Government of Western Australia
Department of Water and Environmental Regulation

Amended Licence

Licence number	L8539/2011/1
Licence holder	Stephen Peter Hoffrichter Deborah Hoffrichter
Registered business address	Shark Lake Piggery Location 585 Myrup Road Myrup WA 6450
DWER file number	2011/003064
Duration	27/10/2011 to 26/10/2031
Date of amendment	10/09/2020
Premises details	Shark Lake Piggery Location 585 Myrup Road Myrup WA 6450 Legal description - Lot 585 on Plan 88889; Lot 1045 on Plan 152905; and Lot 8 on Plan 94347

Prescribed premises category description (Schedule 1, *Environmental Protection Regulations 1987*)	**Assessed production or design capacity**
Category 2: Intensive piggery: premises on which pigs are fed, watered and housed in pens.	6,070 SPU or 8,000 animals

This amended licence is granted to the licence holder, subject to the attached conditions, on 10/09/2020, by:

Chris Malley
Digitally signed by Chris Malley
Date: 2020.09.10 16:33:00 +08'00'

A/Manager, Process Industries
an officer delegated under section 20 of the *Environmental Protection Act 1986* (WA)

Licence history

Date	Reference number	Summary of changes
27/10/2011	L8539/2011/1	New application.
5/07/2013	L8539/2011/1	Licence amendment to new format.
12/02/2016	L8539/2011/1	Licence amendment to correct administrative errors and clarify waste management activities.
5/08/2016	L8539/2011/1	Licence amendment for an additional shed, alteration of site plan and removal of sludge drying process requirement. Extension of licence duration.
3/09/20	L8539/2011/1	Licence amendment for the installation of an additional waste water treatment pond and a sludge drying pad, an extension to the licence duration and conversion of existing conditions to a new format.

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 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:

Construction of new infrastructure

Infrastructure design and construction

1. The licence holder must:

(a) construct and/or install the infrastructure;
(b) in accordance with the corresponding design and construction / installation requirements; and
(c) at the corresponding infrastructure location

as set out in Table 8 in Schedule 2.

2. The licence holder must ensure the finished clay liner for the waste water treatment pond is surveyed to confirm it meets the design specifications outlined in condition 1. The clay liner must also be tested in-situ to ensure it meets the specifications set out in Schedule 3.

Compliance reporting

3. The licence holder must within 30 calendar days of the of the works required by condition 1 being completed:

(a) undertake an audit of their compliance with the requirements of condition 1; and
(b) prepare and submit to the CEO an Environmental Compliance Report on that compliance.

4. The Environmental Compliance Report required by condition 3, must include as a minimum the following:

(a) certification by a Qualified Professional Engineer that the items of infrastructure or component(s) thereof, as specified in condition 1, have been constructed in accordance with the relevant requirements specified in condition 1 and the waste water treatment pond clay liner has been tested in accordance with the relevant requirements in condition 2 and Schedule 3;
(b) as constructed plans and a detailed site plan for each item of infrastructure or component of infrastructure specified in condition 1; and
(c) be signed by a person authorised to represent the licence holder and contains the printed name and position of that person.

Operation of new infrastructure

5. The licence holder may only commence operation of an item of infrastructure identified in condition 1 where the Environmental Compliance Report as required by condition 3 has been submitted by the licence holder for that item of infrastructure.

Premises operation

6. The licence holder shall ensure that all wastewater from piggery operations including wash down water, by-products wastewater and contaminated run-off are directed to the wastewater treatment system.

7. The licence holder must take all reasonable and practicable measures to prevent stormwater run-off becoming contaminated by the activities and operations undertaken

at the premises.

8. The licence holder must ensure that the site infrastructure and equipment listed in Table 10 in Schedule 4 and located at the corresponding infrastructure location is maintained and operated in accordance with the corresponding operational requirements set out in Table 10 in Schedule 4.

9. The licence holder shall ensure that the total number of pigs held on the Premises does not exceed 8,000 pigs.

10. The licence holder must ensure that the waste materials specified in Table 1 are stored only at the corresponding storage area and only at the corresponding storage area location.

Table 1: Waste storage areas

Waste type	Authorised storage area	Storage area location
Spent bedding and solids	Solid waste storage area's	As shown in Figure 3 in Schedule 1.
Treated effluent	Evaporation pond (A) and (B)	
Sludge	Sludge drying pad	

Emissions and discharges

11. The licence holder must ensure that the emissions specified in Table 2 are discharged only to the corresponding discharge area and only at the corresponding discharge area location.

Table 2: Authorised discharge area

Emission	Authorised discharge area	Discharge area location
Spent bedding and solids	L1, L2 and L3.	As shown in Figure 5 in Schedule 1.
Treated effluent		
Sludge		

12. The licence holder must ensure that treated effluent, sludge, soilds or spent bedding from the piggery operations are discharged only at the locations specified in Table 3, in accordance with the corresponding discharge requirements.

Table 3: Discharge requirements for treated waste water and other wastes.

Discharge area	Discharge requirements
L1, L2 and L3, as shown in Figure 5 in Schedule 1	The licence holder must ensure that when discharging waste: (a) Only treated effluent sourced from evaporation pond's (A) and (B), sludge, solids or spent bedding derived from the piggery operations shall be disposed of by spreading over L1, L2 and L3; (b) Disposal of the above materials is to be undertaken evenly by means of a mechanical spreader at a rate of no more than 0.5 tonnes per hectare; (c) The application of treated effluent, sludge, solids and spent bedding to L1, L2 and L3 must not exceed a cumulative total of 2,500 tonnes per year; (d) Treated effluent, sludge, solids or spent bedding shall only be applied to land that is a minimum of 1 metre above the winter groundwater table;

Discharge area	Discharge requirements
	(e) The application of treated effluent, sludge, solids or spent bedding shall be managed such that there is no runoff beyond the boundaries of the premises; and (f) The application of treated effluent, sludge, solids or spent bedding shall not occur within 50 metres of any defined watercourse, wetland or external property boundary.

Monitoring

13. The licence holder must monitor emissions:

(a) to each discharge area;

(b) for the corresponding parameter;

(c) in the corresponding unit; and

(d) at the corresponding frequency,

as set out in Table 4.

Table 4: Emissions and discharge monitoring

Discharge area	Parameter	Unit	Frequency
L1, L2 and L3, as shown in Figure 5 in Schedule 1	Volume of treated effluent, sludge, solids or spent bedding applied to the land.	Tonnes	Monthly
	Area of land where treated effluent, sludge, solids or spent bedding have been applied.	m^2	
	Locations where treated effluent, sludge, solids or spent bedding have been applied.	-	
	Dates when effluent, sludge, solids or spent bedding were discharged to L1, L2 and L3.	-	

14. The licence holder must record the results of all monitoring activities required by condition 13.

15. The licence holder must monitor groundwater for concentrations of the parameters listed in Table 5:

(a) at the corresponding monitoring location;

(b) in the corresponding unit;

(c) at no less that the corresponding frequency; and

(d) using the corresponding method,

as set out in Table 5.

Table 5: Monitoring of ambient groundwater concentrations

Monitoring well location	Parameter	Unit	Frequency	Method
MB2- Monitoring Bore	Total Dissolved Solids	mg/L	Each six-monthly period	Spot sample, in accordance with AS/NZS 5667.11.
	Electrical Conductivity (EC)[1]	µS/cm		
	Total Nitrogen	mg/L		
	Total Phosphorus	mg/L		
	Nitrate-N (Nitrate-Nitrogen)	mg/L		
	Standing Water Level (SWL)	mBGL		
	pH[1]	-		
MB1 – House Extraction Bore MB3 - Extraction Bore	Total Dissolved Solids	mg/L		
	Electrical Conductivity (EC)[1]	µS/cm		
	Total Nitrogen	mg/L		
	Total Phosphorus	mg/L		
	Nitrate-N (Nitrate-Nitrogen)	mg/L		
	pH[1]	-		

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

16. The licence holder must record the results of all monitoring activity required by condition 15.

17. The licence holder must ensure that the monitoring required by condition 15 is undertaken in each six-monthly period such that there are at least 5 months in between the days on which samples are taken in successive periods of six months.

Records and reporting

18. 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.

19. 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 by no later than 60 days after the end of that annual period an Annual Audit Compliance Report in the approved form.

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

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

(b) the works conducted in accordance with condition 1 of this licence;

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

(d) monitoring programmes undertaken in accordance with conditions 13 and 15 of this licence; and

(e) complaints received under condition 18 of this licence.

21. The books specified under condition 20 must:

(a) be legible;

(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 or the CEO as required.

22. The licence holder must submit to the CEO by no later than 60 days after the end of each annual period, an Annual Environmental Report for that annual period for the conditions listed in

23. Table **6**, and which provides information in accordance with the corresponding requirement set out in

24. Table **6**.

Table 6: Annual Environmental Report

Condition	Requirement	Format or form
-	Summary of any failure or malfunction of any pollution control equipment or any incidents that have occurred during the year and any action taken	None Specified
Condition 9	Monthly maximums and annual total of number of animals held at the premises expressed as number of pigs and equivalent SPU.	Tabular Format
Conditions 13 and 14	A report detailing the application of treated effluent, solids, sludge and spent bedding to discharge areas L1, L2 and L3, as recorded in accordance with conditions 13 and 14.	None Specified
Conditions 15 and 16	A groundwater monitoring report comprising the following: a) Tabulated groundwater monitoring data results and time series graphs for each monitoring well showing concentrations of all parameters over a 4 year period; b) Laboratory data sheets for six monthly monitoring undertaken in accordance with Table 5; c) A tabulated data summary of monitoring results; and d) An interpretation of monitoring data results, including comparison to historical trends.	None Specified
Condition 18	Complaints Summary	None Specified
Condition 19	Compliance	AACR

Definitions

In this licence, the terms in Table 7 have the meanings defined.

Table 7: Definitions

Term	Definition
Annual Audit Compliance Report (AACR)	means a report submitted in a format approved by the CEO (relevant guidelines and templates may be available on the Department's website).
annual period	a 12 month period commencing from 1 January until 31 December of the same year.
AS 1289	Means the Australian Standard *AS 1289: Methods of testing soils for engineering purposes*.
AS/NZS 5667.11	means the Australian Standard AS/NZS 5667.11 *Water Quality – Sampling – Guidance on sampling of groundwaters.*
books	has the same meaning given to that term under the EP Act.
carcass	means the dead body of an animal (pig).
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* Locked Bag 10 Joondalup DC WA 6919 or: info@dwer.wa.gov.au
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.
effluent	means the liquid by-product stream comprising of wastewater, spilt/leaked drinking water, manure, and waste feed.
emission	has the same meaning given to that term under the EP Act.
EP Act	*Environmental Protection Act 1986* (WA).
EP Regulations	*Environmental Protection Regulations 1987* (WA).
freeboard	means the distance between the maximum water surface elevations and the top of retaining banks or structures at their lowest point.
Guideline: Assessment and management of contaminated sites	means the document titled *Assessment and management of contaminated sites, Contaminated sites guidelines* (Department of Environment Regulation, December 2014), as amended from time to time
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.

Term	Definition
mBGL	means meters below ground level.
mg/L	means milligrams per litre.
monthly period	means a one-month period from the first day of a month until the last day of the same month.
NATA	means the National Association of Testing Authorities, Australia.
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.
premises	refers to the premises to which this licence applies, as specified at the front of this licence and as shown on the premises maps in Schedule 1 to this licence.
prescribed premises	has the same meaning given to that term under the EP Act.
Qualified professional engineer	means a person who holds a tertiary academic qualification in engineering and has a minimum of three years of experience working in the area of civil / construction engineering.
sludge	means accumulated solids separated from effluent during wastewater treatment and storage.
Standard Pig Unit (SPU)	has the meaning as defined in the *National Environmental Guidelines for Indoor Piggeries (NEGIP)*, Australian Pork Limited (May 2018).
six monthly period	means the two inclusive periods from 1 January to 30 June and 1 July to 31 December in the same year.
solids	means solids separated from the effluent stream via the solids separation screen.
spent bedding	means used bedding consisting of straw, sawdust, spilt feed or similar loose material that has absorbed faeces, urine and spilt drinking water.
spot sample	means a discrete sample representative at the time and place at which the sample is taken.
SWL	means ‘standing water level’; the water level of any surface water or in any piezometer measured prior to sampling and expressed in metres Australian Height Datum (AHD).
waste	has the same meaning given to that term under the EP Act.
works	refers to the construction or installation of the infrastructure described in Schedule 2 of this Licence.
µS/cm	means microsiemens per centimetre.

END OF CONDITIONS

Schedule 1: Maps

Premises map

Figure 1: Map of the prescribed premises boundary (shown in magenta). The prescribed premises boundary is consistent with cadastral boundaries of the Lot 585 on Plan 88889, Lot 1045 On Plan 152905 and Lot 8 on Plan 94347.

Figure 2: Layout of the proposed wastewater treatment pond and sludge drying pad

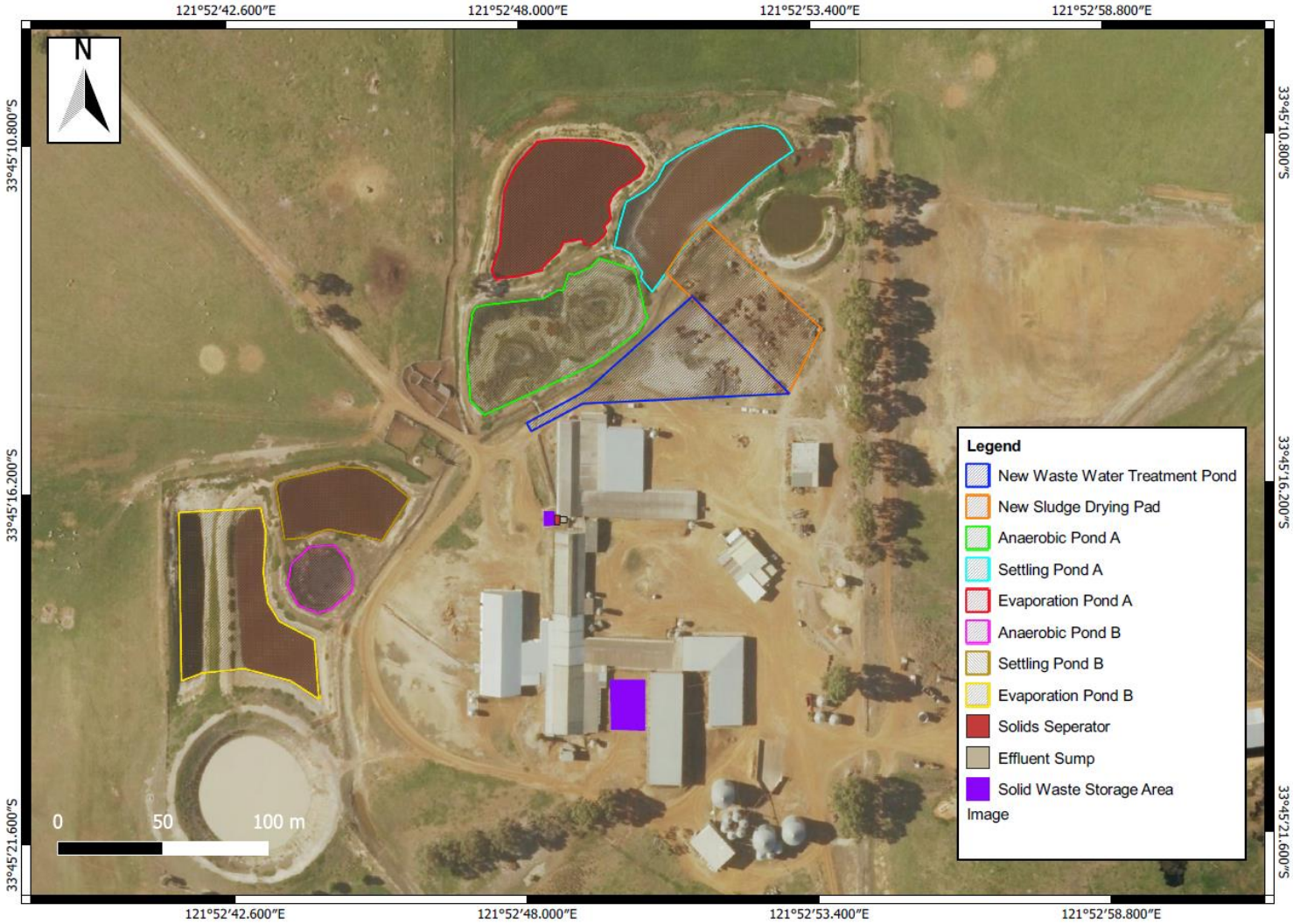

Figure 3: The layout of the existing wastewater treatment infrastructure and the proposed waste water treatment pond and sludge drying pad.

Figure 4: The location of the monitoring bores detailed in Table 5.

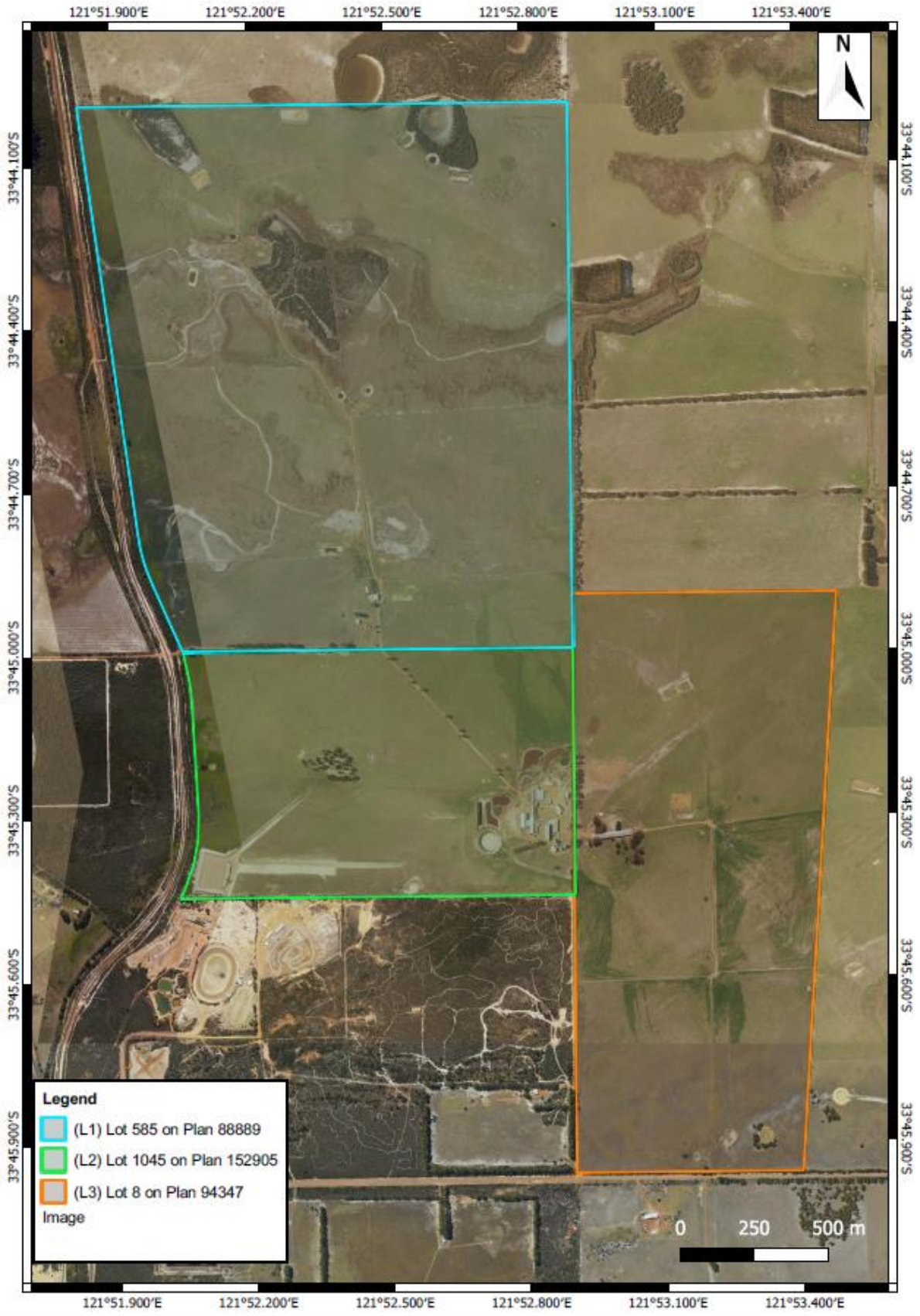

Figure 5: The locations of the emission discharge areas defined in Table 2, Table 3 and Table 4.

Schedule 2: Authorised works

Table 8: Infrastructure requirements

Infrastructure		Design and construction requirements	Infrastructure location
1	Wastewater treatment pond	a) A three sided pond with dimensions of approximately 65 metres by 65 metres by 100 metres. The pond will have a depth of at least six metres. b) The pond embankments will be at least 2 metres in height. c) The embankments must have batter slopes not exceeding a gradient of one vertical to three horizontal (1:3), to enable proper access during compaction of the subgrade and placement of the clay liner. d) A spillway constructed from concrete troughs will channel wastewater into the new pond. e) The troughs the spillway will be comprised of will be elevated to meet the existing drainage pipe from the piggery shed, which is up to six feet off the ground. The troughs will have a 1 in 3 fall over a distance of approximately 34 metres to meet the new wastewater treatment pond. f) Where the spillway meets the wastewater treatment pond, the embankment will be lined with rock armouring or rubber matting to prevent embankment erosion. g) The wastewater treatment pond will be able to overflow into anaerobic pond A and will be connected to anaerobic pond A by a 400mm diameter pipe. h) The base and embankments of the wastewater treatment pond will contain a minimum 150 mm thickness compacted subgrade layer that is smooth and free of stones and proof-rolled to identify and troubleshoot zones that require subgrade improvement. i) The compacted subgrade layer of the wastewater treatment pond must be lined with a compacted clay liner with a minimum thickness of 300 mm (constructed in two layers of 150 mm following compaction) and an in-situ coefficient of permeability of less than 1 x 10^{-9} m/s. j) The clay liner material is to be well graded, of low permeability and tested for its conformance against particle size distribution, plasticity index and other characteristic requirements, prior to the wastewater treatment pond being placed into use.	Figure 2
2	Sludge drying pad	a) The sludge drying pad will be built to be approximately 82 metres in length on its western side, 35 metres in width and 75 metres in length on its eastern side. The sludge drying pad will have a depth of at least 1 metre. b) The sludge drying pad embankments will have a minimum height of 1 metre. No embankment will be built where the sludge drying pad meets settlement pond A, to ensure liquid leaving the deposited soilds can flow into settlement pond A. c) The northern extent of the sludge drying pad will be built directly onto the southern embankment of settlement pond A. d) The sludge drying pad will feature a filter system comprised of straw bales and pine posts along its northern extent. e) The embankments of the sludge drying pad must have batter slopes not exceeding a gradient of one vertical to three horizontal (1:3) to	Figure 2

Infrastructure		Design and construction requirements	Infrastructure location
		enable proper access during the compaction and grading of the floor of the sludge drying pad. f) The floor of the sludge drying pad will have a minimum slope of 1:100 towards the north; g) The floor of the sludge drying pad must be compacted by mechanical means and graded to create an even surface free of pot holes, cracks or other imperfections. h) A 300mm diameter pipe will be buried underneath the sludge drying pad to convey rainwater flowing along the southern embankments of anaerobic pond A and settlement pond A into an existing freshwater supply dam to the east of settlement pond A. i) The above pipe must be buried at a depth where it does not interfere with the integrity of the sludge drying pad floor.	

Schedule 3: Clay liner specifications

Table 9: Clay liner specifications to be satisfied prior to the wastewater treatment pond and sludge drying pad entering operation.

Infrastructure	Test method	Prequalification testing frequency	Frequency of field compliance testing	Acceptance criteria
Particle size distribution	AS 1289 3.6.1	3 per material source	3 per pond liner	As provided below
Particles passing 53 mm sieve	AS 1289 3.6.1			100%
Particles passing 19 mm sieve	AS 1289.3.6.1			>90%
Particles passing 2.36 mm sieve	AS 1289 3.6.1			>70%
Particles passing 0.075 mm sieve	AS 1289 3.6.1			>30%
Maximum particle size	AS 1289 3.6.1			40mm
Atterberg limits	AS 1289 3.1.2 AS 1289 3.2.1 AS 1289 3.3.1 AS 1289 3.4.1	3 per material source	3 per pond liner	As provided above
Plasticity Index	AS 1289 3.3.1			≥10% and above casagrande A line
Liquid limit	AS 1289 3.1.2			30-60%
Permeability (remoulded)	AS 1289 6.7.3	2 tests per material source		≤ 1 x 10^{-9} m/sec (300 mm thick clay pad liner)
Permeability on undisturbed tube samples collected from the completed pad liner	AS 1289 6.7.3		2 tests per constructed pad liner	≤ 1 x 10^{-9} m/sec (300 mm thick clay pad liner)
Emerson class number	AS 1289 3.8.1	3 per pad liner	3 per pad liner	>4
Calcium carbonate content	USEPA	3 per pad liner	3 per pad liner	<15%
Dry density	AS 1289 5.1.1; or AS 1289 5.7.1		As provided in Table 8.1 of AS 3798-2007	Minimum dry density ratio of 95% relative to standard or a minimum Hilf density ratio of 95% standard.
Moisture content	AS 1289 5.1.1 or AS 1289 5.7.1		As provided in Table 8.1 of AS 3798-2007	0% to +3% of the Standard Optimum Moisture Content (SOMC) or within a Hilf moisture variation of 0% to +3%

Taken from South Australian EPA Guideline: Wastewater lagoon construction Appendix 4A.

Schedule 4: Infrastructure operation requirements:

Table 10: Infrastructure operation requirements

Site infrastructure and equipment	Operational requirement	Infrastructure location
Solids waste storage area	• Drained such that run-off is directed to the wastewater treatment system.	Figure 3
Spent bedding storage area	• Only used to store spent bedding prior to application to the paddocks or being taken offsite for disposal.	
New wastewater treatment pond Anaerobic pond (A) Anaerobic pond (B) Settlement pond (A) Settlement pond (B) Evaporation pond (A) Evaporation pond (B)	• a minimum top of embankment freeboard of 400mm is to be maintained; • stormwater runoff is to be prevented from causing the erosion of outer pond embankments; • overtopping of the wastewater treatment ponds is not to occur except as a result of an extreme rainfall event (greater than 1 in 10 year event of 72 hours duration); • vegetation and floating debris (emergent or otherwise) is to be prevented from encroaching onto pond surfaces or inner pond embankments; • trapped overflows shall be maintained between treatment ponds to prevent carry-over of surface floating matter to subsequent ponds; and • sludge shall be removed from the wastewater treatment ponds using pumps, to maintain the integrity of wastewater treatment pond surfaces.	
Sludge drying pad	• a minimum top of embankment freeboard of 400mm is to be maintained; • stormwater runoff is to be prevented from causing the erosion of embankments; • overtopping of the sludge drying pad is not to occur except as a result of an extreme rainfall event (greater than 1 in 10 year event of 72 hours duration); • vegetation is to be prevented from encroaching onto the inner embankments; and • The floor of the sludge drying pad will be mechanically compacted and graded to remove imperfections and maintain a northward slope of 1:100, in between solids drying campaigns.	
Carcass burial pits	• Carcasses shall be disposed of in on-site burial pits or lime pits; • Carcasses shall be covered with at least 500mm of soil immediately upon deposit; and • Burial shall not take place within 50 metres of any defined watercourse, wetland or external property boundary.	Not specified