **Actions taken.** Blank **Tuesday 24th October 2023** **DAY SHIFT** **Temp.** Blank **Weather.** Blank **Odour Readings.** All OMU's in operation **Time:** Blank **Observations / Customer Complaint.** Blank **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.** OM3 spiked at 21:09-21:54 max spike 0.022ppm OM3 spiked at 23:40-00:40 max spike 0.019ppm **Operational issues / causes observed.** OCU11 not performing. **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^3					
OMP limit	**500**					
23/10/2023	0	1902	806	2708	1064	3772
18/10/2023	79	1777	867	2723	3378	6101

Imported Sludge

Imported sludge in the preceding week 2138m3.

No.5 Pumping Station (West Side)

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

Sludge Import Area

It was noted that the condition around the sludge import area was much improved and noticeably clean. No odours witnessed.

Raw Sludge Screening Building (West Side)

The large roller shutter doors of the Raw Sludge Screening building were open at the time of the inspection however it is still out of operation so not causing any issues of odour.

Digesters on the 24th of October 2023 **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 low (approx. 2ft below coping stone) sludgy/hard layer – No evidence of recent/previous sludge spillages- the coping stones were clean, tidy. **Digester 6** was in service and had a high (approx. 1ft below coping stone) sludgy layer – No evidence of recent/previous sludge spillages- the coping stones were clean, tidy. **Digester 7** was in service and had a low (approx. 3ft below coping stone) hardened surface layer – There was evidence of spillage on the part of the coping stone near the service road- The digester was letting off minimal gas at time of inspection. **Digester 8** was in service and had a high (approx. 2ft below coping stone) hard layer – No evidence of recent/previous sludge spillages- the coping stones were clean & tidy. **Digester 9** was in service and had a high (approx. 1ft below coping stone) sludgy layer – No evidence of recent/previous sludge spillages- the coping stones were clean & tidy. **Digester 10** was in service and had a high (approx. 1ft below coping stone) sludgy layer – No evidence of recent/previous sludge spillages- the coping stones were clean & tidy. **Digester 11** was in service and had a high (approx.1ft below coping stone) thick sludgy layer – No evidence of recent/previous sludge spillages- the coping stones were clean & tidy.	

Digester 12 was in service and had a high (approx. 1ft below coping stone) sludgy layer – No evidence of recent/previous sludge spillages- the coping stones were clean & tidy. **Digester 13 Out of service.** **Digester 14 Out of service.** **Digester 15** was in service and had a low (approx. 3ft below coping stone) sludgy layer – No evidence of recent/previous sludge spillages- the coping stones were clean & tidy. **Digester 16 Out of service.** **Digester 17** was in service and had a high (approx. 2ft below coping stone) thick sludgy seal– No evidence of recent/previous sludge spillages. **Digester 18** was in service and had a high (approx. 2ft below coping stones) solid hardened seal – No evidence of recent/previous sludge spillages. **Digester 19.** was in service and had a low (approx. 3ft below coping stone) sludgy seal – No evidence of recent/previous sludge spillages. **Digester 20** was in service and had a high (approx. 2ft below coping stone) sludgy seal – No evidence of recent/previous sludge spillages. Anti-foaming agent is in use, which TW advised was also being applied manually to all operational digesters.	

GENERAL **Final Settlement Tanks (East Side)** The 8 circular tanks 71, 72, 73, 74, 75 ,76 ,77 and 78 were all in operation at time of the inspection and had good clear surfaces. The hoses on the arms were all rotating and clearing off any remaining deposits. No odours or offensive odours witnessed. **Skips** **Skips on the East side:** There was 1x 20yds open bulk carrier (covered) that was designated for grit – The carrier contained minimal amount of grit. There was a sign stating the skip was designated for "Grit Only." There was 1x 14yds skip designated for rag only. The skip had a sign reading "Rag Only" and contained minimal amount of rag at time of inspection. There was a cover (lid) which was covering the skip. No other skips were present on the East side. **Skips on the West Side:** There was 1x 14yds skip opposite the raw sludge screening building (West of the works) that was designated for general waste only- At time of inspection the skip was full and covered. There was 1x 20yds open bulk carrier (uncovered) that was full of bulky inert material. There were no other skips observed in the West Side of the works.	

East Side Screen House The blue doors closest to the main service road and the roller metal shutters were open 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 nearest the service road was clogged along 80% of its length. **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 was out of service. **Pasteurisation Plant** The pasteurisation plant is in service. TW advised 7/12 streams were in operation. Stream 2,3,7,8 & 12 were out of service. This was reported on the 24th of October 2023.	

Section 106 agreement There have been no breaches of the s106 agreement in the last week. **West Side Aeration Lanes** The surface area of the mixed liquor feed channel serving the aeration lanes of E-Battery were all free-flowing between lanes 22-25 – At the time of inspection. All the lanes in E Battery were distinct and dividing walls were all visible. All sprinklers were in operation at time of inspection. **New Inlet Works (West Side)** No issues appeared evident at the new inlet works and everything appeared to be in a good tidy order. No offensive odours noticed.	

Odour Control Unit (OCU) performance monitoring: 24th October 2023

Plant	Reading (ppm)	Action Level (ppm)	Compliant
Main pumping station inlet	Not provided	Unknown	Unknown
Main pumping station outlet	0.179ppm 0.177ppm 0.172ppm **Ave:0.176ppm**	0.2	Yes
East OCU	0.144ppm 0.054ppm 0.053ppm **Ave: 0.083ppm**	0.05	No
West inlet OCU	0.006ppm 0.006ppm 0.005ppm **Ave: 0.002ppm**	0.05	Yes
Sludge reception inlet	Not provided	Unknown	Unknown
Sludge reception outlet	Not provided	0.8	Unknown
Thickening plant inlet	Not provided	Unknown	Unknown
Thickening plant outlet	0.101ppm 0.097ppm 0.119ppm **Ave: 0.017ppm**	0.6	Yes
New West inlet (OCU 11)	0.117ppm 0.118ppm 0.122ppm	0.5	No

	Ave: 0.638ppm			
Pasteurization (OCU 12)	1.792ppm 1.816ppm 1.745ppm **Ave: 0.003ppm**	0.5	Yes	
Transfer PS inlet	0.126ppm 0.128ppm 0.139ppm **Ave: 3.00ppm**	Unknown	Unknown	
Transfer PS outlet	0.003ppm 0.003ppm 0.003ppm **Ave: 0.003ppm**	0.6	Yes	
GBT Plant OCU Outlet	0.003ppm 0.003ppm 0.003ppm **Ave: 0.003ppm**	Unknown	Unknown	