Licence

Licence number	L8335/2009/5
Licence holder	Water Corporation
Registered business address	John Tonkin Water Centre 629 Newcastle St LEEDERVILLE WA 6007
DWER file number	DER2019/000566
Duration	24/02/2020 to 23/02/2030
Date of issue	17/02/2020
Date of amendment	31/08/2023
Premises details	Cocos (Home) Island Wastewater Treatment Plant Part 103, Home Island Cocos (Keeling) Islands WA 6799 Legal description - Part of Lot 1106 on Plan 30520 As defined by the premises map in Schedule 1

Prescribed premises category description **(Schedule 1, *Environmental Protection Regulations 1987 (WA)(CKI)*)**	**Assessed design capacity**
Category 54 Sewage facility: premises – (a) on which sewage is treated (excluding septic tanks); or (b) from which treated sewage is discharged onto land or into waters	165 m^3 per day

This licence is granted to the licence holder, subject to the attached conditions, on 31 August 2023, by:

Sarah Cross

Digitally signed by Sarah Cross
Date: 2023.08.31 10:18:57 +08'00'

Sarah Cross
A/Senior Environmental Officer
Industry Regulation
an officer delegated under section 20 of the *Environmental Protection Act 1986 (WA)(CKI)*

Licence history

Date	Reference number	Summary of changes
24/02/2012	L8335/2009/3	Licence reissue on expiry 23/02/2015.
24/02/2015	L8335/2009/4	Licence reissue on expiry 23/02/2020.
05/10/2018	W6162/2018/1	Works Approval issued (expires 04/10/2023)
17/02/2020	L8335/2009/5	Licence reissue on expiry 23/02/2015.
31/08/2023	L8335/2009/5	Licence amendment to alter the reporting date for the Annual Audit Compliance Report and the Environmental Report to 1 October annually.

Interpretation

In this licence:

(a) the words 'including', 'includes' and 'include' in conditions mean "including but not limited to", and similar, as appropriate;

(b) where any word or phrase is given a defined meaning, any other part of speech or other grammatical form of that word or phrase has a corresponding meaning;

(c) where tables are used in a condition, each row in a table constitutes a separate condition;

(d) any reference to an Australian or other standard, guideline, or code of practice which may occur from time to time in this licence:

(i) if dated, refers to that particular version; and

(ii) if not dated, refers to the latest version and therefore may be subject to change over time;

(e) unless specified otherwise, any reference to a section of an Act refers to that section of the EP Act; and

(f) unless specified otherwise, all definitions are in accordance with the EP Act.

NOTE: This licence requires specific conditions to be met but does not provide any implied authorisation for other emissions, discharges, or activities not specified in this licence.

Licence conditions

The licence holder must ensure that the following conditions are complied with:

1. The licence holder must immediately recover, or remove and dispose of, spills of sewage and sewage sludge, whether inside or outside an engineered containment system.

Premises operation

2. The licence holder must only accept onto the premises waste of a waste type, which does not exceed the corresponding rate at which waste is received, and which meets the corresponding acceptance specification set out in Table 1.

Table 1: Waste acceptance

Waste type	Rate at which waste is received	Acceptance specification
Sewage	165 m^3/day	• Accepted through sewer inflow(s); and • Tankered acceptance during emergency or maintenance work only

3. The licence holder must ensure that the waste types specified in Table 2 are only subject to the corresponding process limit and/or specifications.

Table 2: Waste processing

Waste type	Process	Process requirements
Sewage	Physical, biological and chemical treatment	• Treatment of sewage waste must be at or below the treatment capacity of 165 m^3/day as a monthly average. • Chlorination via manual dosing must ensure a minimum 30-minute retention time prior to treated wastewater discharge to ocean outfall, and residual chlorine monitoring to be undertaken.
Sewage sludge	Storage and disposal	• 54 m^3 at any one time; • Wasted from intermittent aeration tank to dry bed; • Stored in drying bed and/or geobag within covered facility; • Addition of approved polymer for sludge dewatering; • Waste activated sludge leachate returned to the aeration tank inlet; and • Removal of sludge to a licensed landfill for final disposal.

4. The licence holder must ensure that waste material is only stored and/or treated within vessels or compounds provided with the infrastructure detailed in Table 3.

Table 3: Containment infrastructure

Vessel or compound	Material	Requirements
Inlet works (Screw sieve compactor screen)	Grit and Screenings	• Received from inlet pipe to the WWTP. • Screening removed to licensed landfill.
Aeration tank (1)	Wastewater	• Above ground, impermeable concrete tank, with three aerators.
Decant/Balance tanks (3)	Wastewater	• Constructed above ground • Impermeable concrete and/or polyethylene tanks. • Effluent is to be decanted from the balance tank, disinfected by UV treatment and discharged to the ocean via the ocean outlet point.
Sludge treatment tanks	Sewage sludge	• Impermeable receptacle or storage chamber.
Sewage sludge compound	Sewage sludge	• Sludge is to be stored on temporary or permanent infrastructure consisting of a bunded hardstand or lined area (lined to achieve a permeability of less than 10^{-9} m/s or equivalent), capable of preventing surface run-off of leachate and sludge. • Must include a leachate collection system. • Addition of an approved polymer dosing system to dewater sludge is permitted.
Washdown bay	Sewage sludge Wastewater	• Concrete bay with leachate and waste returning to the inlet of the aeration tank.

5. The licence holder must manage the wastewater treatment vessels such that:

(a) overtopping of the vessels does not occur;

(b) stormwater runoff is prevented from entering the vessels;

(c) there is no seepage loss from the vessels;

(d) facility maintenance ensures that all treated effluent is discharged to the discharge point of the ocean outfall; and

(e) vegetation and floating debris (emergent or otherwise) is prevented from growing or accumulating in the vessels.

6. The licence holder must:

(a) erect and maintain suitable fencing to prevent unauthorised access to the site; and

(b) ensure that any entrance gates to the premises are securely locked when the premises is unattended.

7. The licence holder must ensure that monitoring bore HI-4E is maintained and operational at all times.

Emissions and discharges

8. The licence holder must ensure that the emissions specified in Table 4 are discharged only from the corresponding discharge point and only at the corresponding discharge point location.

Table 4: Emission points to surface water

Emission point reference and location on map of emission points	Emission point reference on Map of emission points	Description	Source including abatement
W1	Treated wastewater discharge point	Discharge of treated wastewater to ocean via ocean outfall pipeline.	Wastewater which has gone through UV treatment process prior to discharge.

9. The licence holder must ensure that odour emitted from the premises does not unreasonably interfere with the health, welfare, convenience, comfort or amenity of any person who is not on the premises.

Monitoring

10. The licence holder must ensure that:

(a) all water samples are collected and preserved in accordance with AS/NZS 5667.1;

(b) all wastewater sampling is conducted in accordance with AS/NZS 5667.10;

(c) all surface water sampling is conducted in accordance with AS/NZS 5667.9;

(d) all groundwater sampling is conducted in accordance with AS/NZS 5667.11;

(e) all microbiological samples are collected and preserved in accordance with AS/NZS 2031; and

(f) all laboratory samples are submitted to and tested by a laboratory with current NATA accreditation for the parameters being measured, unless indicated otherwise in the relevant table.

11. The licence holder must ensure that:

(a) monthly monitoring is undertaken at least 15 days apart;

(b) quarterly monitoring is undertaken at least 45 days apart;

(c) six monthly monitoring is undertaken at least 3 months apart; and

(d) annual monitoring is undertaken at least 9 months apart.

12. The licence holder must ensure that all monitoring equipment used to comply with conditions 14 to 17 on the premises, is operated and calibrated in accordance with the manufacturer's specifications.

13. The licence holder must, where the requirements for calibration cannot be practicably met, or a discrepancy exists in the interpretation of the requirements, bring these issues to the attention of the CEO accompanied with a report comprising details of any modifications to the methods.

14. The licence holder must undertake the monitoring in Table 5 according to the specifications in that table.

Table 5: Monitoring of point source emissions to surface water

Emission point reference	Monitoring point reference	Parameter	Units	Averaging Period	Frequency
M2	IDEA plant discharge point (prior to outfall)	pH[1]	pH	Spot sample	Monthly
		Total Nitrogen	mg/L		
		Total Phosphorus	mg/L		
		E. coli[2]	cfu/100ml		
		Ammonia-nitrogen	mg/L		
		Total dissolved solids			
		5-Day Biochemical Oxygen Demand			
		Total Suspended Solids			
		Ammonium-nitrogen			
		Nitrate+nitrite-nitrogen			
		Oil and grease			
		Residual chlorine[1]			Spot sample, only when chlorination dosing is undertaken
		Lead	mg/L & kg/day	Spot sample	Annual
		Cadmium			
		Copper			
		Zinc			
		Mercury			

Note 1: In field non-NATA accredited analysis permitted.

Note 2: The actual level is to be reported except where the result is greater than the highest detectable level of 24,000 cfu/100mL. In this case the reporting of the highest detectable level is permitted.

15. The licence holder must undertake the monitoring in Table 6 according to the specifications in that table.

Table 6: Monitoring of inputs and outputs

Input/Output	Monitoring point reference	Parameter	Units	Averaging period	Frequency
Sewage - Inlet Flow	Inflow meter (M1)	Volumetric flow rate (cumulative)	m^3/day	Continuous	Monthly
Treated wastewater discharged to ocean outfall pipeline	Outflow meter (M2)	Volumetric flow rate (cumulative)	m^3/day	Continuous	Monthly

16. The licence holder must undertake the monitoring in Table 7 according to the specifications in that table.

Table 7: Process monitoring

Monitoring point reference and location	Process description	Parameter	Units	Averaging period	Frequency	Method
Outfall pipeline (W1)	Visual inspection of the entire length of the outfall pipeline.	N/A	N/A	Within 2 hours of dosing with non-toxic tracer dye	Six monthly	None specified
Shallow sampling points	Sampling along shoreline adjacent to and SW of ocean outfall point.	*E. coli*[1]	cfu/ 100ml	Within 2 hours of effluent being discharged from the balance tank to ocean outfall	Quarterly	'Water Corporation, Cocos (Keeling) Islands Ocean Outfall Monitoring September 2002'
		Ammonia-nitrogen	mg/L			
		Total nitrogen				
		Total phosphorus				
Deep photo quadrats	Marine benthos photographic surveys.	Drop-off immediately above marine outfall	N/A	Spot sample	Every 5 years	
Shallow & deep sampling points	Conduct surveys relating to impact of wastewater discharge into marine ecosystems.	N/A	N/A	Spot sample	Every 5 years	

Note 1: The actual level is to be reported except where the result is greater than the highest detectable level of 24,000 cfu/100mL. In this case the reporting of the highest detectable level is permitted.

17. The licence holder must undertake the monitoring in Table 8 according to the specifications in that table.

Table 8: Monitoring of ambient groundwater quality

Monitoring point reference and location	Parameter	Units	Averaging period	Frequency
HI-4E	Standing water level	m(AHD) mBGL	Spot sample	Every two months
	pH[1]	pH		
	E. coli[2]	cfu/100ml		
	Total Phosphorus	mg/L		
	Total Nitrogen			
	Biological Oxygen Demand (5-day)			

Note 1: In-field non-NATA accredited analysis permitted.

Note 2: The actual level is to be reported except where the result is greater than the highest detectable level of 24,000 cfu/100mL. In this case the reporting of the highest detectable level is permitted.

Records and reporting

18. The licence holder must maintain accurate and auditable books that include the following records, information, reports, and data required by this licence:

(a) the calculation of fees payable in respect of this licence;

(b) any maintenance of infrastructure that is performed in the course of complying with conditions of this licence;

(c) monitoring programmes undertaken in accordance with conditions of this licence;

(d) complaints received under condition 21 of this licence.

19. The books specified under condition 18 must:

(a) be eligible;

(b) if amended, be amended in such a way that the original version(s) and any subsequent amendments remain legible and are capable of retrieval;

(c) be retained by the licence holder for the duration of the licence; and

(d) be available to be produced to an inspector of the CEO as required.

20. The licence holder must:

(a) undertake an audit of their compliance with the conditions of this licence during the preceding annual period; and

(b) prepare and submit to the CEO an Annual Audit Compliance Report in the approved form by 1 October each year.

21. The licence holder must record the following information in relation to complaints received by the licence holder (whether received directly from a complainant or forwarded to them by the Department or another party) about any alleged emissions from the premises:

(a) the name and contact details of the complainant (if provided);

(b) the time and date of the complaint;

(c) the complete details of the complaint and any other concerns or other issues raised; and

(d) the complete details and dates of any action taken by the licence holder to investigate or respond to any complaint.

22. The licence holder must:

(a) prepare an environmental report that provides information in accordance with Table 9 for the preceding annual period, and

(b) submit the environmental report to the CEO by 1 October each year.

Table 9: Environmental reporting requirements

Condition	Requirement
-	Summary of any failure or malfunction of any pollution control equipment and any environmental incidents that have occurred during the annual period and any action taken
Table 2	Summary and analysis of any design capacity exceedances and any action taken.
Table 3	Summary of any vessel overtopping and any action taken.
Table 5	Monitoring of point source emissions to surface waters
Table 6	Monitoring of inputs and outputs
-	Methodology and calculations used to estimate the daily volumetric flow rate of treated wastewater pumped to marine outfall and results of those calculations.
Table 7	Process monitoring and methodology used
Table 8	Monitoring of ambient groundwater quality
Condition 20	Compliance
Condition 21	Complaints summary

23. The licence holder must ensure that the environmental report contains an assessment of the information contained within the report against previous monitoring results.

24. The licence holder must submit the information in Table 10 to the CEO according to the specifications in that table.

Table 10: Non-annual reporting requirements

Parameter	Reporting period	Reporting date (after end of the reporting period)	Format or form
Copies of original monitoring reports submitted to the licence holder by third parties	Not Applicable	Within 14 days of the CEOs request	As received by the licence holder from third parties

Definitions

In this licence, the terms in Table 11 have the meanings defined.

Table 11: Definitions

Term	Definition
AHD	means the Australian height datum
annual period	means the inclusive period from 1 July until 30 June in the following year
approved form	means the Annual Audit Compliance Report (AACR) form template approved by the CEO for use and available via DWER's external website.
AS/NZS 2031	means the Australian Standard AS/NZS 2031 *Selection of containers and preservation of water samples for microbiological analysis*;
AS/NZS 5667.1	means the Australian Standard AS/NZS 5667.1 *Water Quality – Sampling – Guidance of the Design of sampling programs, sampling techniques and the preservation and handling of samples*
AS/NZS 5667.9	means the Australian Standard AS/NZS 5667.9 *Water Quality – Sampling – Guidance on sampling from marine waters*
AS/ NZS 5667.10	means the Australian Standard AS/ NZS 5667.10 *Water Quality – Sampling – Guidance on sampling of waste waters.*
AS/NZS 5667.11	means the Australian Standard AS/NZS 5667.11 *Water Quality – Sampling – Guidance on sampling of groundwaters*
averaging period	means the time over which a parameter is measured or a monitoring result is obtained
books	As defined in section 3 of the *Interpretations Act 1984* and section 3 of the *Environmental Protection Act 1986 (WA)(CKI).*
CEO	means Chief Executive Officer of the Department. "submit to / notify the CEO" (or similar), means either: Director General Department administering the *Environmental Protection Act 1986 (WA)(CKI)* Locked Bag 10 Joondalup DC WA 6919 or: info@dwer.wa.gov.au
condition	a condition to which the licence is subject under section 62 of the *Environmental Protection Act 1986 (WA)(CKI).*
controlled waste	has the definition in *Environmental Protection (Controlled Waste) Regulations 2004 (WA)(CKI)*.

Term	Definition
Deep photo quadrats	means photo quadrats HXD3 and HXD4.
Deep water sampling points	means sampling points H1 to H12 inclusive (used to monitor coral and algae lifeform presence) and HCS1, HCS5, HCS10, HX1, HX3, HXS10 (for ocean water quality monitoring at the shore)
Department	means the department established under section 35 of the *Public Sector Management Act 1994* (WA) and designated as responsible for the administration of the EP Act, which includes Part V Division 3.
discharge	has the same meaning given to that term under the EP Act.
DWER	means Department of Water and Environmental Regulation.
emergency	means an unforeseen, unplanned occurrence.
emission	has the same meaning given to that term under the EP Act.
EP Act	*Environmental Protection Act 1986 (WA)(CKI)*
EP Regulations	*Environmental Protection Regulations 1987 (WA)(CKI)*
freeboard	means the distance between the maximum water surface elevations and the top of retaining banks or structures at their lowest point.
hardstand	means a surface with a permeability of 10^{-9} metres/second or less
leachate	means liquid released by or water that has percolated through waste and which contains some of its constituents.
licence	refers to this document, which evidences the grant of a licence by the CEO under section 57 of the EP Act, subject to the specified conditions contained within.
licence holder	refers to the occupier of the premises, being the person specified on the front of the licence as the person to whom this licence has been granted.
NATA	means National Association of Testing Authorities.
NATA accredited	means in relation to the analysis of a sample that the laboratory is NATA accredited for the specified analysis at the time of the analysis.
mass balance	means the calculation resource flows and losses based on the mass and/or volume of inputs to a process which balances the mass and/or volume of outputs as products, emissions and wastes, plus any change in stocks.
premises	refers to the premises to which this licence applies, as specified at the front of this licence and as shown ~~on~~ the premises map (Figure 1) in Schedule 1 to this licence.

Term	Definition
prescribed premises	has the same meaning given to that term under the EP Act.
process equipment	means any wastewater or sludge containment infrastructure or wastewater treatment vessel.
quarterly	means the 4 inclusive periods from, 1 July to 30 September, 1 October to 31 December and in the following year, 1 January to 31 March and 1 April to 30 June.
Schedule 1	means Schedule 1 of this licence unless otherwise stated.
Schedule 2	means Schedule 2 of this licence unless otherwise stated.
Shallow sampling points	means sampling points HXD1 to HXD4 inclusive and HDC1 (used to monitor coral lifeform coverage), and transects TX1,TX2, TX3, TC4, TC5, TC6 (used to monitor lifeform coverage)
six monthly	means the 2 inclusive periods from 1 July to 31 December and 1 January to 30 June in the following year.
spot sample	means a discrete sample representative at the time and place at which the sample is taken.
Water Corporation, Cocos (Keeling) Islands ocean Outfall Monitoring September 2002.	means HGM (2002) Water Corporation, Cocos (Keeling) Islands Ocean Outfall Monitoring September 2002. Halpern Glick Maunsell Pty Ltd, Document number EW026922
waste	has the same meaning given to that term under the EP Act.
waste code	means the Waste Code assigned to a type of controlled waste for purposes of waste tracking and reporting as specified in the Department of Environment Regulation “Controlled Waste Category List” (May 2018), as amended from time to time.
wastewater treatment vessels	means any vessel or tank containment infrastructure associated with the treatment of wastewater.

END OF CONDITIONS

Schedule 1: Maps

Premises map

The boundary of the prescribed premises is shown in the map below (Figure 1).

Figure 1: Map of the boundary of the prescribed premises

Map of emission points

The premises emission point is shown in the map below (Figure 2).

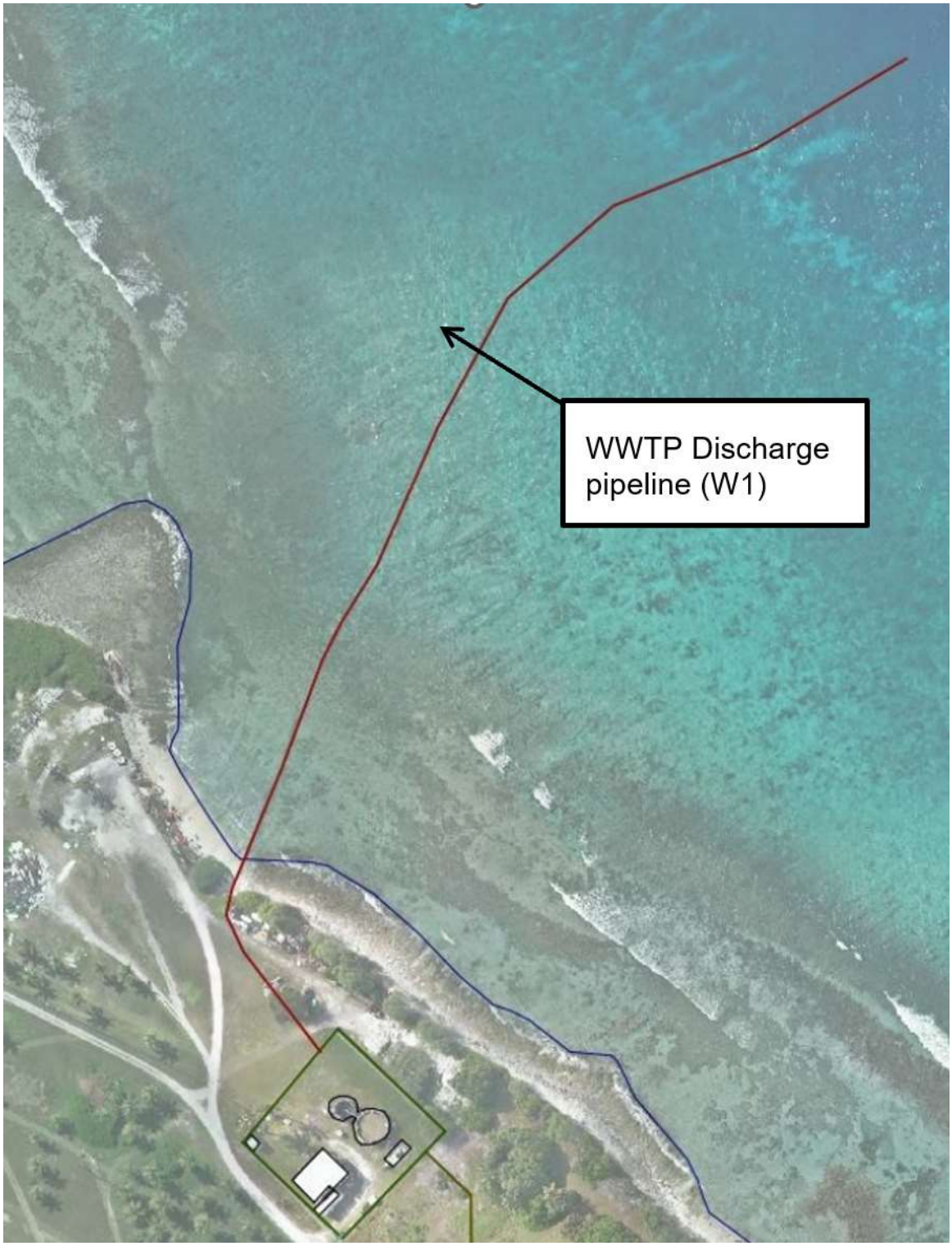

Figure 2: Map of emission point

Map of monitoring locations

The monitoring locations are shown in the map below (Figure 3).

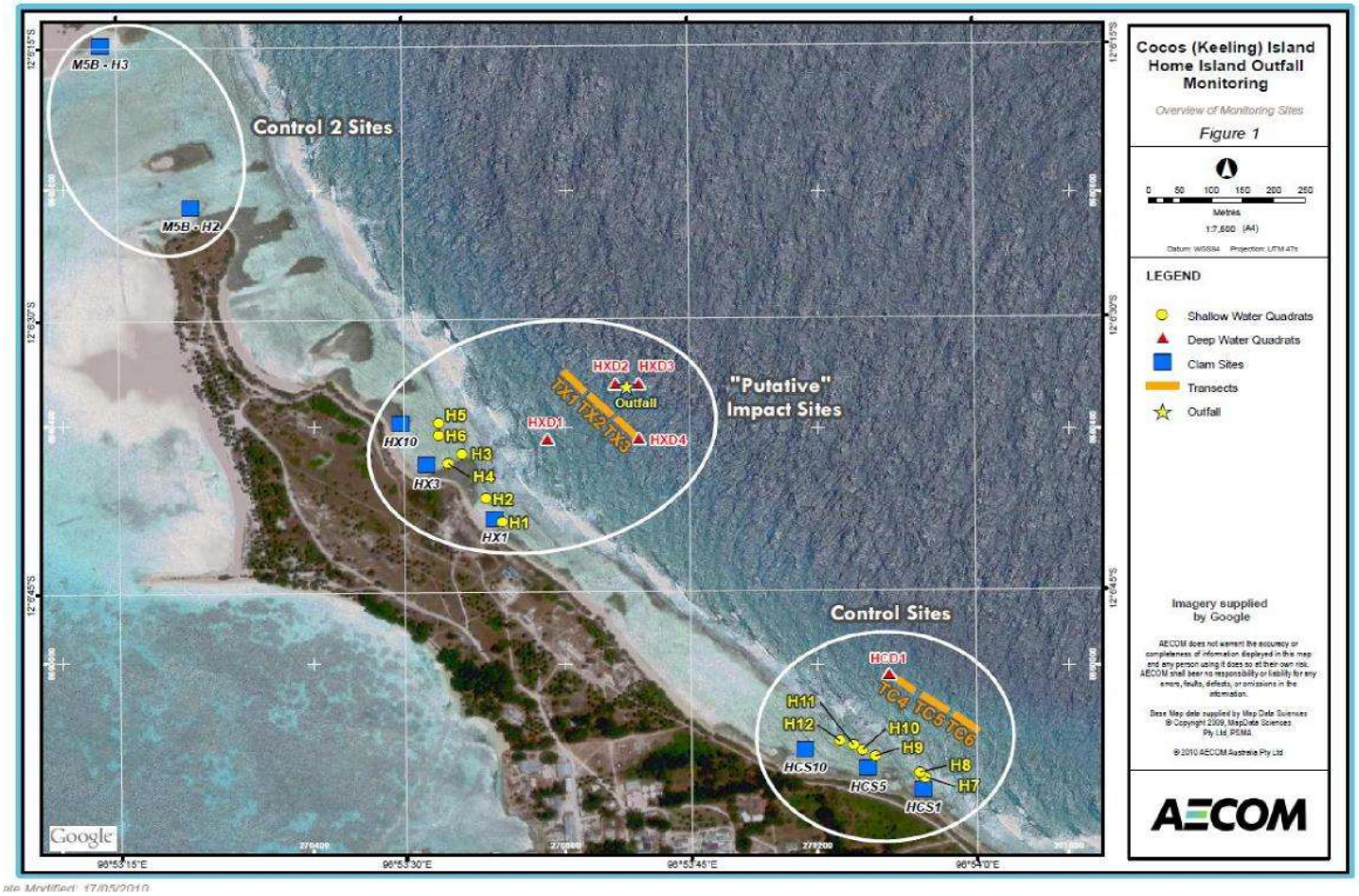

Figure 3: Map of monitoring locations

Premises map – monitoring points

The monitoring points are shown in the map below (Figure 4).

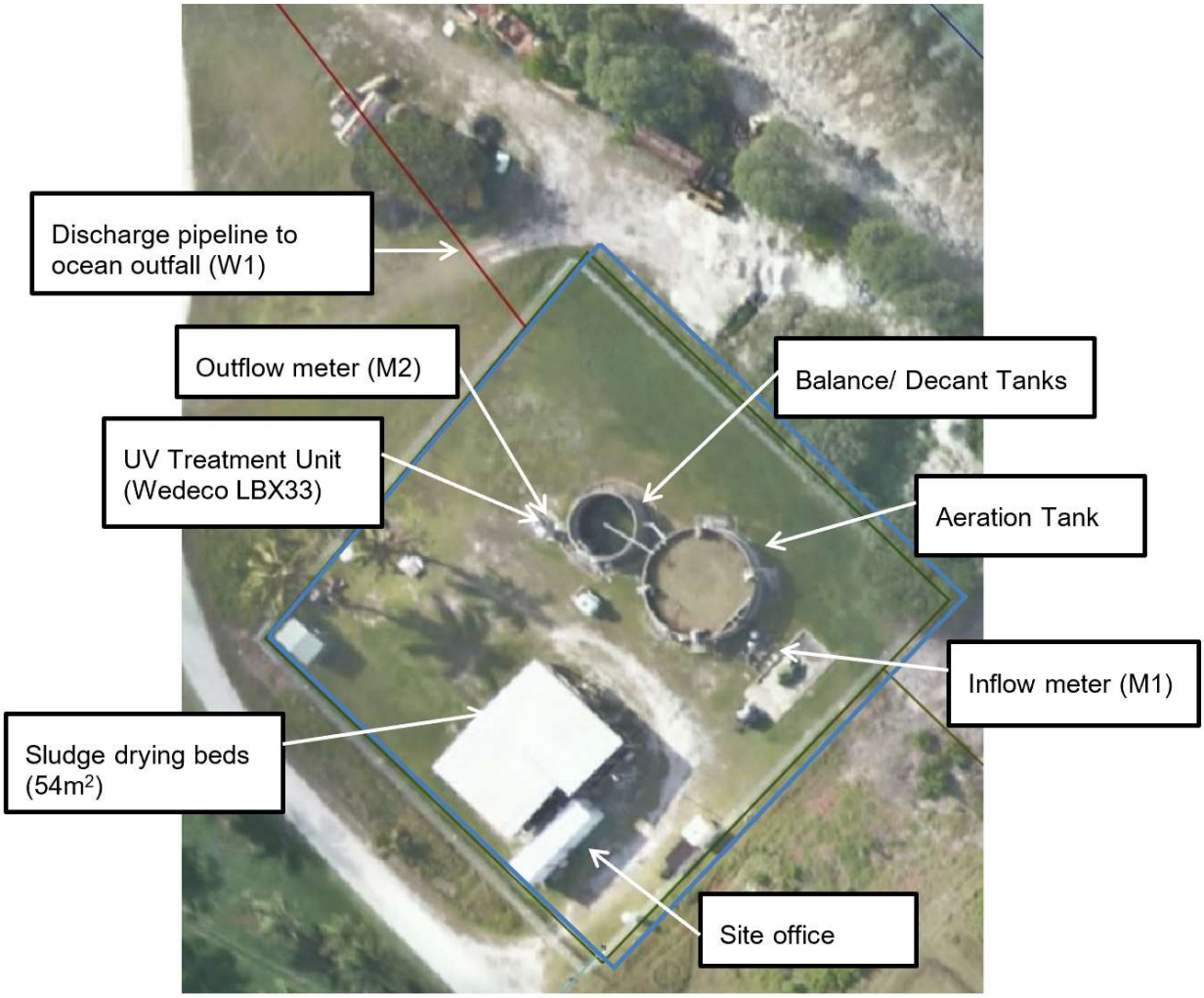

Figure 4: Map of monitoring points