

SECTION 14 INCIDENT REPORT (*Waste Management and Pollution Control Act*)

Date and Time of Notification:	Thursday 4 th February 2021, 16:00 hrs
Person / Company:	Power and Water Corporation (PWC)
Incident:	Infrastructure failure - Coconut Grove rising main vortex chamber at Ludmilla WWTP and localised highly diluted sewage spill around inlet chamber/manhole.

<p>(a) the incident causing or threatening to cause pollution</p>	<p><i>i. Description of the waste that was discharged.</i></p> <p>Highly+ diluted sewage</p> <p><i>ii. Indicative wastewater quality for the discharge.</i></p> <p>Indicative water quality can be found in table 1 below. Inflow data to Ludmilla WWTP was on average 44.3ML/day based on the previous 3 days, or an average of 61.4ML/day based on data for the preceding week. Rainfall for the preceding 3 days totals 25.6mm (Darwin Airport – 014015), meaning that flows at the inlet structure were at least 3 times average dry weather flows and up to 5 times average dry weather flows.</p> <p>Table 1: Inflows to Ludmilla WWTP</p> <table border="1"> <thead> <tr> <th></th> <th>Median Inflow (ML)</th> <th>Median E. coli</th> <th>Median Enterococci</th> <th>Dilution Terminology</th> </tr> </thead> <tbody> <tr> <td>below ADWF</td> <td>11.401</td> <td>14,136,000</td> <td>713,550</td> <td>Undiluted</td> </tr> <tr> <td>>ADWF</td> <td>13.253</td> <td>11,616,000</td> <td>727,000</td> <td>Partially Diluted</td> </tr> <tr> <td>>2xADWF</td> <td>29.629</td> <td>8,164,000</td> <td>323,000</td> <td>Diluted</td> </tr> <tr> <td>>3xADWF</td> <td>44.043</td> <td>6,488,000</td> <td>261,300</td> <td rowspan="3">Highly diluted</td> </tr> <tr> <td>>4xADWF</td> <td>51.048</td> <td>5,634,500</td> <td>238,100</td> </tr> <tr> <td>>5xADWF</td> <td>99.841</td> <td>2,359,000</td> <td>218,700</td> </tr> </tbody> </table> <p>NOTE: Based on 01/01/2018 to 31/12/2020 inflows to Ludmilla WWTP and monitoring events data. Average dry weather inflow being 11.9012 ML/day.</p>		Median Inflow (ML)	Median E. coli	Median Enterococci	Dilution Terminology	below ADWF	11.401	14,136,000	713,550	Undiluted	>ADWF	13.253	11,616,000	727,000	Partially Diluted	>2xADWF	29.629	8,164,000	323,000	Diluted	>3xADWF	44.043	6,488,000	261,300	Highly diluted	>4xADWF	51.048	5,634,500	238,100	>5xADWF	99.841	2,359,000	218,700
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<p>(b) the place where the incident occurred</p>	<p><i>iii. Volume of the waste that was discharged.</i></p> <p>The volume of wastewater discharged is unknown. No telemetric monitoring occurs at the sites of discharge. At present, the spill is affecting only a small area immediately surrounding the inlet chamber, below ground level only. Inflows are continuing to enter the Ludmilla WWTP and are not overflowing onto the surface.</p> <p><i>i. Description of the PWC asset from which the discharge occurred.</i></p> <p>Coconut Grove rising main vortex chamber, at the Ludmilla wastewater treatment plant.</p>																																	

	<p><i>ii. GPS coordinates of the discharge point from the PWC asset, and the final coordinates of the final discharge point.</i></p> <p>Discharge Point: Lat. 12.4211930 S, Long. 130.8453947 E Final Discharge Point: Lat. 12.4211930 S, Long. 130.8453947 E</p> <p>There is currently no evidence that the sewage is discharging anywhere else other than to the wastewater treatment plant, through existing pipework. It is only the surrounding soils of the inlet chamber that are contaminated with highly diluted sewage.</p> <p><i>iii. Indicate any locations nearby to the discharge point where public can gain ready-access, such as public open spaces through which the discharge moves.</i></p> <p>Access to the public is not possible, as the underground discharge point is below plywood timber sheeting and behind a temporary barrier fence.</p>
(c) the date and time of the incident	<p><i>i. The time and date of commencement and cessation of the discharge.</i></p> <p>The exact timing that the inlet chamber failed is unknown. PWC operators first noticed that the ground around the inlet chamber had collapsed around 16:00hrs 03/02/2021.</p> <p><i>ii. How PWC were notified, or became aware of the discharge.</i></p> <p>The PWC Senior Headworks Coordinator first noticed that the ground around the inlet chamber collapsed yesterday afternoon, as part of his routine site inspection.</p> <p><i>iii. The process by which the discharge occurred.</i></p> <p>Infrastructure failure of the inlet chamber, due to age and deterioration of infrastructure. As detailed above, there is currently no evidence that the sewage is discharging anywhere else other than to the wastewater treatment plant, through existing pipework. It is only the surrounding soils of the inlet chamber that are contaminated with highly diluted sewage.</p> <p><i>iv. The reason why the discharge occurred.</i></p> <p>As per (c) iii.</p>
(d) how the pollution has occurred, is occurring or may occur	<p>As per (c) iii & (c) iv.</p>
(e) the attempts made to prevent, reduce, control, rectify or clean up the pollution or resultant environmental harm caused or threatening to be caused by the incident	<p><i>i. Confirmation signage and fencing has been erected, as appropriate.</i></p> <p>Temporary fencing has been erected around the entire inlet chamber and adjoining manhole area.</p> <p><i>ii. Decontamination of the site as appropriate.</i></p> <p>Clean up will be consistent with the Sewage Spills/Overflow Response Work Instruction as appropriate to the location, and to minimise risk to the</p>

	Environment. Clean up will commence upon completion of repair works. Either contaminated soil will be replaced with clean fill or sufficient lime will be applied to the area.
(f) the identity of the person notifying the NT EPA	PWC Environmental Team on behalf of Water Services

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Appendix A – Location Map (Inlet chamber in front of Ludmilla WWTP)



Appendix B – Photographs of the inlet chamber and surrounding fencing.

