

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

Date and Time of Notification:	Thursday 25 th January 2024 11:45hrs
Person / Company:	Power and Water Corporation
Incident:	Discharge of highly diluted effluent from sewerage network, due to severe wet weather events

(a) the incident causing or threatening to cause pollution

i. Description of the waste that was discharged.

Highly diluted sewage effluent, diluted by stormwater.

ii. Indicative wastewater quality for the discharge.

Indicative wastewater quality for these overflows may be interpreted from Table 1. A high rainfall event occurred from the 24th January 2024 to lunchtime of the 28th. Rainfall figures are shown in table 2. This prolonged rainfall resulted in sewage inflows to Ludmilla wastewater treatment plant, on average across the 5 days, to be >59ML/Day and peaking at 4.5ML/Hr at 18:00Hrs 27/02/2023. **This is >5 times average dry weather flows (ADWF).**

Table 1: Inflows to Ludmilla WWTP

	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	

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.

Table 2: Recent 24 Hour Rainfall Figures for Darwin Airport (Station 14015)

Darwin Airport Rainfall Figures (Station 14015)			
24/01/2024	69.8	27/01/2024	54.6
25/01/2024	34.0	28/01/2024	54.8
26/01/2024	23.8	29/01/2024	5.0

Source of information: Australian Government Bureau of Meteorology

iii. Volume of the waste that was discharged.

The volume of wastewater discharged at each discharge location is unknown. No telemetric monitoring occurs at these locations, with the

	exception of the sewer overflow relief point located at the corner of Rapid Creek Road and Trower Road. This data will be downloaded during the dry season and can be supplied at a later date if required.
(b) the place where the incident occurred	<i>ii. Description of the PWC asset from which the discharge occurred.</i> • Sewer overflow relief point (1/10) – 24 East Point Road, Parap • Sewer overflow relief point (3H) - Corner of Trower Road and Rapid Creek Road, Rapid Creek • Sewer overflow relief point (7/35) – 194 Casuarina Drive/Aralia St, Nightcliff • Manhole (AC 1/6 & 1/7) – Corner of East Point Road and Gregory Street, Parap • Manhole (M2/27) – 1 Roberts Place, Millner • Manhole (M2/24) – 5 Roberts Place, Millner • Manhole (21/2E) - Corner of Ross Smith Avenue and Dick Ward Drive, Parap • Manhole (4G & 5G) – Corner of Ryland Road and Waters Street, Rapid Creek • Manhole (20H) – Corner of Lampe Street and Knight Street, Fannie Bay • Manhole (7/2) – Livistonia Park, behind 3 Staghorn Court, Moulden • Sewage pumping station (SP042) - Namarluk Drive, Ludmilla • Sewage pumping station (SP007) – Rapid Creek Road, Rapid Creek • Sewage pumping station (SP008) – Lakeside Drive, Alawa • Manhole 11/6C 18 Queen St • Sewage pumping station (SP004) – Lot 9783, Dick Ward Drive, Coconut Grove. • Adelaide River Wastewater Stabilisation Ponds – Lot 169 Adelaide River. <i>ii. GPS coordinates of the discharge point from the PWC asset, and the final coordinates of the final discharge point.</i> • Sewer overflow relief point – 24 East Point Road, Parap 1. Discharge Point: 130.8376568E, 12.4342520S 2. Final discharge point: 130.8358461E, 12.4336630S (Vestey's Lagoon) • Sewer overflow relief point - Corner of Trower Road and Rapid Creek Road, Rapid Creek 1. Discharge Point: 12.385673 S, 130.864963 E 2. Final Point: 12.385733 S, 130.865954 E • Sewer overflow relief point – 194 Casuarina Drive/Aralia St, Nightcliff 1. Discharge Point: 12.381805 S, 130.841327 E 2. Final Point: 12.381806 S, 130.840992 E • Manholes (2) – Corner Gregory Street & East Point Road, Parap 1. Discharge Point A: 12.4320022 S, 130.8378083 E and 1. Discharge Point B: 12.4321384 S, 130.8379457 E 2. Final Point: 12.4316500 S, 130.8362400 E

	• Manhole - 1 Roberts Place, Millner 1. Discharge Point: 12.3924929 S, 130.8683203 E 2. Final Point: 12.3924929 S, 130.8683203 E • Manhole - 5 Roberts Place, Millner 1. Discharge Point: 12.391619 S, 130.867892 E 2. Final Point: 12.391597 S, 130.867937 E 2. Final Point: 12.379891 S, 130.869638 E • Manholes – Corner of Ross Smith Drive & Dickward Drive, Parap 1. Discharge Point: 12.4245592 S, 130.8379162 E 2. Final Point: 12.4245592 S, 130.8379162 E • Manhole (4G & 5G) – Corner of Ryland Road and Waters Street, Rapid Creek 1. Discharge Point A: 12.38508792 S, 130.8608231 E 1. Discharge Point B: 12.3851427 S, 130.8607878 E 2. Final Point: 12.3852036 S, 130.8606781 E • Manhole (20H) – Corner of Lampe Street and Knight Street, Fannie Bay 1. Discharge Point: 12.4301581 S, 130.8390572 E 2. Final Point: 12.4301134 S, 130.8391570 E • Manhole (7/2) – Livistonia Park, behind 3 Staghorn Court, Moulden 1. Discharge Point: 12.4980368 S, 130.9730915 E 2. Final Point: 12.43985623 S, 130.9729303 E • Ludmilla sewage pumping station, Namarluk Drive, Ludmilla 1. Discharge Point: 12.4144849 S, 130.8503154 E 2. Final Point: 12.4144254 S, 130.8458232 E • Lakeside drive sewage pumping station, Rapid Creek Discharge point: 12.3806488 S, 130.8656252 E Final point: 12.3805596 S, 130.8665271 E • Rapid Creek sewage pumping station, Rapid Creek Road, Rapid Creek Discharge Point: 130.8656139E, -12.3806369S (emergency overflow pipe discharge point) Final Discharge Point: 130.8665271E, -12.3805596S (Rapid Creek) • Manhole 11/6C 18 Queen St Discharge point: 12.2691925 S, 130.50637314 E Final point: 12.2690726 S, 130.50610046 E • Sewage pumping station (SP004) – Lot 9783, Dick Ward Drive, Coconut Grove. Discharge point: 12.13844838 S, 130.50811499 E Final point: 12.23814638 S, 130.50678964 E • Adelaide River Wastewater Stabilisation Ponds – Lot 169 Adelaide River. Discharge Point: 13.2302578 S, 131.1060579 E Final discharge point: 13.2269487 S, 131.1026738 E
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	<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> Public access is possible to discharge locations throughout Darwin although due to wet weather conditions present the likelihood of people visiting these areas is low. For Adelaide River ponds overflow, the discharge runs through a fully fenced private property, with the property owner being aware of the overflow. Where possible signage and fencing was utilised to alert the public and deter access to sites. Clean up consistent with Sewage Spills/Overflow Response Work Instruction as appropriate to the location, and to minimise risk to the environment.
(c) the date and time of the incident	<i>i. The time and date of commencement and cessation of the discharge.</i> For the below overflows, that started from the 24th January 2024, start and stop dates and approximate times are provided below. • Sewer overflow relief point – 24 East Point Rd, Parap Started approx. 06:10, 25/1/24 Ceased approx. 03:30, 26/1/24 Started approx. 15:40, 26/1/24 Ceased approx. 12:50, 27/1/24 Started approx. 13:05, 27/1/24 Ceased approx. 21:45, 28/1/24 Started approx. 08:30, 30/1/24 Ceased approx. 05:25, 31/01/24 • Sewer overflow relief point – Cnr. of Trower Rd and Rapid Creek Started approx. 06:10, 24/01/24 Ceased approx. 23:30, 31/01/24 • Sewer overflow relief point – 194 Casuarina Drv/Aralia St Started approx. 04:55, 25/01/24 Ceased approx. 11:30, 25/01/24 Started approx. 30:30, 26/01/24 Ceased approx. 23:50, 29/01/24 • Sewer overflow relief point – 4 Britomart Gardens Rd, Alawa Started approx. 05:00, 28/01/24 Ceased approx. 05:25, 31/01/24 • Manhole (AC1/6&1/7) – Cnr of East Point Rd and Gregory St, Parap Started approx. 06:10 25/1/24 Ceased approx. 3:30am 26/1/24 Started approx. 15:40 26/1/24 Ceased approx. 12:50 27/1/24 Started approx. 13:05 27/1/24 Ceased approx. 21:45 28/1/24 Started approx. 08:30 30/1/23 Ceased approx. 05:25, 31/01/24 • Manhole (M2/27) – 1 Roberts Place, Millner Started approx. 08:00hrs, 24/01/24 Ceased approx. 14:00hrs, 28/01/24 • Manhole (M2/24) – 5 Roberts Place, Millner Started approx. 08:00hrs, 24/01/24 Ceased approx. 14:00hrs, 28/01/24 • Manhole (21/2E) - Corner of Ross Smith Avenue and Dick Ward Drive, Parap Started approx. 06:10 25/1/24 Ceased approx. 3:30am 26/1/24 Started approx. 15:40 26/1/24

	Ceased approx. 12:50 27/1/24 Started approx. 13:05 27/1/24 Ceased approx. 21:45 28/1/24 Started approx. 08:30 30/1/23 Ceased approx. 05:25 31/01/24 - Manhole (4G & 5G) – Corner of Ryland Road and Waters Street, Rapid Creek Started approx. 08:00, 24/01/2024 Ceased approx. 14:00, 28/01/2024 - Manhole (20H) – Corner of Lampe Street and Knight Street, Fannie Bay Started approx. 06:10 25/1/24 Ceased approx. 3:30am 26/1/24 Started approx. 15:40 26/1/24 Ceased approx. 12:50 27/1/24 Started approx. 13:05 27/1/24 Ceased approx. 21:45 28/1/24 Started approx. 08:30 30/1/24 Ceased approx. 05:25 31/01/24 - Manhole (7/2) – Livistonia Park, behind 3 Staghorn Court, Moulden Started approx. 19:30, 28/01/24 Ceased approx. 21:30, 28/01/24 - Sewage pumping station (SP042) - Namarluk Drive, Ludmilla Started approx. 02:00, 25/01/24 Ceased approx. 02:00, 30/01/24 Started approx. 08:00, 30/01/24 Ceased approx. 02:30, 01/02/24 - Sewage pumping station (SP007) – Rapid Creek Road, Rapid Creek Started approx. 07:00, 25/01/24 Ceased approx. 03:00, 26/01/24 Started approx. 20:30, 26/01/24 Ceased approx. 02:00, 29/01/24 - Sewage pumping station (SP008) – Lakeside Drive, Alawa Started approx. 07:00, 25/01/24 Ceased approx. 15:00, 29/01/24 - Manhole 11/6C 13 Queen St, Stuart Park Started approx. 09:00, 30/1/24 Ceased approx. 05:25, 31/01/24 - Sewage pumping station (SP004) – Lot 9783, Dick Ward Drive, Coconut Grove. Started approx. 09:45, 30/01/24 Ceased: approx. 22:00, 31/01/24 - Adelaide River Wastewater Stabilisation Ponds – Lot 169 Adelaide River. Started: approx. 14:30, 30/01/24 Ceased approx. 07:10, 02/02/24 (not visually confirmed) <i>ii. How PWC were notified, or became aware of the discharge.</i> Multiple high-level alarms alerted operations staff of a number of imminent overflows, and the need to open overflow relief valves. Visual observations confirmed discharge at other locations, either by the sewer reticulation field crews or by the Adelaide River utility service contract worker. <i>iii. The process by which the discharge occurred.</i>
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	Due to significant rainfall in the Darwin catchment, significant quantities of inflow and infiltration of stormwaters has dilutes and significantly increased volumes of sewage effluent in the sewerage system. As a result of this, highly diluted sewage effluent overflows have occurred from sewerage infrastructure. Therefore Power and Water has taken the step of opening sewer relief valves at strategic points to relieve pressure in the system, preventing overflows within households, and manage potential human health/environmental impacts. <i>iv. The reason why the discharge occurred.</i> As per (c) iii. Sewerage network infrastructure has been designed to overflow with the best public health and environmental outcomes possible. Design focuses on not overflowing directly inside houses; rather discharge is designed to occur in a controlled manner at locations which can be accessed for infrastructure repair and clean up and with minimal public health or environmental impacts.
(d) how the pollution has occurred, is occurring or may occur	As per (c) iii & (c) iv.
(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	<i>i. Confirmation signage and fencing has been erected, as appropriate.</i> Where appropriate, signage is displayed to alert the public and fencing has been erected to prevent access to the sites where appropriate, as per the Power & Water Sewage Spills/Overflow Response Work Instruction. <i>ii. Decontamination of the site as appropriate.</i> Clean up consistent with Sewage Spills/Overflow Response Work Instruction as appropriate to the location, and to minimise risk to the environment. Discharge sites inspected for any gross pollutants and removed as required.
(f) the identity of the person notifying the NT EPA	Power and Water Environmental Services team on behalf of Water Services

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Sewer overflow relief valve – 24 East Point Road, Parap



Sewer overflow relief valve - Corner of Trower Road and Rapid Creek Road, Rapid Creek



Sewer overflow relief valve - 194 Casuarina Drive/Aralia St, Nightcliff (jetty end)



Manhole (AC 1/6 & 1/7) – Corner of East Point Road and Gregory Street, Parap



Manhole (M2/27) – 1 Roberts Place, Millner



Manhole (M2/24) – 5 Roberts Place, Millner



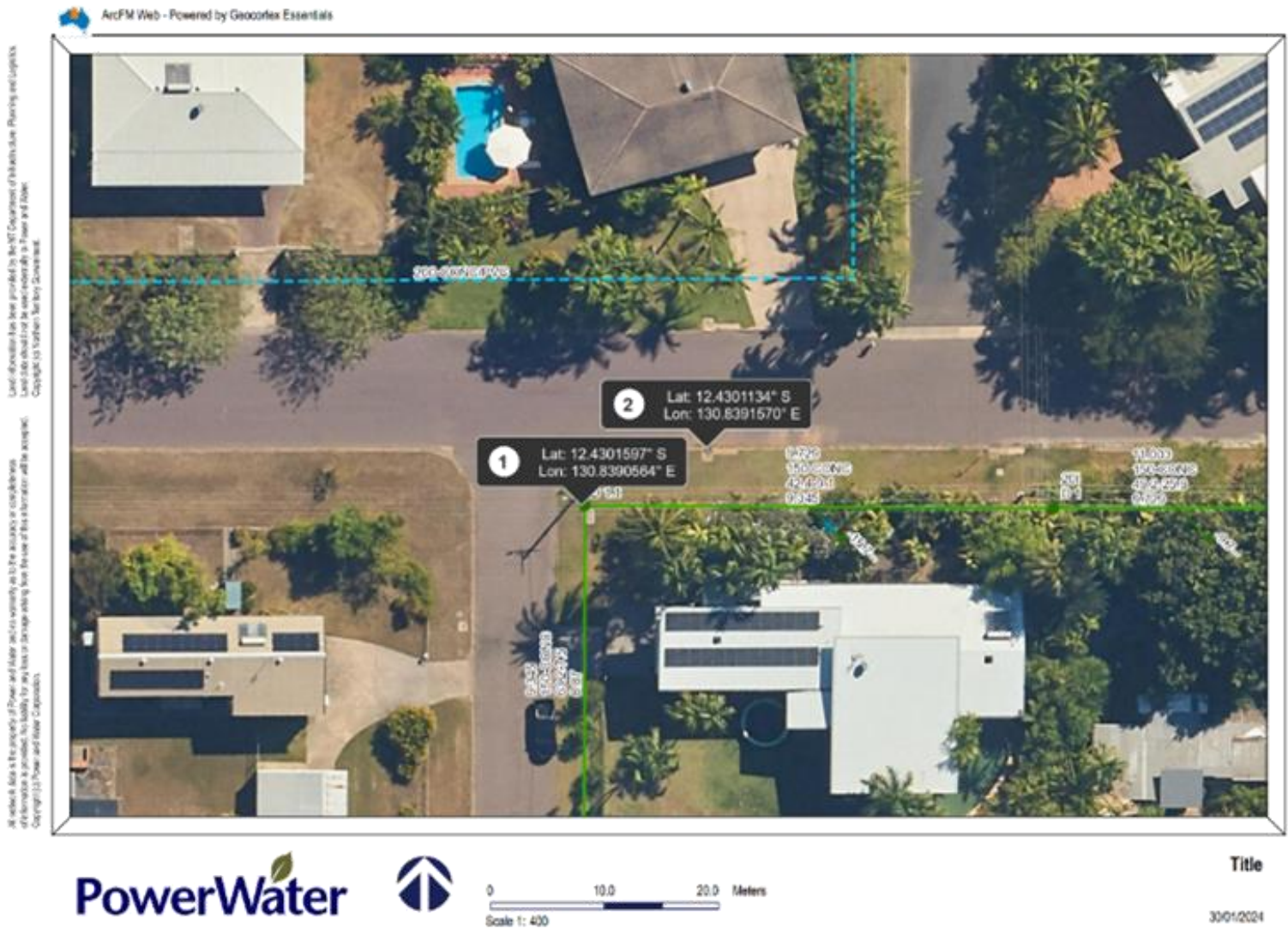
Manhole (21/2E) - Corner of Ross Smith Avenue and Dick Ward Drive, Parap



Manhole (4G & 5G) – Corner of Ryland Road and Waters Street, Rapid Creek



Manhole (20H) – Corner of Lampe Street and Knight Street, Fannie Bay



Manhole (7/2) – Livistonia Park, behind 3 Staghorn Court, Moulden



Ludmilla sewage pumping station – End of Nemarluk Drive, Ludmilla



Rapid Creek & Lakeside Drive Sewage Pumping Stations, Rapid Creek & Alawa



Manhole (11/6C) - 18 Queen Street, Stuart Park



Coconut Grove Sewage Pumping Station, Coconut Grove



Adelaide River Wastewater Stabilisation Ponds, Adelaide River

