

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

Date and Time of Notification:	Monday 12 February 2024 15:08hrs
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 commenced in the early hours of Monday 12 February 2024 and ceased around the 14 February. Rainfall figures as of 1:00 pm 13/2/2024 are shown in table 2. This prolonged rainfall resulted in increased highly diluted sewage effluent inflows to Ludmilla wastewater treatment plant peaking at 5400KL/Hr between 8 am and 9 am on 12/2/2024. This equates to a peak inflow of ~130ML/day or twice the maximum design standard.

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)	
Date	Rainfall (mm)
11/2/2024	42
12/2/2024	164.6
13/2/2024	88.6
14/2/2024	32.4
15/2/2024	4.6

Source of information: Australian Government Bureau of Meteorology

	<i>iii. Volume of the waste that was discharged.</i> The volume of wastewater discharged at each discharge location is unknown. No telemetric monitoring occurs at these locations.
(b) the place where the incident occurred	<i>ii. Description of the PWC asset from which the discharge occurred.</i> • Coconut Grove Sewer Pumping Station (SPS) • Lakeside Drive SPS • Ludmilla SPS • Rapid Creek SPS • Tiwi SPS • Doctors Gully SPS • Access Chamber (AC) M2/24 – 5 Roberts Place, Millner • AC 20A1/1 – 103 Rapid Creek Road, Rapid Creek • AC 1/6 and 1/7 – Corner of Gregory St and East Point Rd, Parap • AC 20H – Corner of Lampe St and Knight St, Fannie Bay • AC 21/2E – 107 Ross Smith Ave, Fannie Bay • AC 5H – Corner of Rapid Creek Rd and Sprigg St, Millner • AC 26E/1 – Corner of Ryland Rd and Robinson Rd, Millner • AC 23C/1 – 43 Trower Road, Rapid Creek • AC 5/2 – 320 Casuarina Drive (corner of Chapman Rd), Rapid Creek • AC N/2 – Corner of Casuarina Drive and Aralia Street, Rapid Creek • AC 37/1 – Corner of Casuarina Drive and Kiranou Place, Nightcliff • AC 30/10 – 1 Earl Place, Millner • AC – 21 Waters Street, Rapid Creek • AC 5G – 14 Manbulloo Street, Tiwi • AC 27 – 12 Colster Crescent, Wagaman • Sewer Overflow Valve (SOV) 7/29 – Corner of Palm St and Casuarina Drive, Rapid Creek • SOV 7/35 – 194 Casuarina Drive, Rapid Creek • SOV 3H – Corner of Rapid Creek Road and Trower Road • SOV M2/23 – 29 Solomon Street, Millner • SOV 2C – University Drive South, Charles Darwin University, Nakara • SOV M – 4 Britomart Gardens Road, Alawa • SOV – Corner of Young Crescent and Wellington Parade, Alawa • SOV 1/10 – 24 East Point Road, Fannie Bay • SOV 13M – 4 Gothenburg Crescent, Stuart Park • SOV 8/3 – Old Bagot Ponds <i>ii. GPS coordinates of the discharge point from the PWC asset, and the final coordinates of the final discharge point.</i> • Coconut Grove SPS 1. Discharge Point: 12.3974350 S, 130.8469091 E 2. Final Point: 12.3974853 S, 130.8456577 E • Lakeside Drive SPS 1. Discharge point: 12.3806488 S, 130.8656252 E 2. Final point: 12.3805596 S, 130.8665271 E • Ludmilla SPS

	1. Discharge point: 12.4144833 S, 130.8503163 E 2. Final point: 12.4144254 S, 130.8458232 E • Rapid Creek SPS 1. Discharge point: 12.3806488 S, 130.8656252 E 2. Final point: 12.3805596 S, 130.8665271 E • Tiwi SPS 1. Discharge Point: 12.3580477 S, 130.8777799 E 2. Final Point: 12.3580477 S, 130.8777799 E • Doctors Gully SPS 1. 12.4587435 S, 130.8327021 E 2. 12.4597157 S, 130.8324596 E • AC - 5 Roberts Place, Millner 1. Discharge Point: 12.391619 S, 130.867892 E 2. Final Point: 12.391597 S, 130.867937 E • AC – 103 Rapid Creek Road, Rapid Creek 1. Discharge Point: 12.380178 S, 130.8626751 E 2. Final Point: 12.3799558 S, 130.8625251 E • AC's at Corner of Gregory St and East Point Rd, Parap 1. Discharge Point: 12.4320022 S, 130.8378083 2. Discharge Point: 12.4321384 S, 130.8379457 E 3. Final Point: 12.4316500 S, 130.8362400 E • AC – Corner of Lampe Street and Knight Street, Fannie Bay 1. Discharge Point: 12.4301604 S, 130.8390574 E 2. Final Point: 12.4301104 S, 130.8391728 E • AC – Corner of Ross Smith Drive & Dickward Drive, Parap 1. Discharge Point: 12.4245602 S, 130.83791512 E 2. Final Point: 12.4245388 S, 130.8380794 E • AC – Corner of Rapid Creek Road and Sprigg St, Millner 1. Discharge Point: 12.3872343 S, 130.864445 E 2. Final Point: 12.3872464 S, 130.864584 E • AC – Corner of Ryland Rd and Robinson Rd, Millner 1. Discharge point: 12.4635332' S, 130.7917564' E 2. Final point: 12.3910648 S, 130.8632194 E • AC – 43 Trower Road, Rapid Creek 1. Discharge point: 12.3864969 S, 130.8509113 E 2. Final point: 12.3864291 S, 130.8610872 E • AC - 320 Casuarina Drive (corner of Chapman Rd), Rapid Creek 1. Discharge Point: 12.3763783 S, 130.8557048 E 2. Final Point: 12.3763574 S, 130.8558742 E • AC – Corner of Casuarina Drive and Aralia Street, Rapid Creek 1. Discharge Point: 12.3757866 S, 130.8543124 E 2. Final Point: 12.375726 S, 130.8543511 E • AC - Corner of Casuarina Drive and Kiranou Place, Nightcliff 1. Discharge Point: 12.3875698 S, 130.8449565 E
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	2. Final Point: 12.3876482 S, 130.8449826 E • AC – 1 Earl Place, Millner 1. Discharge point: 12.3931053 S, 130.8635595 E 2. Final point: 12.3928388 S, 130.8635666 E • AC – 21 Waters Street, Rapid Creek 1. Discharge point: 12.3849735 S, 130.8607641 E 2. Final point: 12.3845482 S, 130.8622037 E • AC – 14 Manbulloo Street, Tiwi 1. Discharge Point: 12.3598312 S, 130.8803271 E 2. Final Point: 12.3591685 S, 130.8802498 E • AC – 12 Colster Crescent, Wagaman 1. Discharge Point: 12.3806166 S, 130.8819145 E 2. Final Point: 12.3804996 S, 130.8817263 E • SOV – Corner of Palm Street and Casuarina Drive, Rapid Creek 1. Discharge Point: 12.3835904 S, 130.8423179 E 2. Final Point: 12.3840031 S, 130.8416739 E • SOV – 194 Casuarina Drive, Rapid Creek 1. Discharge Point: 12.381805 S, 130.841327 E 2. Final Point: 12.381806 S, 130.840992 E • SOV – Corner of Rapid Creek Road and Trower Road 1. Discharge Point: 12.385673 S, 130.864963 E 2. Final Point: 12.385733 S, 130.865954 E • SOV – 29 Solomon Street, Millner 1. Discharge Point: 12.3909409 S, 130.8674101 E 2. Final Point: 12.3909057 S, 130.867452 E • SOV – University Drive South, Nakara 1. Discharge Point: 12.33745311 S, 130.8684845 E 2. Final Discharge Point: 12.3746330 S, 130.8683233 E • SOV – 4 Britomart Gardens Road, Alawa 1. Discharge Point: 12.3769951 S, 130.8771645 E 2. Final Point: 12.3769334 S, 130.8771040 E • SOV – Corner of Young Crescent and Wellington Parade, Alawa 1. Discharge Point: 12.3794861 S, 130.8723377 E 2. Final Point: 12.3795841 S, 130.8722684 E • SOV – 24 East Point Road, Fannie Bay 1. Discharge point: 130.8379474E, -12.434417S 2. Final point: 130.8358461E, -12.4336630S (Vestey's Lagoon) • SOV – 4 Gothenburg Crescent, Stuart Park 1. Discharge Point: 12.4486975 S, 130.8444842 E 2. Final Point: 12.4487370 S, 130.8445834 E • SOV – Old Bagot Ponds 1. Discharge Point: 12.4192582 S, 130.8507206 E 2. Final Point: 12.4194289 S, 130.8504072 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. 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 12 February 2024, the start and stop dates and approximate times are provided below. - Coconut Grove Sewer Pump Station (SPS) Started: 7:45am 12/2/2024 Stopped: 00:05am 16/2/2024 - Lakeside Drive SPS Started: 12:00am 12/2/2024 Stopped: 7:30am 16/2/2024 - Ludmilla SPS Started: 2:30am 12/2/2024 Stopped: 9:35am 15/2/2024 - Rapid Creek SPS Started: 1:00am 12/2/2024 Stopped: 10:25am 14/2/2024 - Tiwi SPS Started: 8:00am 12/2/2024 Stopped: 6:25am 13/2/2024 - Doctors Gully SPS Started: 6:00pm 13/2/2024 Stopped: 3:30pm 14/2/2024 - Access Chamber (AC) M2/24 – 5 Roberts Place, Millner Started: approx. early hours of 12/2/2024 Stopped: 7:30am 14/2/2024 - AC 20A1/1 – 103 Rapid Creek Road, Rapid Creek Started: approx. early hours of 12/2/2024 Stopped: 7:30am 14/2/2024 - AC 1/6 and 1/7 – Corner of Gregory St and East Point Rd, Parap Started: approx. early hours of 12/2/2024 Stopped: 7:30am 14/2/2024 - AC 20H – Corner of Lampe St and Knight St, Fannie Bay Started: approx. early hours of 12/2/2024 Stopped: 7:30am 14/2/2024 - AC 21/2E – 107 Ross Smith Ave, Fannie Bay Started: approx. early hours of 12/2/2024 Stopped: 7:30am 14/2/2024

	• AC 5H – Corner of Rapid Creek Rd and Sprigg St, Millner Started: approx. early hours of 12/2/2024 Stopped: 7:30am 14/2/2024 • AC 26E/1 – Corner of Ryland Rd and Robinson Rd, Millner Started: approx. early hours of 12/2/2024 Stopped: 7:30am 14/2/2024 • AC 23C/1 – 43 Trower Road, Rapid Creek Started: approx. early hours of 12/2/2024 Stopped: 7:30am 14/2/2024 • AC 5/2 – 320 Casuarina Drive (corner of Chapman Rd), Rapid Creek Started: approx. early hours of 12/2/2024 Stopped: 7:30am 14/2/2024 • AC N/2 – Corner of Casuarina Drive and Aralia Street, Rapid Creek Started: approx. early hours of 12/2/2024 Stopped: 7:30am 14/2/2024 • AC 37/1 – Corner of Casuarina Drive and Kiranou Place, Nightcliff Started: approx. early hours of 12/2/2024 Stopped: 7:30am 14/2/2024 • AC 30/10 – 1 Earl Place, Millner Started: approx. early hours of 12/2/2024 Stopped: 7:30am 14/2/2024 • AC – 21 Waters Street, Rapid Creek Started: approx. early hours of 12/2/2024 Stopped: 7:30am 14/2/2024 • AC 5G – 14 Manbulloo Street, Tiwi Started: approx. early hours of 12/2/2024 Stopped: 7:30am 14/2/2024 • AC A – 12 Colster Crescent, Wagaman Started: approx. early hours of 13/2/2024 Stopped: 7:30am 14/2/2024 • Sewer Overflow Valve (SOV) 7/29 – Corner of Palm St and Casuarina Drive, Rapid Creek Started: 10:00am 12/02/2024 Stopped: 7:30am 16/2/2024 • SOV 7/35 – 194 Casuarina Drive, Rapid Creek Started: 3:00am 12/2/2024 Stopped: 1:10pm 15/2/2024 • SOV 3H – Corner of Rapid Creek Road and Trower Road Started: 4:00am 12/2/2024 Stopped: 7:30am 16/2/2024 • SOV M2/23 – 29 Solomon Street, Millner Started: 12:00pm 12/2/2024
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	Stopped: 4:00pm 14/2/2024 - SOV 2C – University Drive South, Charles Darwin University, Nakara Started: 1:00pm 12/2/2024 Stopped: 8:00am 15/2/2024 - SOV M – 4 Britomart Gardens Road, Alawa Started: 1:00pm 12/2/2024 Stopped: 8:30am 15/2/2024 - SOV – Corner of Young Crescent and Wellington Parade, Alawa Started: 1:00pm 12/2/2024 Stopped: 8:30am 15/2/2024 - SOV 1/10 – 24 East Point Road, Fannie Bay Started: 10:40am 12/2/2024 Stopped: 8:15am 14/2/2024 - SOV 13M – 4 Gothenburg Crescent, Stuart Park Started: 7:00am 12/2/2024 Stopped: 10:00am 14/2/2024 - SOV – Old Bagot Ponds Started: 12:00pm 13/2/2024 Stopped: 10:30am 15/2/2024 <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 by the sewer reticulation field crews. <i>iii. The process by which the discharge occurred.</i> Due to significant rainfall in the Darwin catchment, significant quantities of inflow and infiltration of stormwaters has diluted 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

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

Coconut Grove SPS





Coconut Grove SPS Discharge Point Historical Photo dated 15/1/2021.

Lakeside Drive and Rapid Creek SPS Discharge Point





Lakeside Drive and Rapid Creek SPS Discharge Point Historical Photo dated 15/2/2021.

Ludmilla SPS





Ludmilla SPS Emergency Discharge Point, Historical Photo dated 21 January 2021

Tiwi SPS



Doctors Gully SPS



AC (M2/24) – 5 Roberts Place, Millner



AC - 103 Rapid Creek Road, Rapid Creek



AC 1/6 and 1/7 – Corner of Gregory St and East Point Rd, Parap



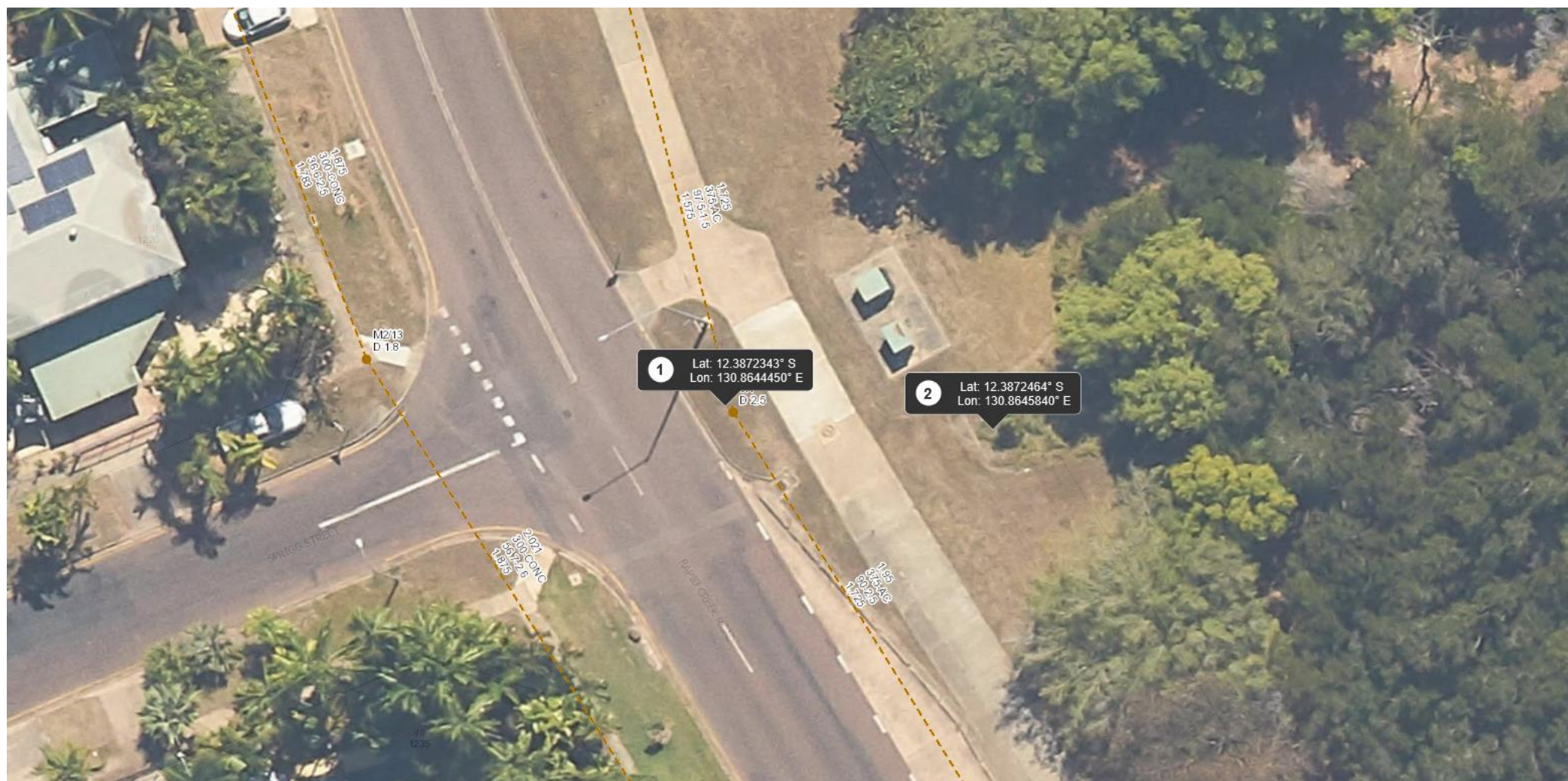
AC 20H – Corner of Lampe St and Knight St, Fannie Bay



AC 21/2E – 107 Ross Smith Ave, Fannie Bay



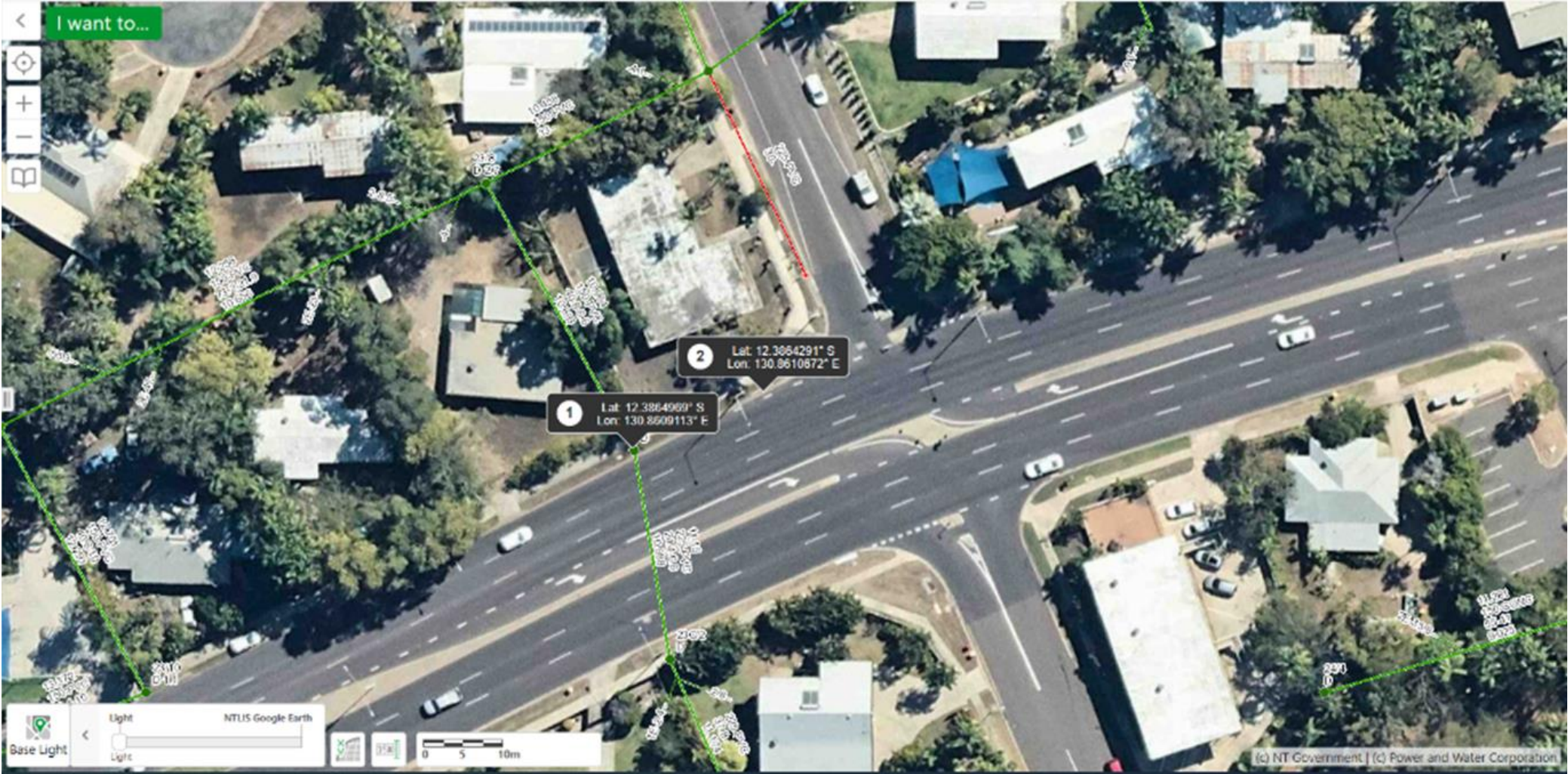
AC 5H – Corner of Rapid Creek Rd and Sprigg St, Millner



AC 26E/1 – Corner of Ryland Rd and Robinson Rd, Millner



AC 23C/1 – 61 Trower Road, Rapid Creek



AC 5/2 – 320 Casuarina Drive (corner of Chapman Rd), Rapid Creek



AC N/2 – Corner of Casuarina Drive and Aralia Street, Rapid Creek



AC 37/1 – Corner of Casuarina Drive and Kiranou Place, Nightcliff



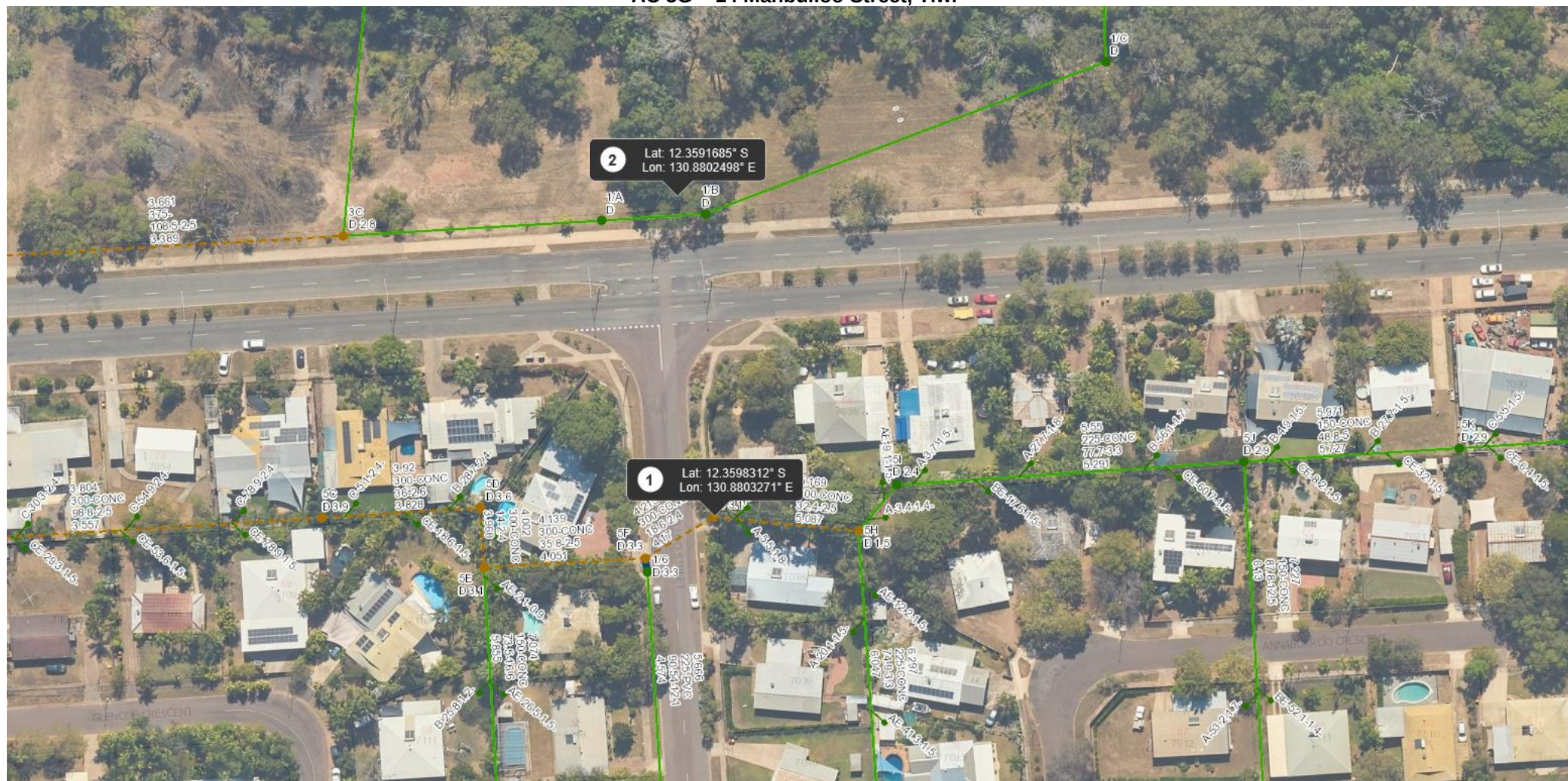
AC 30/10 – 1 Earl Place, Millner



AC – 21 Waters Street, Rapid Creek



AC 5G – 14 Manbulloo Street, Tiwi



AC 27 – 12 Colster Crescent, Wagaman



SOV 7/29 – Corner of Palm St and Casuarina Drive, Rapid Creek



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SOV 3H – Corner of Rapid Creek Road and Trower Road



SOV M2/23 – 29 Solomon Street, Millner



SOV 2C – University Drive South, Charles Darwin University, Nakara



SOV M – 4 Britomart Gardens Road, Alawa



SOV – Corner of Young Crescent and Wellington Parade, Alawa



SOV 1/10 – 24 East Point Road, Fannie Bay



SOV 13M – 4 Gothenburg Crescent, Stuart Park



SOV 8/3 - Old Bagot Ponds

