



CITY OF CAPE TOWN
ISIXEKO SASEKAPA
STAD KAAPSTAD

WATER & WASTE

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Ref ED04: WW04/503

30 April 2020

YOUR REF: L9/BD/04

Dear Sir/Madam,

We hereby acknowledge receipt of your letter dated 17 April 2020.

Please find detailed below our response to your letter concerning the complex challenges faced with regard to the current state and pollution of the Diep River / Milnerton Lagoon.

In response to your letter, we reply (as per your number references) as follows:

- Ad 4:

The City's Scientific Services Branch has been able to increase the sampling along the Lower Diep River (Milnerton Lagoon) to fortnightly during the COVID-19 lockdown period. The sample dates for April 2020 for this reach of the river are 16 and 30 April 2020. The sampling schedule of the City is normally published in the last week of each month for the following month's sampling dates by the Scientific Services Branch.

- Ad 5:

The City has revised its "detailed action plan for the Lower Diep River (Milnerton Lagoon) and this was submitted to the Western Cape Government's Department of Environmental Affairs & Development Planning, Directorate Law Enforcement on 24 April 2020, and we await their comment thereon.

- Ad 6:

CIVIC CENTRE IZIKO LOLUNTU BURGERSENTRUM
P.O.BOX 298 CAPE TOWN 8000
www.capetown.gov.za

Together.

Making progress possible.

The Terms of Reference for the City's Water Quality Programme (WQIP) is attached as **Appendix A** for your information. It should be noted that the WQIP is the strategy for how the City will compile Pollution Abatement Plans for each of its river catchments going forward.

The City's revised detailed Pollution Abatement Plan (Action Plan) is attached as **Appendix B** for your information.

- Ad 7:

The City's Catchment, Stormwater and River Management (CSRM) team along with the analytical laboratories are working to reduce the current turnaround times from the point of sample collection to generating a laboratory (Certificate of analysis) report with test results. Once sent from the laboratory to CSRM these reports are provided to various external parties who regularly request them, but are not currently 'posted' on e.g. the City website since the site does not lend itself to the posting of in the region of 70 separate Certificates of Analysis per month. These Certificates of Analysis merely provide individual sample test results and do not provide context within which longer term trends and catchment characteristics can be understood.

Therefore, to assist with providing contextualised water quality information to the public, CSRM's water quality analyst has begun generating summarised updated reports per catchment area with long term time series graphs and discussion of the ambient microbiological and physio-chemical water quality in each catchment area. These would normally be presented for example at catchment forum meetings, but alternative mechanisms of dissemination during Covid-19 and beyond will be explored such as emailing to chairpersons and other interest groups and possibly posting on City website if feasible.

- Ad 8:

Unfortunately, we cannot provide the date by which the minutes will be received and the Department will not commit to a date.

The Department's stance on the non-compliance, as part of the pre-directive, was for us to show them the action plan for the improvement of the effluent quality at the Potsdam WWTW. At the meeting held on 05 March 2020 some of the actions were discussed and the Wastewater branch submitted notes for inclusion in the minutes to DWS.

The amendment application was also discussed at this meeting and re-submitted to DWS after that meeting. The Application for amendment in the form of a report was submitted in 2016 and no response has been received. Hence the Wastewater Branch is still utilising Regulation 991 as the basis for compliance for plants greater than 2MI/d as this was the only correspondence receive from DWS. The status of the Amendment License Application can be assumed to be pending/in progress.

- Ad 9:

The City is well aware of the need for public officials to be held accountable for their acts and omissions. Your comments in this regard have been noted and due consideration is being given thereto. Should any action against officials be under consideration, this will be preceded by an investigative process. Neither the outcome of the investigative process nor details of any subsequent action against officials will be made publically available.

- Ad 10:

The City can report the final effluent quality at Potsdam has shown a positive trend over the past four weeks, to 20 April 2020, as shown in the table below:

Potsdam Final Effluent Combined			LIMIT	2020-03-30	2020-04-06	2020-04-13	2020-04-20
				41.30	39.32	39.16	35.65
Total Suspended Solids	mg/l	25	113	51	21	21	
Total Dissolved Solids	mg/l	-	-	-	-	-	
COD	mg/l	75	276	199	89	67	
COD Filtered	mg/l	-	-	-	-	-	
Ammonia	mg N/l	10	28.5	20.8	31.8	<0.4	
Nitrate/Nitrite	mg N/l	-	<0.1	1.3	0.6	0.3	
Nitrate	mg N/l	15	<0.1	1.2	0.5	0.3	
Ortho-Phosphate	mg P/l	10	11.9	4.3	4	2	
pH		5.5 - 9.5	7.4	7.8	7.9	7.7	
Conductivity	mS/m	250	151	142	142	125	
Chloride	mg/l	-	265	265	228	239	
Alkalinity	mg CaCO ₃ /l	-	273	500	381	189	
E. coli	Cfu per 100ml	1000	7200	100	<10	280	

Note - green indicates within license condition, and red exceeds license condition.

As you are aware, the City is engaging with the Department of Water & Sanitation in terms of certain provisions contained in its draft water use license for the Potsdam WWTW. The City's standpoint on the discharge limits set in the draft license is that they are not possible to comply with, particularly that for E-coli which is set at zero, which is impossible to achieve.

The improved final effluent results are primarily due to recovery of the Biological Nutrient Removal (BNR) processes, the re-commissioning of the belt presses and the cleaning of the ponds referenced in the previous report. Currently the polluted ponds are being bypassed using 5 x 6 inch mobile pumps which provide sufficient volume to keep the 2 clean ponds (Long Pond, 2 and Wally's pond, 3) full in order for us to keep the Treated Effluent Pump Station operational

to supply water to the Belt presses, of which 3 (no. 3, 4 &5) are currently operational. The pond cleaning operations are currently underway with Ponds 1, 4, 5, 6 & 7 due to be completed by 31 May 2020.



Cleaning of sludge from Dam 3, Potsdam Wastewater Treatment Works

Belt Press No. 2 is still not in operation and a technical assessment was completed to ascertain the requirements to render the belt press operational. The technical report including the requirements has been received, and a Request for Quotation document prepared for open sourcing to test the market, as per Supply Chain Management recommendations. COVID-19 lockdown restrictions have placed a hold on the RFQ / site briefing process.

The UV disinfection is not yet installed; the effluent is currently being disinfected with chlorine chips, as an interim measure. However, this method is not sustainable and the UV system is critical for effective disinfection. The City's contractor is currently busy with parts assembly to be followed by installation which is scheduled for completion on 29 May 2020.

- Ad 11:

A failure occurred at the Koeberg Road Sewer Pump Station over the period from 9 to 16 April 2020, two of the Koeberg Road pump station's four pumps had to be removed for repairs and the pump station was thus not able to cope with the inflowing sewerage. The pump station spills via an overflow valve into the Theo Marais canal. A pollution incident was raised with the DEA&DP pertaining to the pump station failure. This failure had a noticeable impact on the water quality of the lagoon. The clean-up of the Theo Marais Canal downstream of the pump station spill commenced on Saturday, 18 April 2020, and is still in progress.

A 3rd pump was installed and commissioned on 16 April 2020, and the pump station has since operated without any further spillage. However, until the fourth pump is installed the risk of overflows will remain higher than usual. The expected time of repair of the fourth pump is two weeks and installation and commissioning of this pump is scheduled for 30 April 2020.

To-date the following progress has been made on the Theo Marais clean-up operations, which commenced on 3 April 2020. Daily on-site analyses (using the Potsdam WWTP staff and facilities) of the improvements and/or deterioration of the water quality in the canal were undertaken for the duration of the clean-

up operation. The results of these analyses are included as **Appendix C** for your information.



Cleaning on 31 March 2020



Weir repairs on 1 April 2020



Repaired weir



Sludge removal

On 10 April works commenced on the preparation of a sludge drying area of approximately 3 500 m³ north of the canal on City owned land. This work was complete by 12 April. The canal was then sealed off with a berm constructed of clean sand.



11 April 2020 09:22

Preparation of sludge drying area. 11 April 2020



16 April 2020 11:43

Canal condition during Koeberg Road Pump Station Spill 16 April 2020

There was a delay in obtaining pumps, and the pumping of sludge from the canal to the containment area started on 14 April 2020. It was intended to pump liquids from the settled sludge back to the gravity sewer feeding the Koeberg Road Pump Station but the pump station remained inoperable with daily spills until 16 April, when the third pump was installed and commissioned. The pump station failure resulted in the sand weir being breached and this halted the pumping of decant into the gravity sewer from the sludge drying area.



19 April 2020 12:33

Canal pumping 19 April 2020



19 April 2020 12:33

Pumping to sewer 19 April 2020

The clean-up works were as a result shifted to upstream, and by 19 April 2020 pumping from the weir section of the canal was underway. The sludge was then removed from the canal by loader digger. The clean-up team is currently sourcing a "vacuum cleaner" attachment for the suction line to enable a lower drawdown of the liquid, after which the remainder of the weir area will be cleared of sludge.



Sediment removal 19 April 2020



Sediment removal 19 April 2020

All works are being carried out by the W&S Engineering and Asset Maintenance Branch, who are also responsible for cleaning the maturation ponds at Potsdam WWTW. Equipment and operators are being shared between the two tasks.



Visible improvements 23 April 2020



Theo Marais Canal 23 April 2020

The Theo Marais Canal clean-up was completed on 28 April 2020.

The Milky Way stormwater to sewer diversion pump station is experiencing level control issues that control the starting of the pumps, the City's technicians are attending to this. The nett result is that some spillage does occur at the Erica Road outfall from time to time at which time the City pumps out the liquid at the outfall and doses with Bio-enzymes, as was effected on 5 & 6 April 2020.

- Ad 12:

Your averments regarding the transparency and accuracy of your testing and reporting regimes are noted. The City remains of the view that, especially in a scenario where constant changes in water quality are occurring, a single test is inadequate. In this regard please note that it is the practice of the regulatory authority to assess water use license compliance using a spread of results.

Should you have any further queries in this regard, please do not hesitate to contact Richard Nell, the City's Water Quality Improvement Programme Lead.

Yours faithfully

MICHAEL JOHN WEBSTER
Executive Director: Water & Waste