



Little Marlow Sewage Treatment Works Liaison Committee minutes

Minutes of the meeting of the Little Marlow Sewage Treatment Works Liaison Committee held on Thursday 25 March 2021 in MS Teams.

In attendance

Cllr D Barnes, D Brown (Coldmoorholme Residents Association), Cllr A Collingwood, J Downes (Little Marlow Parish Council), K Fisher (Strategic Flood Manager, Buckinghamshire Council), A Kenward (Clerk), R Mash (Little Marlow Parish Council), M Overall (Little Marlow Country Park Community Partnership and Thames Water Pollution Advisory Group), Cllr R Scott, Cllr D Watson (Chairman).

L Bee (Environment Agency), D Collyer (Thames Water), R Followell-Mattin (Thames Water), A Scott (Thames Water), A Valentine (Environment Agency).

Agenda Item

1 Apologies

There were no apologies.

2 Confirmation of Chairman

RESOLVED

Cllr D Watson was CONFIRMED as the Chairman of the Little Marlow Sewage Treatment Works Liaison Committee.

3 Minutes of the previous meeting

Minutes of the 24 May 2017 meeting were circulated for information only.

4 Thames Water Report

Present from Thames Water were Ms R Followell-Mattin, Customer Stakeholder Manager (operations), Mr D Collyer, Local Government Lead, Mr A Scott, Regional Operations Manager.

Copies of emails from Thames Water to the Chairman regarding the recent equipment failure had been circulated to attendees. A copy of these emails would be appended to these minutes.

Mr Collyer gave a presentation a copy of which would be appended to the minutes.

- Overview of day to day operations:
- Little Marlow was an activated sludge plant making use of a super bacteria that eat away at the organic material breaking solids down into sludge. Mr Collyer recommended the recent BBC documentary *The Secret Life of Waste*, available on BBC i-Player for information.
- The site had 4 bespoke flat-bottomed final settlement tanks (FST) custom built for the site circa 2006. Each tank was 6,300 square metres, the equivalent of 2.5 Olympic sized swimming pools. They utilised a central column with a slewing ring and siphons to recirculate the sludge.
- The FST were designed to separate the sewage that passed through them into effluent and sludge. The sludge and the beneficial bacteria stayed in the FST while effluent flowed over the top of the tank where it was monitored and passed back into the water course.
- Some other sites had a tertiary treatment but FST was the final stage of treatment at the Little Marlow site.

Overview of the recent failure at the plant:

- Following a catastrophic mechanical failure of its assembly unit 1 of the 4 FST needed to be taken out of commission. The tanks slewing ring could not turn, consequently solids could not be separated out and the effluent discharging from that tank into the water course would include solid waste.
- Once out of commission the FST needed to be drained, cleaned, and scaffolded. The broken pieces of the equipment needed to be removed by crane to be taken off site for examination.
- The necessary parts were found to be beyond repair and a new custom part needed to be fabricated to the original designs, work was to be carried out by same company who originally built the tanks. The replacement parts were expected to be on site by 19 April 2021 after which installation and testing would be carried out before removing scaffolding etc and return the FST to full use.
- Initially the remaining 3 FST were used to manage all incoming sewage. The site was able to manage a peak flow of 1,000 litres per second. To prevent the remaining tanks from becoming overloaded during peak times the decision was taken to utilise storm tanks normally only brought online during heavy rain fall. Stored discharge was then fully treated during quieter times.
- The Environment Agency (EA) were made aware of actions being taken as they took place. Had no action been taken there would have been a large discharge of solid waste, both from the broken tank and the functioning tanks during periods of excess flow, depriving the water course of oxygen over a large area and resulting in a major environmental impact.
- Initially there was a period of approximately 3 weeks when there was some overflow from the storm tanks into the environment at peak times. During this period environmental monitoring was carried out on the river twice a day. This was considered the “least worst” option while a more long term solution was sought.
- Longer term the full site capacity had been put through the 3 primary

treatment tanks with support from specialist pumps hired from Holland. These pumps were 1 set of only 3 in use in the UK at this time. The site equipment and additional pumps could each support 1,000 litre per second giving adequate cover for a peak flow of 1,442 litres per second. The output from these tanks then travelled through a 500ml pipe to join the effluent from the FSTs for ammonia monitoring.

- The Holland pumps came with their own control panel and generators which could be controlled both on site and remotely from Holland. The equipment cost £75k to set up on site and £1k per day to hire. The pumps would remain in place until repairs had been carried out and the site was confirmed as being fully compliant again.
- The storm tanks had been fully drained and cleaned ready for use during future heavy rain.
- At the time of the meeting Mr Collyer was confident overflow was only occurring at 2 identified peak times during the day.

The following points were discussed as a result of questions asked by attendees:

- It was confirmed that all tanks and equipment, except for the storm tanks, were new in 2006 when the site was rebuilt changing from a filter works to sewage treatment.
- Critical spare parts for regular maintenance and repairs were either kept on site or at central strategic sites across the Thames Valley. However the problem that had occurred was an exceptional failure of a large bespoke part, with a projected 20 year lifespan and unique to the Little Marlow site. For that reason, Thames Water felt it was reasonable not to have had a replacement readily to hand.
- The remaining 3 FST were assessed at low risk of failure. Following the failure condition based monitoring which had been carried out by a third-party contractor to assess their condition without taking them offline. This had involved analysis of heat, vibration and oil checks looking for water leaks and damage to bearings. Further testing would be programmed in once the plant was fully operational including draining tanks one at a time during periods of low flow, for example during summer months.
- When the site was rebuilt in 2006 planning had allowed for housing growth. This was reviewed every 5 years and would include the planned population growth for the area. Thames Water were currently in the AMP Capital Programme 7 stage of their 5 year review cycle. Engineers onsite had started to make assessments and details of any proposed changes would be made public in the near future. It was acknowledged that ideally there would be additional asset redundancy built into sites to accommodate system failures but that this was not the reality at Little Marlow or many other sites of this nature.
- Mr Scott from Thames Water explained that the processes used remained relatively simple and there was unlikely to be a large leap forward in the technology used as current equipment came to the end of its lifespan. One likely change would be moving from flat-bottomed tanks to conical ones which did not change the processes used for treatment.

- Thames Water were waiting on the full detailed report into why the equipment had failed. What was currently known was:
 - The system had been losing oil indicating a seal issue (oil was visible in the water).
 - There were gear box issues that had been repaired on site.
 - New parts had been needed for the slewing ring and were being manufactured off site.
- It was confirmed that Thames Water operated with a risk-based approach when managing their maintenance regime and asset replacement strategy. It was asked if real time monitoring, for example of heat and vibrations as outlined above, could be retrofitted in the current equipment. This was felt to be particularly important as the current approach to the risk of equipment breakdown relied on redundancy within the site, this could leave the site at risk if more than one piece of equipment failed. Mr Scott explained there were no plans to retrofit equipment, but this could be considered in the future if a need was demonstrated. Such discussions for all sites were underway between the engineering and the asset management teams.
- It was stated the River Thames outflow pipe was often seen to have visible paper and other debris in the summer. It was felt this should be cleared more regularly.
- It was asked if Thames Water would be making representation to OFWAT for funds to support more resilience/redundancy capacity when negotiating funding for future years. And if local councils and other community groups could support this by writing to OFWAT. Mr Scott stated he was not party to the work carried out by the Thames Water Price Review team who would be in negotiation with OFWAT. However, he noted that projections did look far into the future and if projections were to move more quickly than expected there would be opportunities to make representation for further funding.

RESOLVED

The committee to consider writing to OFWAT asking for consideration to be given in supporting additional redundancy at Little Marlow particularly in light of the continued growth in the area.

5 Environment Agency Report

Present from the Environment Agency (EA) were Mr A Valentine, Senior Investment Manager, and Ms L Bee, Environment Management Team Leader.

Mr Valentine and Ms Bee gave an overview from the EA perspective:

- Mr Valentine had visited the site on March 2021. The EA believed there had been a breach of the site permit and this would be investigated.
- Initial concerns had been around the potential scale of the issue linked to the site size, Little Marlow was in the top ten largest treatment sites in the area, and has a history of past issues. However, it was acknowledged this had been a single catastrophic event unlike previous issues where the site had experienced multiple problems over an extended period. The use of storm drains was acknowledged as not ideal but had allowed for overflow effluent

to be monitored.

- Thames Water had shared their monitoring data and the EA had carried out their own downstream monitoring 4-5 times since the event. They had also installed 2 real time monitors that could be viewed remotely. There had been low ammonia levels recorded, a good indicator of pollutants, and no impact on dissolved oxygen levels. A small amount of sewage fungus had been seen over a small area but overall, there had been no serious impact from pollution.
- The EA would be asking Thames Water to review the level of redundancy at the site and to review their position on having critical spares readily available.
- The EA would be circulating their own email briefing shortly which they would share with local groups they had previously been in correspondence with.
- The EA pollution hotline remained open for reporting 0800 807060 for all issues not just Little Marlow.

The following points were discussed as a result of questions asked by attendees:

- Thames Water were expected to do everything they could to comply with their environmental permits which were descriptive not prescriptive. This included reviewing and updating their environmental permit to ensure it adequately covered local growth.
- The EA did not have the regulatory rights to insist on a specific level of redundancy or to make their own inspections of equipment. There would be a phased roll out of new environmental permit regulations for management system conditioning meaning the EA could take a more in-depth look at site management. If the EA felt that a permit holder was not operating within their permit, notices could be issued outlining specific steps that must be taken.
- This was felt to be right approach as the EA were responsible for overseeing many different areas of business and it was the site operators who were the subject matter experts for their area. Mr Valentine felt it was in the providers best interest to comply.
- The burden on commuter towns had increased with approximately 3m less commuters traveling into London. Thames Water confirmed the normal diurnal patterns of peak flow in morning and evening had been replaced with 12 hours of higher flow rates.
- Had the same issue occurred at different times of year the impact might have been:
 - During winter months the rate of overflow could be expected to be higher.
 - During summer months there were lower flow rates, overflow rates would have been lower and possibly non-existent. The river was used more over the summer and there would be increased public scrutiny.
- In terms of compliance the site had previously received the 2nd largest fine of all time at the point it was issued. Since 2017 compliance had improved considerably. During Ms Bee's time as team leader this was the first time the

site had had significant issues.

RESOLVED

The committee would continue to monitor the progress to ensure the repair works started on 19 April and the length of time it took for installation.

6 Complaints

No complaints had been received.

7 Any Other Business

There was no other business due to time restraints.

8 Date of next meeting

Members of the committee wished to continue to meet at this time. The date of the next meeting would be confirmed after the May local elections.

From: Dominic Collyer

Sent: 18 February 2021 13:24

To: David Watson (Cllr) <David.Watson@buckinghamshire.gov.uk>

Subject: Information on Little Marlow Sewage Treatment Works

Dear Councillor Watson,

I am writing to update you on an ongoing issue at our Little Marlow sewage treatment works (STW). On Friday part of our final treatment process failed meaning we are currently emptying one of our final settlement tanks so we can safely carry out the repair. Once we have completed the work, we will be able to bring the tank back into service. This is expected to take place on Friday 26th February.

While we carry out the repair, we will have reduced treatment capacity at Little Marlow STW. We have agreed with the Environment Agency that the best way to minimise any impact to the community is to use our storm tanks. This will mean that we are unable to fully treat all flows coming into the site and at times our storm tank, although filtered, will discharge directly into the river. We are monitoring this daily and to date the discharge is diluted to such an extent that there have been no signs of damage to the river. We have advised the Environment Agency of the situation and we are providing them with water quality data daily.

Please accept my assurance that putting untreated sewage into rivers is unacceptable to us and we are doing all we can to bring Little Marlow STW back to normal operation as soon as we can. Following the repair work we will assess the integrity of the other remaining three tanks on site for future resilience. This is precautionary work which we plan to carry out when the weather conditions improve and the flows in the sewer network are lower.

If you have any questions, please do not hesitate to contact me. I will of course update on progress with the repair work over the next few days.

Kind regards

Dominic



From: Dominic Collyer

Sent: 25 February 2021 09:59

To: David Watson (Cllr) <David.Watson@buckinghamshire.gov.uk>

Subject: Update on Little Marlow Sewage Treatment Works

Dear Cllr Watson,

I am writing to update you on the ongoing issue at our Little Marlow Sewage Treatment Works (STW). As mentioned last Wednesday, part of our final treatment process failed and we were in the process of emptying the tank to understand why this happened. I can confirm that we have now drained the tank and have carried out our investigations into why the process failed. This inspection has highlighted that the repair will be complex and more challenging than first thought and will not be fixed by Friday as first indicated. I will provide an updated timescale shortly.

Please be assured we continue to monitor the river daily and can confirm that the discharge continues to be diluted to such an extent that there continues to be no signs of damage to the river. Please accept my assurance that putting untreated sewage into rivers is unacceptable to us and we are doing all we can to bring Little Marlow STW back to normal operation as swiftly as possible.

If you have any questions, please do not hesitate to contact me. I will of course update you on the progress with the repair work.

Kind Regards

Dominic

From: Dominic Collyer
Sent: 02 March 2021 16:24
To: David Watson (Cllr) <David.Watson@buckinghamshire.gov.uk>
Subject: Update on Little Marlow Sewage Treatment Works

Dear Councillor Watson,

I am writing to update you about the issues we have at Little Marlow Sewage treatment works (STW). We previously advised that part of the final treatment process on site had failed. Specifically, the rotational elements on one of the final settlement tanks (FST), there are four in total on site.

In agreement with the Environment Agency we have mitigated the effects of the failed asset and continue to treat as much flows as we can through the site. The site is being manned 24/7 and we are monitoring/sampling both the site and the watercourse continue liaising with the Environment Agency.

On inspection of the drained FST we found that the failed asset requires a replacement bespoke part which, requires a specialist order for manufacturing. This has therefore had a knock on effect to the repairs and we now estimate the works to be completed by the end of next month. We appreciate these dates are later than originally hoped and that discharging untreated sewage into the environment is unacceptable. We have of course explored alternative options for the tank, however no suitable options are available.

Please be assured we are doing all we can to bring Little Marlow STW back to normal operation as soon as we can.

We will of course update you should timescales change and if have any questions, please do not hesitate to contact me. In the meantime we will continue working closely with the Environment Agency as the incident progresses towards resolution.

Kind regards
Dominic

Update from EA issued after the meeting

From: Enquiries_THM

Sent: 30 March 2021 14:07

Subject: [EXTERNAL] Little Marlow Sewage Treatment Works Incident Ref 01891397

Dear Customer,

Little Marlow Sewage Treatment Works

We are providing this briefing as we believe you may have an interest in the above works, or we have agreed to notify you of specific incidents.

We are aware of the infrastructure failure at Little Marlow Sewage Treatment Works which has caused a reduced treatment capacity at the works. This initially led to intermittent and some sustained discharges of untreated sewage (settled and screened only) from the works to the River Thames. Thames Water have now re-configured the treatment process so the sewage previously discharging in this way receives partial treatment and is blended (diluted) with treated effluent. Thames Water have informed us that the repair will take several weeks. This is of great concern to us and we have requested that Thames Water explore all viable options to minimise the risk to the environment.

We have attended the site several times to assess the impact of these discharges and to assess compliance against the site's Environmental Permit. We will continue to monitor and investigate the situation. We have installed water quality monitors which will provide data which we can access remotely. We will respond to any reports of further discharges on a risk basis.

We would like to emphasise that, while the Environment Agency is aware of the challenging situation that has arisen, we have not authorised or endorsed any discharges of untreated sewage or partially treated (blended) sewage, which amount to permit breaches and alleged offences under the Environmental Permitting (England and Wales) Regulations 2016.

We will consider our enforcement response to the permit breaches outlined above, and any further or ongoing alleged offences associated with this incident, in light of our investigation and in accordance with our Enforcement and Sanctions Policy.

Our role

The Environment Agency regulates discharges of sewage to rivers and streams by issuing environmental permits for sewage treatment works. If not properly treated, sewage discharges can adversely impact on water quality and cause damage to river wildlife and fish. Sewage pollution can also present human health risks. The permits we issue apply strict controls to ensure the effluent discharged is treated to a standard that ensures the receiving river is adequately protected. We regularly monitor effluent quality at this site and have been investigating a series of incidents where we believe breaches of their permit have occurred.

We are working with Thames Water to ensure that they take every possible action to return the sewage works to normal operation, prevent these issues recurring and to remediate any pollution caused.

Further information

We value reports from members of the public, as without them, we won't always have a timely and clear understanding of what's happening on the ground. Anyone observing pollution should report the incident to the Environment Agency 24/7 pollution hotline: 0800 80 70 60. Any problem with surcharging of sewage and clean up from sewage spills, should also be reported to Thames Water on [0800 316 9800](tel:08003169800).

We have notified Public Health England and Buckinghamshire Council's Environmental Health team. Any concerns on health issues should be raised with the latter.

If you have any questions please contact the Customers and Engagement Team via their email address: enquiries_THM@environment-agency.gov.uk.

Customers & Engagement Team - **Thames**



External: 0203 0259 804



enquiries_THM@environment-agency.gov.uk



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