**Mogden Sewage Treatment Works**

**TW Site Inspection**

|  |  |
| --- | --- |
| **Date of inspection:** Tuesday 14th March 2023 (13:00pm) | |
| **Attendees:** Mr Z Kadri (LB Hounslow) and Ms Emma McDonald (Thames Water) | |
| **LB Hounslow Observation** | **Thames Water Action / Response** |
| **Storm Water Storage Tanks (SWST)**  **Tank 1A** was clean across the surface however at time of inspection. Hoppers 1, 2 & 3 needed draining down.  **Tank 1B** had a sludgy surface toward the sides and far end of the tank and all hoppers 1,2 & 3 needed draining down.  **Tank 2A** had a sludgy surface across entre surface of the tank- Hoppers 1,2 & 3 needed draining down.  **Tank 2B** had a clear surface however hoppers 1,2 & 3 needed draining down.  **Tank 3A** had a sludgy surface across entre surface of the tank- Hoppers 1,2 & 3 needed draining down.  **Tank 3B** had a sludgy surface across entre surface of the tank- Hoppers 1,2 & 3 needed draining down.  **Storm Feed Channel** - The level of effluent in this feed channels was were low approx. 20% throughout the channels. The effluent looked grey and murky with some floating fatty deposits.  **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** had a clear surface however hoppers 1,2 & 3 needed draining down.  **Tank 6B** had a clear surface however hoppers 1,2 & 3 needed draining down.  **Tank 7A** was 30% full of effluent and it was observed that all amajets were in operation.  **Tank 7B** had a sludgy surface across entre surface of the tank- Hoppers 1,2 & 3 needed draining down.  **Tank 8A** had a clear surface however hoppers 1,2 & 3 needed draining down.  **Tank 8B** had a sludgy surface across entre surface of the tank- Hoppers 1,2 & 3 needed draining down..  **Storm Feed Channel** - The level of effluent in this feed channels was were low approx. 20% throughout the channels. The effluent looked grey and murky with some floating fatty deposits.  **Complaints**  The Council received no complaints in the preceding week |  |
| **Odour Monitors**  The odour readouts (H2S) at 13:10 on the 14th of March 2023.   |  |  |  | | --- | --- | --- | | Monitor 1 | 0.006 | ppm | | Monitor 2 | 0.001 | ppm | | Monitor 3 | 0.005 | ppm | | Monitor 4 | 0.005 | ppm | | Monitor 5 | 0.000 | ppm | | Monitor 6 | 0.006 | ppm | | Monitor 7 | 0.003 | ppm | | Monitor 8 | 0.007 | ppm | | Monitor 9 | 0.006 | ppm | | Monitor 10 | 0.006 | ppm | | Monitor 11 | 0.005 | ppm | | Monitor 12 | 0.005 | ppm | | Monitor 13 | 0.000 | ppm | | Wind Speed | 11.428 | mph | | Wind Direction | 290,050 | Deg | |  |
| **Odour logs report**  **Wednesday 8th March 2023**  **DAY SHIFT**  **Temp.** Cold  **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.** Cold  **Weather.** Rain  **Odour Readings.** All OMU’s in operation  **Time:** 05:30.  **Observations / Customer Complaint.**  No odour issues found or reported  **Operational issues / causes observed.**  OMS 4&8 Gaps in trends  **Actions taken.** Blank.  **Thursday 9th March 2023**  **DAY SHIFT**  **Temp.** Cool  **Weather.** Rain with sunny spells  **Odour Readings.** All OMU’s in operation  **Time:** 17:30.  **Observations / Customer Complaint.**  OM5 spiked twice max 0.069ppm  **Operational issues / causes observed.**  Vent on low level sewer smelling  **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 found or reported  **Operational issues / causes observed.** Blank  **Actions taken.** Blank  **Friday 10th March 2023**  **DAY SHIFT**  **Temp.** Cold  **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.** Cold  **Weather.** Clear night  **Odour Readings.** All OMU’s in operation  **Time:** 05:30.  **Observations / Customer Complaint.**  OM10 Spiked at 01:00-01:15 max 0.020ppm  **Operational issues / causes observed.** Blank  **Actions taken.** Blank  **Saturday 11th March 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.** 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 12th March 2023**  **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.** Patchy Rain  **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 13th March 2023**  **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.** Patchy rain  **Odour Readings.** All OMU’s in operation  **Time:** 05:30.  **Observations / Customer Complaint.**  OM8 Spiked at 19:18-20:17 max 0.017ppm  **Operational issues / causes observed.**  No odours found or reported near OM8  **Actions taken.** Blank  **Tuesday 14th March 2023**  **DAY SHIFT**  **Temp.** Warm  **Weather.** Cloudy 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  **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 |  |
| **Sludge Dip Records**   |  |  |  |  |  |  |  | | --- | --- | --- | --- | --- | --- | --- | | **Date** | **West**  **PSTs 1** | **West**  **PSTs**  **2** | **West**  **PSTs**  **3** | **West**  **Total** | **East PSTs** | **Grand Total** | | **All units in m3** | | | | | | | OMP limit | **500** |  |  | | | | | 08/03/2023 | 39 | 1462 | 61 | 1562 | 3900 | 5462 | | 09/03/2023 | 20 | 1093 | 61 | 1174 | 760 | 1934 | | 10/03/2023 | 20 | 1860 | 61 | 1941 | 760 | 2701 | | 13/03/2023 | 0 | 1860 | 122 | 1982 | 3724 | 5706 | | 14/03/2023 | 0 | 2090 | 412 | 2502 | 3074 | 5576 |   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 68.4m2imports of sludge per delivery in the preceding week. This was reported on the 14th March 2023  **No.5 Pumping Station (West Side)**  The doors and windows of No.5 pumping station were open 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. Skips were being changed.  **Digesters on the 14th March 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. 4ft below coping stone) sludgy layer – No evidence of recent/previous sludge spillages- the coping stones were clean tidy.  **Digester 6** was in service and had a low (approx. 4ft 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. 4ft below coping stone) sludgy layer – No evidence of recent/previous sludge spillages- the coping stones were clean & tidy.  **Digester 8** was in service and had a low (approx. 4ft below coping stone) sludgy layer – No evidence of recent/previous sludge spillages- the coping stones were clean & tidy.  **Digester 9** was in service and had a low (approx. 4ft 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. 1/2ft 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. 2ft below coping stone) 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. 1/2ft below coping stone) sludgy layer – No evidence of recent/previous sludge spillages- the coping stones were clean & tidy.  **Digester 13** was in service and had a low (approx. 4ft below coping stone) sludgy layer – No evidence of recent/previous sludge spillages- the coping stones were clean & tidy.  **Digester 14 Out of service.**  **Digester 15** **Out of service.**  **Digester 16 Out of service.**  **Digester 17** was in service and had a low (approx. 2ft below coping stone) thick sludgy seal– No evidence of recent/previous sludge spillages.  **Digester 18** was in service and had a low (below approx. 1ft) sludgy seal – No evidence of recent/previous sludge spillages.  **Digester 19.** was in service and had a low (below approx. 1ft) sludgy seal – No evidence of recent/previous sludge spillages.  **Digester 20** was in service and had a low (below approx. 1ft) 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 (uncovered) that was designated for grit – The carrier was 50% full 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 adjacent to 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 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 were open however remaining doors and the roller metal shutters 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 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 is still out of service.  **Pasteurisation Plant**  The pasteurisation plant is in service. TW advised 7/12 streams were in operation. Stream 2,7,8,10 & 11 were out of service.  **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 Contractors were on site manually emptying out debris and clearing any blockages from the feed channel.  All the lanes in E Battery were distinct and dividing walls were all visible. Most sprinklers were in operation.  **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: 14th March 2023**   |  |  |  |  | | --- | --- | --- | --- | | **Plant** | **Reading (ppm)** | **Action Level (ppm)** | **Compliant** | |  |  |  |  | |  |  |  |  | | Main pumping station inlet | Not provided | Unknown | Unknown | | Main pumping station outlet | 50.92ppm  25.83ppm  7.48ppm  **Ave: 28.07ppm** | 0.2 | No | | East OCU | 37.74ppm  35.37ppm  36.06ppm  **Ave: 36.39ppm** | 0.05 | No | | West inlet OCU | 0.00ppm  0.00ppm  0.00ppm | 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 | 0.137ppm  80.92ppm  112.1ppm  **Ave: 64.38ppm** | 0.6 | No | | New West inlet (OCU 11) | 28.71ppm  28.59ppm  27.95ppm  **Ave: 28.41ppm** | 0.5 | No | | Pasteurization (OCU 12) | 1.253ppm  1.325ppm  1.241ppm  **Ave: 1.27ppm** | 0.5 | No | | Transfer PS inlet | 0.181ppm  0.191ppm  0.206ppm  **Ave: 0.19ppm** | Unknown | Unknown | | Transfer PS outlet | 9.48ppm  9.41ppm  9.11ppm  **Ave: 9.33ppm** | 0.6 | No | | GBT Plant OCU Outlet | 4.11ppm  7.48ppm  5.32ppm  **Ave: 5.63ppm** | Unknown | Unknown | |  |