



# Licence

## *Environmental Protection Act 1986, Part V*

**Licensee:** **Craig Mostyn Farms Pty Ltd**

**Licence:** **L8000/2000/4**

**Registered office:** 6 Short Street  
FREMANTLE WA 6160

**ACN:** 127 068 115

**Premises address:** C M Farms - Mogumber  
Lot 501 on Plan 55017  
RED GULLY WA 6503  
Lot 501 on Plan 55017 as depicted in Schedule 1

**Issue date:** Thursday 14 January 2016

**Commencement date:** Sunday 17 January 2016

**Expiry date:** Saturday 16 January 2021

**Prescribed premises category**

Schedule 1 of the *Environmental Protection Regulations 1987*

Category number	Category description	Category production or design capacity	Approved Premises production or design capacity
2	Intensive Piggery: premises on which pigs are fed, watered and housed in pens.	1,000 animals or more	50,460 animals at any one time

**Conditions**

This Licence is subject to the conditions set out in the attached pages.

Date signed: 13 October 2016

.....  
Christine West  
Manager Licensing (Process Industries)

Officer delegated under section 20  
of the *Environmental Protection Act 1986*



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## Introduction

This Introduction is not part of the Licence conditions.

### DER's industry licensing role

The Department of Environment Regulation (DER) is a government department for the state of Western Australia in the portfolio of the Minister for Environment. DER's purpose is to advise on and implement strategies for a healthy environment for the benefit of all current and future Western Australians.

DER has responsibilities under Part V of the *Environmental Protection Act 1986* (the Act) for the licensing of prescribed premises. Through this process DER regulates to prevent, control and abate pollution and environmental harm to conserve and protect the environment. DER also monitors and audits compliance with works approvals and licence conditions, takes enforcement action as appropriate and develops and implements licensing and industry regulation policy.

### Licence requirements

This Licence is issued under Part V of the Act. Conditions contained within the Licence relate to the prevention, reduction or control of emissions and discharges to the environment and to the monitoring and reporting of them.

Where other statutory instruments impose obligations on the Premises/Licensee the intention is not to replicate them in the licence conditions. You should therefore ensure that you are aware of all your statutory obligations under the Act and any other statutory instrument. Legislation can be accessed through the State Law Publisher website using the following link:

<http://www.slp.wa.gov.au/legislation/statutes.nsf/default.html>

For your Premises relevant statutory instruments include but are not limited to obligations under the:

- *Environmental Protection (Unauthorised Discharges) Regulations 2004* – these Regulations make it an offence to discharge certain materials such as contaminated stormwater into the environment other than in the circumstances set out in the Regulations.
- *Environmental Protection (Controlled Waste) Regulations 2004* - these Regulations place obligations on you if you produce, accept, transport or dispose of controlled waste.
- *Environmental Protection (Noise) Regulations 1997* – these Regulations require noise emissions from the Premises to comply with the assigned noise levels set out in the Regulations.

You must comply with your licence. Non-compliance with your licence is an offence and strict penalties exist for those who do not comply.

Licence holders are also reminded of the requirements of section 53 of the Act which places restrictions on making certain changes to prescribed premises unless the changes are in accordance with a works approval, licence, closure notice or environmental protection notice.



### Licence fees

If you have a licence that is issued for more than one year, you are required to pay an annual licence fee prior to the anniversary date of issue of your licence. Non payment of annual licence fees will result in your licence ceasing to have effect meaning that it will no longer be valid and you will need to apply for a new licence for your Premises.

### Ministerial conditions

If your Premises has been assessed under Part IV of the Act you may have had conditions imposed by the Minister for Environment. You are required to comply with any conditions imposed by the Minister.

### Premises description and Licence summary

C M Farms – Mogumber (Mogumber) is owned by Craig Mostyn Farms Pty Ltd (Craig Mostyn). The piggery is licensed under *category 2 Intensive Piggery*.

#### Licence Amendment:

This licence amendment covers the following activities:

- Construction of additional infrastructure to allow expansion of piggery numbers from 22,000 pigs to 50,460 pigs (equivalent to 46,880 SPU) at any one time.
- Desludging of anaerobic Pond 1 and short-term irrigation of the wastewater generated.

Expansion of piggery numbers will involve the following new infrastructure:

- One concrete wastewater holding tank, dimensions 15m diameter x 2m height. An agitator will be installed in the tank to keep the piggery wastes in suspension prior discharge to the screener and screw press; and
- A total of 17 new sheds will be constructed, comprising of 14 air-conditioned intensive sheds with a pull-plug system and 3 straw based sheds.

Prior to Craig Mostyn taking over the operation of the Mogumber piggery, there was no screening of solids from the waste stream prior discharge to Pond 1. In 2013, Craig Mostyn included a storage and mixing tank for all the wastewater flushed from the piggery sheds where the agitated wastewater was then directed through a fan separator (screen and screw press) to extract solids which were allowed to fall into a concrete bunker prior to placement on the composting hardstand. The liquid portion was discharged to the anaerobic Pond 1.

As part of this licence amendment, Craig Mostyn has requested they be allowed to carry out short-term desludging of Pond 1 to remove the solids accumulated prior inclusion of the fan separator. Wastewater in Pond 1 will be agitated by a mechanical stirrer located on a pontoon. A slurry of wastewater and sludge (up to 4,500kL) will be pumped from the pond to a sprinkler system where it will be irrigated over a designated area. The amount of land available for irrigation is 30ha. Irrigation will only occur over the hot summer months for a period of approximately 80 days. Based on the first lot of de-sludging and irrigation, Craig Mostyn will assess the amount of remaining sludge and the operational efficiency of Pond 1 to determine whether another lot of irrigation will need to occur during the following summer.

The increase in pig numbers will result in greater compost volumes generated on site. Currently, composting occurs on a bunded hardstand area adjacent to the wastewater ponds where testing in 2008 confirmed that the hardstand met the permeability requirement of  $10^{-9}$  m/second. A bund surrounds the composting area to prevent ingress of stormwater and generated leachate is collected in the north-east corner of the bund and returned to the anaerobic pond. Spent straw, carcasses and recovered solids are composted in windrows. The proposed expansion will result in two windrows of approximately 100m each being maintained. It is expected approximately 1,000 tonnes of compost will be generated annually. Compost is added to the end of a windrow which allows the initial deposition of compost to mature for a period of approximately 6 months. Once mature, it is removed from site and used as a soil conditioner by a local farmer.



The licences and works approvals issued for the Premises since 2001 include:

Instrument log		
Instrument	Issued	Description
W3214/2000/1	18/01/2001	Construction of piggery (Western Savannah's Piggeries Pty Ltd)
L73/00	05/01/2005	Licence issued to Western Savannah's Piggeries Pty Ltd
L8000/2000/1	08/08/2005	Licence renewal for Western Savannah's Piggeries Pty Ltd
L8000/2000/2	04/08/2006	Licence re-issue to Craig Mostyn Farms Pty Ltd
W4717/2010/1	19/08/2010	Works Approval to increase pig numbers to 22,000
L8000/2000/3	23/12/2010	Licence re-issue to Craig Mostyn Farms Pty Ltd
L8000/2000/3	25/07/2013	Licence amendment initiated to update licence to REFIRE format
L8000/2000/4	15/01/2016	Licence reissue
L8000/2000/4	13/10/2016	Licence amendment to increase the number of pigs from 26,000 to 50,460 pigs at any one time and to allow the de-sludging of Pond 1 and the short-term irrigation of wastewater generated from the de-sludging process.

### Severance

It is the intent of these Licence conditions that they shall operate so that, if a condition or a part of a condition is beyond the power of this Licence to impose, or is otherwise *ultra vires* or invalid, that condition or part of a condition shall be severed and the remainder of these conditions shall nevertheless be valid to the extent that they are within the power of this Licence to impose and are not otherwise *ultra vires* or invalid.

**END OF INTRODUCTION**



## Licence conditions

### 1 General

#### 1.1 Interpretation

1.1.1 In the Licence, definitions from the *Environmental Protection Act 1986* apply unless the contrary intention appears.

1.1.2 For the purposes of this Licence, unless the contrary intention appears:

'**Act**' means the *Environmental Protection Act 1986*;

'**annual period**' means a 12 month period commencing from 1 January until 31 December in the same year;

'**anniversary date**' means 31 December of each year;

'**CEO**' means Chief Executive Officer of the Department of Environment Regulation;

'**CEO**' for the purpose of notification means:

Chief Executive Officer  
Department Div.3 Pt V EP Act 1986  
Locked Bag 33 Cloisters Square  
Perth WA 6850  
Email: info@der.wa.gov.au

'**Annual Audit Compliance Report**' means a report in a format approved by the CEO as presented by the Licensee or as specified by the CEO from time to time and published on the Department's website;

'**controlled waste**' has the definition in *Environmental Protection (Controlled Waste) Regulations 2004*;

'**Department**' means the department established under s.35 of the Public Sector Management Act 1994 and designated as responsible for the administration of Division 3 Part V of the Environmental Protection Act 1986.

'**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;

'**Licence**' means this Licence numbered L8000/2000/4 and issued under the Act;

'**Licensee**' means the person or organisation named as Licensee on page 1 of the Licence;

'**Premises**' means the area defined in the Premises Map in Schedule 1 and listed as the Premises address on page 1 of the Licence;

'**Schedule 1**' means Schedule 1 of this Licence unless otherwise stated;

'**Schedule 2**' means Schedule 2 of this Licence unless otherwise stated; and

'**SPU**' means Standard Pig Unit.



1.1.3 Any reference to an Australian or other standard in the Licence means the relevant parts of the standard in force from time to time during the term of this Licence.

1.1.4 Any reference to a guideline or code of practice in the Licence means the version of that guideline or code of practice in force from time to time and shall include any amendments or replacements to that guideline or code of practice made during the term of this Licence.

**1.2 Premises operation**

1.2.1 The Licensee shall ensure that uncontaminated stormwater is kept separate from contaminated or potentially contaminated stormwater. Where stormwater has come into contact with a possible source of contamination, it should be treated as contaminated.

1.2.2 The Licensee shall ensure that all wastewater from piggery operations including wash down water, by-products wastewater and contaminated runoff are directed to a wastewater treatment system.

1.2.3 The Licensee shall ensure that waste and wastewater are only stored and/or treated within vessels or compounds provided with the infrastructure detailed in Table 1.2.3

<b>Table 1.2.3 Containment infrastructure</b>		
<b>Storage vessel or compound</b>	<b>Material</b>	<b>Infrastructure requirements</b>
Pond 1 (Anaerobic pond)	Wastewater	Clay lined to achieve a permeability of at least $1 \times 10^{-9}$ m/s or equivalent
Pond 2 Aerobic / Evaporation pond		
Pond 3 Aerobic / Evaporation pond		
Pond 4 Holding / Evaporation pond		HDPE lined with a permeability of at least $1 \times 10^{-9}$ m/s or equivalent
Composting Area	Piggery solid waste; sludge and carcasses	A bunded compacted clay area with a permeability of at least $1 \times 10^{-9}$ m/s or equivalent and where leachate, sludge and contaminated stormwater are contained.
Storage Tanks (x2)	Wastewater	Concrete
Solids Storage Area	Screened solids	A concrete hardstand area which contains screened solids and any run-off of leachate

1.2.4 The Licensee shall manage the wastewater treatment ponds such that:

- (a) a minimum top of embankment freeboard of 500mm is maintained;
- (b) stormwater runoff is prevented from causing the erosion of outer pond embankments;
- (c) overtopping of the wastewater treatment ponds does not occur;
- (d) vegetation and floating debris (emergent or otherwise) are prevented from encroaching onto pond surfaces or inner pond embankments;
- (e) trapped overflows shall be maintained between treatment ponds to prevent carry-over of surface floating matter to subsequent ponds; and
- (f) no overflow leaves the Premises.

1.2.5 The Licensee shall ensure that where wastes produced on the Premises are not taken off-site for lawful use or disposal; they are only subject to the on-site processes described in Table 1.2.5 and in accordance with the process requirements in that Table.



<b>Table 1.2.5: Processing of materials</b>		
<b>Waste type</b>	<b>Process</b>	<b>Process requirements</b>
Treated wastewater from Ponds	Evaporation	None
Carcasses	On-site disposal in composting area	(i) All carcasses to be removed daily to the composting area; and (ii) Carcasses shall be covered with at least 500mm of spent hay or piggery solid waste immediately upon deposit
Piggery solid waste, including screened solids and pond sludge	Handling and storage prior to composting	Ensure that all composting of piggery solid waste is undertaken in the composting area

## 2 Monitoring

### 2.1 Monitoring of inputs and outputs

2.1.1 The Licensee shall undertake the monitoring in Table 2.1.1 according to the specifications in that table.

<b>Table 2.1.1: Monitoring of inputs and outputs</b>		
<b>Input / Output</b>	<b>Units</b>	<b>Frequency</b>
Number of pigs held on site	Monthly maximums (in SPU and animal numbers)	Monthly

## 3 Works

### 3.1 Desludging and irrigation of wastewater from Anaerobic Pond 1

3.1.1 The Licensee shall ensure that where waste is emitted to land from the emission points in Table 3.1.1 and identified on the map of emission points in Schedule 1, it is done so in accordance with the conditions of this Licence.

<b>Table 3.1.1: Emissions to land</b>		
<b>Emission point reference</b>	<b>Description</b>	<b>Source including abatement</b>
L1 – as shown on Map of emission points in Schedule 1	Discharge of wastewater from Anaerobic Pond 1 for the purpose of short-term irrigation to allow desludging of Pond 1.	Wastewater from anaerobic Pond 1

3.1.2 The licensee shall limit the amount of wastewater irrigated to 4,500kL, to be irrigated during the period November 2016 to March 2017, inclusive, over an area of 30 hectares.

3.1.3 The licensee shall limit the hydraulic loading of the wastewater irrigated to 3.75mm in any one irrigation run.

3.1.4 The Licensee shall monitor the emissions to land according to the requirements listed in Table 3.1.4.



**Table 3.1.4.: Emissions to land when irrigating wastewater from Anaerobic Pond 1**

Emission point reference	Parameter	Units	Averaging period
L1 - as shown on Map of emission points in Schedule 1	Nitrogen loading	kg/ha	Annual
	Phosphorus loading	kg/ha	Annual
	Biological oxygen demand (BOD) loading	kg/ha	Daily

3.1.5 The Licensee shall undertake the monitoring in Table 3.1.5 according to the specifications in that Table.

**Table 3.1.5: Monitoring of emissions to land**

Monitoring point reference	Parameter	Units	Averaging period	Frequency
M1 - as shown on Map of monitoring point(s) in Schedule 1	<ul style="list-style-type: none"> <li>- Total nitrogen</li> <li>- Total phosphorus</li> <li>- Biological oxygen demand</li> <li>- Total dissolved solids</li> </ul>	mg/L	Spot sample	Monthly when irrigating
	Volumetric flow rate of wastewater used for irrigation	m <sup>3</sup> / sec	Daily	Continuous when irrigating
	Irrigation time	mins	Daily	Continuous when irrigating
	Total volume of wastewater irrigated	m <sup>3</sup>	--	To be calculated following cessation of irrigation
	Total area used for irrigation	hectares		

3.1.6 The Licensee shall ensure that during the short-term desludging and irrigation of wastewater from Pond 1:

- (a) bunding/cut-off drains are maintained adjacent to the irrigation areas such that run-off discharges do not occur beyond the irrigation area;
- (b) no irrigation generated runoff, spray drift or discharge occurs beyond the Premises boundary;
- (c) irrigation does not occur during rainfall periods, onto flooded areas or on to land that is waterlogged;
- (d) wastewater is evenly distributed over the irrigation area;
- (e) no soil erosion or ponding occurs; and
- (f) the irrigation area is seeded once irrigation is completed to encourage pasture growth.

3.1.7 The Licensee shall submit the information in Table 3.1.7 to the CEO according to the specifications in that Table.





Table 3.1.7: Non-annual reporting requirements				
Condition or table (if relevant)	Parameter	Reporting period	Reporting date	Format or form
Table 3.1.4	<ul style="list-style-type: none"> <li>- Total nitrogen loading</li> <li>- Total phosphorus loading</li> <li>- Total BOD loading</li> </ul>	N/A	Within 30 working days of completing short-term irrigation program	Not specified
Table 3.1.5	<ul style="list-style-type: none"> <li>- Nitrogen concentration</li> <li>- Phosphorus concentration</li> <li>- Biological oxygen demand</li> <li>- Total dissolved solids</li> <li>- Volumetric flowrate</li> <li>- Volume of wastewater irrigated</li> <li>- Irrigation time</li> <li>- Total area of land Irrigated</li> <li>- Irrigation period (months)</li> </ul>			

3.1.8 The Licensee shall submit a report to the CEO, within 60 days of the grant of this licence amendment, demonstrating the adequacy of wastewater treatment and containment capacity at the Premises. The Report must include but not be limited to:

- (i) An assessment of individual and cumulative wastewater treatment capacity, retention time, sludge accumulation rates, sludge holding capacity and desludging frequency for each wastewater treatment pond which will be used at CM Farms - Mogumber;
- (ii) Water balance calculations accounting for all inflows into the wastewater treatment system including incidental rainfall and outflows from the system including any evaporation or reuse on site; and
- (iii) Justification of any assumptions used in the water balance calculations.

### 3.2 Construction

3.2.1 The licensee shall ensure that the proposed piggery sheds and wastewater storage and agitation tank are constructed in accordance with the infrastructure requirements specified in Table 3.2.1.

Table 3.2.1 Infrastructure Requirements Table	
Column 1	Column 2
<b>Infrastructure</b>	<b>Requirements (Design and Construction)</b>
New Holding Tank	Concrete; Dimension of 2m depth and 15m diameter; Fitted with a stirrer to allow mixing of solid and liquid wastes; and Pipework to connect Holding Tank with sheds.
Intensive Sheds	The proposed 14 new intensive piggery sheds are to be designed and constructed to meet the following specifications: <ul style="list-style-type: none"> <li>• Fully enclosed with mechanical ventilation;</li> <li>• Slatted floors and contain continuous feeding system to all animals within the shed; and</li> <li>• Pull plug systems, comprising of impermeable, corrosion-resistant and sturdy underfloor pits, with sufficient volume to hold all accumulated wastes.</li> </ul>
Straw-based sheds	The proposed 3 new straw based piggery sheds are to be designed and constructed with natural ventilation as follows: <ul style="list-style-type: none"> <li>• 1 x straw-based shed to house gilts; and</li> <li>• 2x straw-based sheds to house gestating sows.</li> </ul>
Wastewater de-sludging and	<ul style="list-style-type: none"> <li>• Pontoon fitted with an electric stirrer to allow mixing of Pond 1 contents to ensure material to be extracted is of suitable consistency;</li> </ul>



<b>Table 3.2.1 Infrastructure Requirements Table</b>	
<b>Column 1</b>	<b>Column 2</b>
<b>Infrastructure</b>	<b>Requirements (Design and Construction)</b>
Irrigation System	<ul style="list-style-type: none"><li>• Sprinkler and piping system to allow irrigation of Pond 1 wastewater to the designated irrigation area; and</li><li>• Volumetric flowmeter and associated electronic data collection system to allow the volume of wastewater used in irrigation to be measured and recorded on a daily basis.</li></ul>

3.2.2 On completion of the works specified in Table 3.2.1, the Licensee must provide to the CEO engineering, building or irrigation system certification from a suitably qualified professional confirming each item of infrastructure or component of infrastructure specified in column 1 has been constructed in accordance with the requirements specified in column 2, with no material defects.

3.2.3 The Licensee must not depart from the requirements specified in Table 3.2.1 except:

- (i) where such departure is minor in nature and does not materially change or affect the infrastructure; or
- (ii) where such departure improves the functionality of the infrastructure and does not increase risks to public health, public amenity or the environment; and
- (iii) all other conditions in this Licence are still satisfied.

3.2.4 If condition 3.2.3 applies, then the Licensee must provide the CEO with a list of departures which are certified as complying with Table 3.2.1 at the same time, and from the same professional, as that required under condition 3.2.2.

## **4 Information**

### **4.1 Records**

4.1.1 All information and records required by the Licence shall:

- (a) be legible;
- (b) if amended, be amended in such a way that the original and subsequent amendments remain legible or are capable of retrieval;
- (c) except for records listed in 4.1.1(d) be retained for at least 6 years from the date the records were made or until the expiry of the Licence or any subsequent licence; and
- (d) for those following records, be retained until the expiry of the Licence and any subsequent licence:
  - (i) off-site environmental effects; or
  - (ii) matters which affect the condition of the land or waters.

4.1.2 The Licensee must submit to the CEO within 60 calendar days after the Anniversary Date, an Annual Audit Compliance Report indicating the extent to which the Licensee has complied with the Conditions in this Licence during the Annual Period.

4.1.3 The Licensee shall implement a complaints management system that as a minimum records the number and details of complaints received concerning the environmental impact of the activities undertaken at the Premises and any action taken in response to the complaint.



## 4.2 Reporting

4.2.1 The Licensee shall submit to the CEO an Annual Environmental Report within 60 calendar days after the end of the annual period. The report shall contain the information listed in Table 4.2.1 in the format or form specified in that table.

<b>Table 4.2.1: Annual Environmental Report</b>		
<b>Condition or table (if relevant)</b>	<b>Parameter</b>	<b>Format or form<sup>1</sup></b>
-	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	None specified
2.1.1	Total number of animals expressed both as SPU and number of animals	Tabular format: monthly maximum and annual total
4.1.2	Compliance	Compliance Report
4.1.3	Complaints summary	None specified

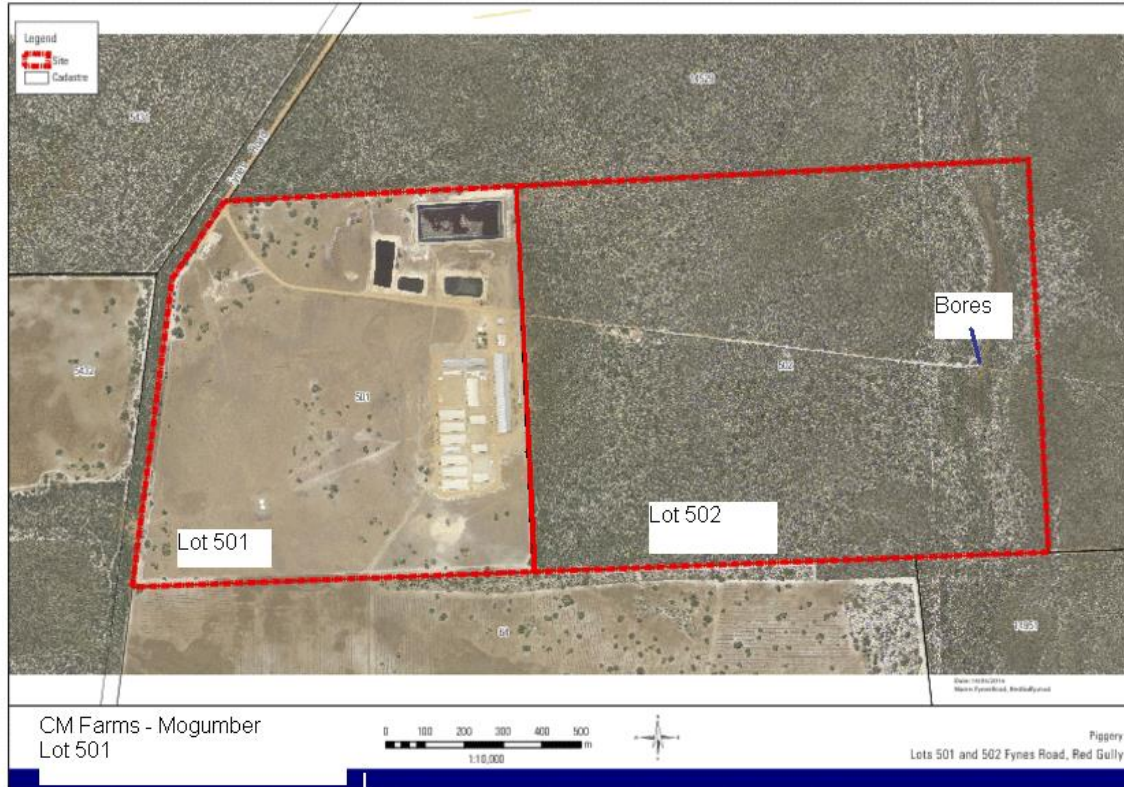
Note 1: Forms are in Schedule 2



## Schedule 1: Maps

### Premises map

The Premises is located on Lot 501, as shown in the map below. Lot 502 is included on the map as it depicts the location of the abstraction bores. Lot 502 is a System 6 Conservation Reserve vested with the Department of Parks and Wildlife.







The location of the irrigation monitoring point M1 and the irrigation area L1.





# Decision Document

## *Environmental Protection Act 1986, Part V*

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**Proponent:** Craig Mostyn Farms Pty Ltd

**Licence:** L8000/2000/4

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**Registered office:** 6 Short Street  
FREMANTLE WA 6160

**ACN:** 127 068 115

**Premises address:** Craig Mostyn Farms - Mogumber  
Lot 501 on Plan 55017  
RED GULLY WA 6503

**Issue date:** Thursday 14 January 2016

**Commencement date:** Sunday 17 January 2016

**Expiry date:** Saturday 16 January 2021

### **Decision**

Based on the assessment detailed in this document the Department of Environment Regulation (DER) has decided to issue a licence. DER considers that in reaching this decision, it has taken into account all relevant considerations.

Decision Document prepared by: Nanette Schapel  
Licensing Officer

Decision Document authorised by: Christine West  
Delegated Officer



## Contents

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## 1 Purpose of this Document

This decision document explains how DER has assessed and determined the application and provides a record of DER's decision-making process and how relevant factors have been taken into account. Stakeholders should note that this document is limited to DER's assessment and decision making under Part V of the *Environmental Protection Act 1986*. Other approvals may be required for the proposal, and it is the proponent's responsibility to ensure they have all relevant approvals for their Premises.

## 2 Administrative summary

Administrative details		
Application type	Works Approval <input type="checkbox"/>	
	New Licence <input type="checkbox"/>	
	Licence amendment <input checked="" type="checkbox"/>	
	Works Approval amendment <input type="checkbox"/>	
Activities that cause the premises to become prescribed premises	<b>Category number(s)</b> 2	<b>Assessed design capacity</b> 50,460 animals at any one time (46,880 SPUs)
Application verified	Date: 20/01/2016	
Application fee paid	Date: 1/04/2016	
Works Approval has been complied with	Yes <input type="checkbox"/> No <input type="checkbox"/>	N/A <input checked="" type="checkbox"/>
Compliance Certificate received	Yes <input type="checkbox"/> No <input type="checkbox"/>	N/A <input checked="" type="checkbox"/>
Commercial-in-confidence claim	Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	
Commercial-in-confidence claim outcome	N/A	
Is the proposal a Major Resource Project?	Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	
Was the proposal referred to the Environmental Protection Authority (EPA) under Part IV of the <i>Environmental Protection Act 1986</i> ?	Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	Referral decision No: Managed under Part V <input type="checkbox"/> Assessed under Part IV <input type="checkbox"/>
Is the proposal subject to Ministerial Conditions?	Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	Ministerial statement No: EPA Report No:
Does the proposal involve a discharge of waste into a designated area (as defined in section 57 of the <i>Environmental Protection Act 1986</i> )?	Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	Department of Water consulted Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>
Is the Premises within an Environmental Protection Policy (EPP) Area	Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	
Is the Premises subject to any EPP requirements?	Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	





### 3 Executive summary of proposal and assessment

#### Premises description and Licence summary

CM Farms – Mogumber (Mogumber) is owned by Craig Mostyn Farms Pty Ltd (Craig Mostyn). The piggery is currently licensed under category 2 Intensive Piggery.

#### Licence Amendment:

This licence amendment covers the following activities:

1. Construction of additional infrastructure to allow the expansion of piggery numbers from 22,000 pigs to 50,460 pigs (equivalent to 46,880 SPU); and
2. Desludging of anaerobic Pond 1 and short-term irrigation of the wastewater generated.

The expansion of pig numbers will involve the following new infrastructure:

- One concrete wastewater holding tank, dimensions 15m diameter x 2m height will be constructed. An agitator will be installed in the tank to keep the piggery wastes in suspension; and
- A total of 14 air-conditioned intensive sheds with a pull-plug system and 3 straw based sheds will be constructed, with the proposed and current facilities detailed in Appendix A.

Prior to Craig Mostyn taking over the operation of the Mogumber piggery, there was no screening of solids from the waste stream prior discharge to Pond 1. In 2013, Craig Mostyn included a storage and mixing tank for all the wastewater flushed from the piggery sheds where the agitated wastewater was then directed through a fan separator (screen and screw press) to extract solids which were allowed to fall into a concrete bunker prior placement on the composting hardstand. The liquid portion was discharged to the anaerobic Pond 1.

As part of this licence amendment, Craig Mostyn has requested they be allowed to carry out a consolidated and staged desludging of Pond 1 to remove the solids accumulated prior inclusion of the fan separator. Wastewater in Pond 1 will be agitated by a mechanical stirrer located on a pontoon. A slurry of wastewater and sludge (up to 4,500kL) will be pumped from the pond to a sprinkler system where it will be irrigated over a designated area. The amount of land available for irrigation is 30ha. Irrigation will only occur over the hot summer months for a period of approximately 80 days. Based on the first lot of de-sludging and irrigation, Craig Mostyn will assess the amount of remaining sludge and the operational efficiency of Pond 1 to determine whether another lot of irrigation will need to occur during the following summer.

The increase in pig numbers will result in greater compost volumes generated on site. Currently, composting occurs on a bunded hardstand area adjacent to the wastewater ponds where testing in 2008 confirmed that the hardstand met permeability requirement of  $10^{-9}$  m/second. A bund surrounds the composting area to prevent ingress of stormwater and generated leachate is collected in the north-east corner of the bund and returned to the anaerobic pond. Spent straw, carcasses and recovered solids are composted in windrows. The proposed expansion will result in two windrows of approximately 100m each being maintained. It is expected approximately 1,000 tonnes of compost will be generated annually. Compost is added to the end of a windrow which allows the initial deposition of compost to mature for a period of approximately 6 months. Once mature, it is removed from site and used as a soil conditioner by a local farmer.

Craig Mostyn applied to the Shire of Gingin for approval to expand the Mogumber piggery. Approval was granted by the Shire on 16 May 2016, subject to conditions.

This licence amendment details changes to the piggery and assesses issues associated with construction work, proposed expansion in pig numbers and the proposed short-term irrigation of wastewater slurry from Pond 1.

Further details regarding the piggery including location, groundwater, wastewater treatment system and solid waste management have been included in Appendix A of this Decision Document.



## 4 Decision table

The following Decision Table only assesses conditions which have been included or altered to allow construction of the piggery sheds and one concrete storage tank, as well as the short-term irrigation of wastewater from Anaerobic Pond 1, and where current operations and/or emissions will be altered or contributed to as a result of the piggery expansion.

All applications are assessed in line with the *Environmental Protection Act 1986*, the *Environmental Protection Regulations 1987* and DER's *Operational Procedure on Assessing Emissions and Discharges from Prescribed Premises*. Where other references have been used in making the decision, they are detailed in the decision document.

DECISION TABLE			
Works Approval / Licence section	Condition number W = Works Approval L = Licence	Justification (including risk description & decision methodology where relevant)	Reference documents
Premises operation	L1.2.3	<p><b>Operation</b></p> <p>Following a risk assessment of emissions associated with the application to increase pig numbers, some changes were made to the Premises' operation conditions under the current licence. These changes are:</p> <ul style="list-style-type: none"> <li>Condition L1.2.3, Table 1.2.3 <i>Containment infrastructure</i> has been amended to include the storage tanks. There is currently one concrete storage tank on site and another storage tank will be constructed; and</li> <li>The permeability of the composting area has been specified in Table 1.2.3</li> </ul>	L8000/2000/4  <i>Environmental Protection (Unauthorised Discharges) Regulations 2004 (UDR)</i>
Emissions to land including monitoring	L3.1.1 L3.1.2 L3.1.3 L3.1.4 L3.1.5 L3.1.6 L3.1.7	<p><b>Operation</b></p> <p><u>Emission Description</u></p> <p><i>Emission:</i> As part of the proposed expansion in pig numbers, the desludging of Pond 1 for short-term irrigation has been requested. The wastewater is high in nutrients which have the potential to degrade the soil in the irrigation area due to nutrient loading and/or ponding.</p> <p><i>Impact:</i> Wastewater leachate can infiltrate and contaminate the underlying groundwater. There are isolated pockets of surficial groundwater occurring on the property at 10 metres to 54 metres below the surface. The slope of the irrigated area is 1.5 to 4%. In 2008, Craig Mostyn carried out drill testing in the base of the ponds which showed the depth to groundwater to be</p>	L8000/2000/4  UDR



DECISION TABLE			
Works Approval / Licence section	Condition number W = Works Approval L = Licence	Justification (including risk description & decision methodology where relevant)	Reference documents
		<p>greater than 6 metres with overlying clay soils. There is also the potential for contaminated stormwater runoff to impact on the surrounding conservation areas.</p> <p><i>Controls:</i> The Application provided an assessment of the environmental risk of irrigation by conducting a nutrient loading calculation as per Water Quality Protection Note 22 (WQPN#22) "Irrigation with Nutrient Rich Wastewater". Based on this assessment, CM Farms has proposed to discharge 4,500kL of wastewater over 30 hectares during the summer months of 2016/2017. The irrigation area will be divided into four plots and a moveable rain-gun type of sprinkler will be used for approximately 125 hours over a period of 80 days. Irrigation of the plots will occur on separate days, with the irrigated area ploughed and geminated with pasture seeds. Craig Mostyn intends to assess the efficiency of Pond 1 to determine whether de-sludging and irrigation will need to occur the following summer, i.e. 2017/2018.</p> <p><u>Risk Assessment</u> <i>Consequence:</i> Minor <i>Likelihood:</i> Possible <i>Risk Rating:</i> Moderate</p> <p><u>Regulatory Controls</u> The Delegated Officer has reviewed the proposed irrigation plan and has calculated the following nutrient loading rates:</p> <ul style="list-style-type: none"> <li>• Total nitrogen = 480kg/ha/year;</li> <li>• Total phosphorus = 51kg/ha/year; and</li> <li>• Biological oxygen demand = 5.1kg/ha/day.</li> </ul> <p>The proposed loading rates for nitrogen and phosphorus are within the acceptable nutrient loading rates for Category D soils as per WQPN#22, which estimates 480kg/hectare/year for nitrogen and 120 kg/hectare/year for phosphorus. The proposed loading rates for nitrogen and phosphorus are in excess of the more conservative Category C soils, which estimates 300kg/hectare/year for nitrogen and 50 kg/hectare/year for phosphorus. WQPN#22 assumes</p>	



<b>DECISION TABLE</b>			
<b>Works Approval / Licence section</b>	<b>Condition number W = Works Approval L = Licence</b>	<b>Justification (including risk description &amp; decision methodology where relevant)</b>	<b>Reference documents</b>
		<p>32 weeks of irrigation per year, with 50mm of waste water being applied per week over this period. The irrigation plan proposed by the Applicant is for approximately 80 days of irrigation over a 4 month period over summer, with a hydraulic load of 3.75mm. Given the depth to groundwater, the clay soil type and the short-term nature of the irrigation project, the Delegated Officer has determined that the risk of groundwater impact is low.</p> <p>The Delegated Officer has assessed the potential for the nutrient rich irrigated wastewater to impact on the surrounding environment and deemed that this risk can be minimised/managed, based on:</p> <ul style="list-style-type: none"> <li>• Irrigation will only occur during the summer months when evaporation is high;</li> <li>• Irrigation will occur for a short period of approximately 80 days; and</li> <li>• The irrigated area will be ploughed and seeded to encourage the growth of pasture;</li> </ul> <p>The following conditions have been included in the amended licence to regulate the short-term desludging and irrigation of a waste slurry from Pond 1:</p> <ul style="list-style-type: none"> <li>• Condition L3.1.1 specifies the irrigation area, which is included on the map of emission points in Schedule 1;</li> <li>• Condition 3.1.2 limits the volume of wastewater that can be irrigated, and specifies that the irrigation is to occur during the summer months between November 2016 to March 2017;</li> <li>• Condition 3.1.3 limits the hydraulic loading of the wastewater to be irrigated during any one irrigation run;</li> <li>• Condition 3.1.4 (Table 3.1.4) requires the Licensee to calculate the nutrient loading of the irrigated wastewater;</li> <li>• Condition L3.1.5 specifies the parameters which are to be monitored during the irrigation period;</li> <li>• Condition L3.1.6 outlines management actions to be conducted during the irrigation period; and</li> <li>• Condition L3.1.7 requires a report to be submitted to the CEO detailing the key</li> </ul>	



DECISION TABLE			
Works Approval / Licence section	Condition number W = Works Approval L = Licence	Justification (including risk description & decision methodology where relevant)	Reference documents
		<p>parameters monitored during the short-term irrigation period.</p> <p><u>Residual Risk</u>  <i>Consequence:</i> Minor  <i>Likelihood:</i> Possible  <i>Risk Rating:</i> Moderate</p>	
Emissions to land including monitoring	L3.1.8	<p><b>Operation</b>  <u>Emission Description</u>  <i>Emission:</i> Wastewater from the sheds will be treated in a wastewater system consisting of four ponds. Insufficient capacity of the ponds may result in overflow and unintentional discharge to land.  <i>Impact:</i> Overflow of wastewater can infiltrate and contaminate the underlying groundwater; There are isolated pockets of surficial groundwater occurring on the property at 10 metres to 54 metres below the surface.  <i>Controls:</i> It is expected that 149kL of wastewater will be discharged to Pond 1 per day; which amounts to 54,584kL on an annual basis. The dimensions of the four existing wastewater treatment ponds (as updated by CM Farms in email dated 24 June 2016) are:            Pond 1: 60m x 100m x 6m            Pond 2: 42m x 60m x 2.5m            Pond 3: 60m x 110m x 3.5m            Pond 4: 125m x 245m x 4.5m            CM Farms provided a water balance in the Application to show excess capacity in the pond system.</p> <p><u>Risk Assessment</u>  <i>Consequence:</i> Minor  <i>Likelihood:</i> Unlikely</p>	<p>L8000/2000/4</p> <p>UDR</p> <p>Section 72 of the <i>Environmental Protection Act 1986</i></p>



DECISION TABLE			
Works Approval / Licence section	Condition number W = Works Approval L = Licence	Justification (including risk description & decision methodology where relevant)	Reference documents
		<p><i>Risk Rating: Moderate</i></p> <p><u>Regulatory Controls</u> DER reviewed the water balance provided by CM Farms in the Application. The initial review suggested that the risk assessment was not sufficiently conservatively as mean annual rainfall was used. DER has used 90<sup>th</sup> percentile rainfall data as this value is considered more appropriate to show capacity during exceptionally wet periods.</p> <p>Based on the pond dimensions supplied by the Licensee in email dated 24 June 2016, the Delegated Officer has found that the ponds have sufficient capacity to contain the effluent and rainfall inputs. The ponds, however, will be operating close to their capacity. The total inflow was calculated as 82,762m<sup>3</sup>, whilst net evaporation was calculated to be 83,416m<sup>3</sup>.</p> <p>Condition L3.1.8 has been included in the amended licence which requires the Licensee to submit to the CEO a report to demonstrate the effectiveness and appropriateness of the ponds for long-term wastewater treatment.</p> <p><u>Residual Risk</u> <i>Consequence: Minor</i> <i>Likelihood: Unlikely</i> <i>Risk Rating: Moderate</i></p>	
<b>Fugitive emissions - dust</b>	--	<p><b>Construction</b></p> <p><u>Emission Description</u> <i>Emission:</i> Construction activities and an increase in vehicle movement can cause fugitive dust emissions</p> <p><i>Impact:</i> Nuisance dust emissions can impact on the amenity of nearby residents and cover surrounding vegetation, causing stress to the plants. Vehicle movement will be approximately 30 turnaround movements each week over a 5 month period during construction, with occasional car visits. The closest residence is approximately 3km to the south of the Premises; Regans Ford is the nearest populated community, located approximately 13km north-west of</p>	<p><i>Environmental Protection Act 1986 (EP Act)</i></p> <p>L8000/2000/4</p>



DECISION TABLE			
Works Approval / Licence section	Condition number W = Works Approval L = Licence	Justification (including risk description & decision methodology where relevant)	Reference documents
		<p>the Premises. The closest vegetative reserve is a 'System 6 Conservation Reserve' for the conservation of flora and fauna, located approximately 120m east of the location of the new sheds.</p> <p><i>Controls:</i> No dust suppression measures have been noted in the proposed amendment.</p> <p><u>Risk Assessment</u>  <i>Consequence:</i> Insignificant  <i>Likelihood:</i> Unlikely  <i>Risk Rating:</i> Low</p> <p><u>Regulatory Controls</u>            DER has assessed the risk of fugitive dust emissions and has determined there is sufficient buffer between the nearest single resident, located approximately 3km distance in a southerly direction. The risk to the surrounding vegetation will be minimal as construction with associated increased truck movement will occur for a period of 5 months and winter rains will minimise the impact on the nearby nature reserves. The Licensee is required to comply with the general provisions of the EP Act (s49) which adequately addresses the risk of fugitive dust emissions.</p> <p><u>Residual Risk</u>  <i>Consequence:</i> Insignificant  <i>Likelihood:</i> Unlikely  <i>Risk Rating:</i> Low</p>	
<b>Fugitive emissions - composting</b>	L1.2.3	<p><b>Operation:</b>  <u>Emission Description</u>  <i>Emission:</i> Composting on the site has the potential to generate leachate and odour emissions.  <i>Impact:</i> An increase in pig numbers will increase the amount of solid wastes and carcasses composted on the site where nutrient rich leachate can contaminate stormwater runoff.            Composting on site is expected to increase from 500 to 1,000 tonnes per annum and include:</p> <ul style="list-style-type: none"> <li>spent straw from the straw based pig sheds which will be mixed with faeces, urine and spilt feed;</li> </ul>	<p><i>Environmental Protection Act</i></p> <p><i>UDR</i></p>



DECISION TABLE			
Works Approval / Licence section	Condition number W = Works Approval L= Licence	Justification (including risk description & decision methodology where relevant)	Reference documents
		<ul style="list-style-type: none"> <li>• solid waste from the screening system; and</li> <li>• carcasses.</li> </ul> <p>CM Farms carried out drill testing to a depth of 6m which showed the underlying soil profile to be kaolinite clay with low permeability properties in the vicinity of the composting area. The closest surface water body is the Moore River, located 3.5km north of the site and Red Gully Creek, which is located 8km south-west of the site.</p> <p><i>Controls:</i> Composting occurs on a bunded hardstand on a base of clay. Leachate generated by the composting process and surface rainfall is collected within this area and either absorbed by the compost windrows or contained in the collection point in the north east corner of the bund and returned to the anaerobic pond. No site run-off enters the composting area. The current practice is to transport all compost off-site to be used in other agricultural practices.</p> <p><u>Risk Assessment</u> Consequence: Insignificant Likelihood: Unlikely Risk Rating: Low</p> <p><u>Regulatory controls:</u> DER has assessed the potential for surface run-off to be contaminated by the composting activities. The permeability of the composting area has been specified in Table 1.2.3.</p> <p>Although approximately 1,000 tonnes of compost will be generated annually, <i>Category 67A Compost manufacturing and soil blending</i> has not been included as a prescribed activity on the amended licence as the compost is not sold commercially.</p>	
<b>Odour</b>	L1.2.5 L4.1.3 L4.2.1	<p><b>Construction:</b> Increased odour emissions will not be generated during construction of the proposed infrastructure.</p>	L8000/2000/4  <i>EP Act</i>  S-Factor for





DECISION TABLE			
Works Approval / Licence section	Condition number W = Works Approval L = Licence	Justification (including risk description & decision methodology where relevant)	Reference documents
		<p><b>Operation:</b> <u>Emission Description</u> <i>Emission:</i> All piggery sheds produce odour, and the emissions are likely to increase as a result of the piggery expansion. Other odour producing sources include the effluent and treatment ponds and the composting area, where carcasses and solid wastes are stored. Odour may also be produced during the desludging and irrigation of wastewater slurry from the anaerobic pond (Pond 1). <i>Impact:</i> Odour emissions can impact on the amenity of nearby residents. The nearest populated community, Regans Ford, is approximately 13km north-west. The closest residence is located south of the site at 2,890m from the Premises' boundary, 3,570m from the piggery wastewater ponds and 3,270m from the piggery sheds. The Moore River / Palm Flats Aboriginal cultural site of significance is located 1.2km from the north-eastern boundary of the Premises. DER has not received any complaints of odour emissions. <i>Controls:</i> CM Farms has calculated a minimum separation distance of 3,488m is required, based on S-Factor calculations as outlined in the <i>National Environmental Guidelines for Piggeries</i> (APL, 2010). The 'S' Factor calculation includes a number of factors 'including pig numbers (in SPUs), the type of effluent treatment and the surrounding terrain. All intensive sheds will be air-conditioned, which will assist in suppressing odour emissions from the sheds. Other measures used to minimise and manage odour emissions include:</p> <ul style="list-style-type: none"> <li>• Nutrient loading of the wastewater treatment system is reduced by the inclusion of a screening system and a screw press which extract solids from the liquid waste stream;</li> <li>• All solid wastes (from screening and other operations including carcasses) are transferred to the composting area where they are mixed with spent hay from the eco shelters and carcasses and stored in windrows;</li> <li>• Once mature, the windrows are removed off site; and</li> <li>• A crust is maintained on the anaerobic pond.</li> </ul>	<p>Level 1 of the <i>National Environmental Guidelines for Piggeries</i> (NEGP) (Australian Pork Limited, 2010)</p>



DECISION TABLE			
Works Approval / Licence section	Condition number W = Works Approval L = Licence	Justification (including risk description & decision methodology where relevant)	Reference documents
		<p><u>Risk Assessment</u>  <i>Consequence:</i> Minor  <i>Likelihood:</i> Likely  <i>Risk Rating:</i> Moderate</p> <p><u>Regulatory Controls</u>            DER's review of the separation distance calculated by CM Farms (3,488m) indicates that the minimum separation distance required is higher than that proposed by the applicant, where the distances have been calculated at 3,660m in the south and 4,580m in the north. Differences in the S-Factor calculation have occurred for a number of reasons, the most significant being that CM Farms has not used the total SPU numbers in the calculation (gilts and sows have not been included) whilst DER considers using the total number of SPUs to be more appropriate when estimating separation distances as all animals contribute to the odour generated at the Premises, regardless of how they are housed. In addition, DER has used a terrain weighting factor of 1.5 for receptors in the north, compared to a value of 1.2 used by CM Farms.</p> <p>Based on revised factors, the closest receptor in the south is 3,270m from the piggery sheds. The closest receptor in the north is 3,090m from the wastewater treatment ponds. Although the nearest receptors are both within the recommended separation distances, DER has taken into account the infrastructure and operational controls which are/will be implemented, as well as the absence of odour complaints to date. Although the current licence does not include any specific conditions to regulate odour emissions, the Licensee is still required to comply with the general provisions of the EP Act, in particular, section 49(3) which makes it an offence to cause or allow unreasonable emissions.</p> <ul style="list-style-type: none"> <li>• Condition L1.2.5 requires all carcasses to be removed daily to the composting area and covered immediately.</li> <li>• Condition L4.1.3 requires the operator to implement a complaints management system and this condition will be retained. A complaints summary is to be provided in the Annual Environmental Report, as required by condition L4.2.1.</li> </ul>	



DECISION TABLE			
Works Approval / Licence section	Condition number W = Works Approval L= Licence	Justification (including risk description & decision methodology where relevant)	Reference documents
		<p>DER may consider further regulatory controls to manage odour emissions if required at a future stage.</p> <p><u>Residual Risk</u>  <i>Consequence:</i> Minor  <i>Likelihood:</i> Likely  <i>Risk Rating:</i> Moderate</p>	
Noise	L4.1.3 L4.2.1-	<p><b>Operation</b></p> <p><u>Emission Description</u>  <i>Emission:</i> Noise generated from the piggery sheds and from the movement of pigs on site.  <i>Impact:</i> Noise emissions can impact on the amenity of nearby residents. The closest receptor in the south is 3,270m from the piggery sheds and the closest receptor in the north is 3,410m from the piggery sheds. DER has not received any complaints regarding noise emissions from the existing piggery.  <i>Controls:</i> All intensive sheds will be enclosed which will reduce noise emissions.</p> <p><u>Risk Assessment</u>  <i>Consequence:</i> Minor  <i>Likelihood:</i> Likely  <i>Risk Rating:</i> Moderate</p> <p><u>Regulatory Controls</u>            Conditions to regulate fugitive noise emissions were not included in the current licence (L8000/2000/4); however, the Licensee is still required to comply with the assigned levels in the <i>Environmental Protection (Noise) Regulations 1987</i>. Based on the potential for noise emissions to increase following an expansion of the piggery, DER may consider specific regulatory controls to manage noise emissions if required at a future stage.</p> <p>The Licensee is required to implement a complaints management system (condition L4.1.3) and provide a complaints summary in the Annual Environmental Report (condition L4.2.1).</p>	<p><i>Environmental Protection (Noise) Regulations 1987</i></p> <p>L8000/2000/4</p>



DECISION TABLE			
Works Approval / Licence section	Condition number W = Works Approval L = Licence	Justification (including risk description & decision methodology where relevant)	Reference documents
		<u>Risk Assessment</u> <i>Consequence:</i> Minor <i>Likelihood:</i> Likely <i>Risk Rating:</i> Moderate	
Monitoring general	L1.2.3	<p><b>Operation</b></p> <p><u>Emission Description</u></p> <p><i>Emission:</i> Nutrient rich seepage from the wastewater ponds can impact on the underlying groundwater. The potential impact from the irrigation of nutrient-rich wastewater has been assessed under “Emissions to land”.</p> <p><i>Impact:</i> Piggery operations generate nutrient-rich wastewater which is stored in the wastewater treatment system. Poor integrity of the composting area and wastewater ponds could result in nutrient rich leachate impacting on the underlying groundwater where drill tests in February 2009 showed static water levels to be at 34m.</p> <p><i>Controls:</i> The wastewater ponds were constructed in 20 to 30mm deep clay over gravel topsoil. Ponds 1, 2, 3 and the composting area are clay lined, and Pond 4 has a HDPE liner. Drill testing to a depth of 6m showed the underlying soil profile to be kaolinite clay with low permeability properties in the vicinity of the ponds and composting area. Nutrient loading of the wastewater ponds is reduced by the inclusion of a fan separator (screening system and a screw press) which are used to extract solids from the liquid waste stream.</p> <p><u>Risk Assessment</u></p> <p><i>Consequence:</i> Minor  <i>Likelihood:</i> Rare  <i>Risk Rating:</i> Low</p> <p><u>Regulatory Controls</u></p> <p>DER has assessed the potential for seepage of nutrient-rich wastewater from the ponds and, based on the depth to groundwater in the vicinity of the ponds; the containment infrastructure</p>	L8000/2000/4



<b>DECISION TABLE</b>			
<b>Works Approval / Licence section</b>	<b>Condition number W = Works Approval L= Licence</b>	<b>Justification (including risk description &amp; decision methodology where relevant)</b>	<b>Reference documents</b>
		<p>(specified in Table 1.2.3); and the make-up of the underlying soil which is clay to a depth of at least 6m, the potential risk of seepage from the ponds resulting in contamination of the underlying groundwater is considered low. The previous licence did not include any conditions to regulate or monitor seepage from the wastewater ponds and no new conditions are considered necessary for this licence amendment.</p> <p><u>Residual Risk</u>  <i>Consequence:</i> Minor  <i>Likelihood:</i> Rare  <i>Risk Rating:</i> Low</p>	
<b>Monitoring of inputs and outputs</b>	L2.1.1	The monitoring of the total number of animals has been retained and renumbered as condition L2.1.1. Data is to be reported both as SPU and animal numbers.	L8000/2000/4
<b>Process monitoring</b>	-	No process monitoring requirements were specified previously. DER has assessed emissions associated with the application to increase pig numbers and did not identify a need to include process monitoring conditions.	
<b>Ambient quality monitoring</b>	-	No ambient quality monitoring requirements were specified previously. DER has assessed emissions associated with the application to increase pig numbers and did not identify a need to include ambient quality monitoring conditions.	
<b>Meteorological monitoring</b>	-	No meteorological monitoring requirements were specified previously. DER has assessed emissions associated with the application to increase pig numbers and did not identify a need to include meteorological monitoring conditions.	
<b>Information</b>	--	The requirement to submit an Annual Environment Report (condition L4.2.1), an Annual Audit Compliance Report (condition L4.1.2) and an Annual Complaints Report (condition L4.1.3) have been retained in this licence amendment.	L8000/2000/4
<b>Licence Duration</b>		The main issues associated with the expansion of the piggery operations will be the potential for odour emissions to impact on residential amenity; the potential for irrigated wastewater to impact on the surrounding environment and underlying groundwater; and the on-going capacity of the wastewater treatment ponds.	



<b>DECISION TABLE</b>			
<b>Works Approval / Licence section</b>	<b>Condition number W = Works Approval L = Licence</b>	<b>Justification (including risk description &amp; decision methodology where relevant)</b>	<b>Reference documents</b>
		<p>DER has assessed the Premises risk rating and considers there is sufficient separation distance to ensure that odour will not impact on nearby residential amenity. The potential for seepage and leachate to impact on the underlying groundwater is reduced due to the containment infrastructure, underlying clay profile, and the separation distance of at least 6 metres between the base of the wastewater treatment ponds and the surficial aquifers. DER considers that the potential for nutrient rich irrigated wastewater to impact on the surrounding environment can be minimised and/or contained, based on the fact that it is a short term event.</p> <p>Based on these considerations, the Mogumber Piggery has been assessed and the licence issued for a period of five years.</p>	



## 5 Advertisement and consultation table

Date	Event	Comments received/Notes	How comments were taken into consideration
06/10/2016	Proponent sent a copy of draft instrument	<p>Comments were received from the licensee which included the following:</p> <ol style="list-style-type: none"><li>1. Condition 1.2.3 – containment structure for the solids storage area is only used to contain screened solids and run-off;</li><li>2. Condition 3.2.1 – infrastructure requirements for construction of the Intensive sheds. The slatted flooring in the sheds containing piglets are constructed from plastic;</li><li>3. Condition 3.2.2 – CM Farms will consult with a certified irrigation company to set up and operate the irrigation system to be used to dewater sludge from Pond 1.</li></ol> <p>The above recommendations from the Licensee do not alter the intent of the condition. DER has amended the Licence, as noted in column 4</p>	<ol style="list-style-type: none"><li>1. Condition 1.2.3 was amended to remove the requirement to contain sludge and contaminated stormwater in the solids storage area;</li><li>2. Condition 3.2.1 was altered to delete requirement that slatted floors be constructed from concrete; and</li><li>3. Condition 3.2.2 altered to require Licensee to provide engineering, building or irrigation system certification from a suitably qualified professional to confirm works have been constructed in accordance with the requirements specified in table 3.2.1.</li></ol>
17/10/2016	Licence amendment advertised in the West Australian Newspaper		



## 6 Risk Assessment

*Note: This matrix is taken from the DER Corporate Policy Statement No. 07 - Operational Risk Management*

**Table 1: Emissions Risk Matrix**

Likelihood	Consequence				
	Insignificant	Minor	Moderate	Major	Severe
Almost Certain	Moderate	High	High	Extreme	Extreme
Likely	Moderate	Moderate	High	High	Extreme
Possible	Low	Moderate	Moderate	High	Extreme
Unlikely	Low	Moderate	Moderate	Moderate	High
Rare	Low	Low	Moderate	Moderate	High





## Appendix A

### **Location:**

The CM Farms Mogumber Piggery is located at Lot 501 Fynes Road, Mogumber in the Shire of Gingin on cleared pastoral land with an area of 91.3 hectares. The land is zoned for rural use and is bordered to the north and east by Lot 502, a 'System 6 Conservation Reserve'. The reserve is vested with the Department of Parks and Wildlife for the conservation of flora and fauna under the *Wildlife Conservation Act 1950* and the clearing of vegetation is prohibited. The remainder of the surrounding land is zoned rural and predominately used for grazing.

### *Surface water bodies, groundwater and soils:*

The Moore River is approximately 3.5km north of the site and Red Gully Creek is located approximately 8km south-west of the site. A perennial gully transects the northern boundary of the property, flowing south to north off the property. There is no water flow in the gully. The property is not in a Public Drinking Water Source Area and there are no Environmental Protection Policy wetlands in the area. The mean annual rainfall for the area is 550mm with a mean annual pan evaporation rate of 2,350 mm.

The property is located in the Gingin groundwater area. Groundwater is not continuous on the property with isolated pockets of surficial groundwater occurring at 10 metres to 54 metres below the surface. Bore drill results carried out in February 2009 showed static water levels to be at 34.4m.

There are production bores on site which are located on Lot 502 (standing water level 32.8m below ground level (bgl)). Craig Mostyn has a Groundwater Abstraction Licence (GWL100719(7)) which allows the abstraction of 271,300kL from the Mirrabooka aquifer for water for both domestic use and piggery operations.

Soils in the area are typically red clay of interfluvial origin containing ironstone gravel and overlaid with sandy acidic yellow mottled soils with lateritic sandy gravels. The property slopes south-west at 205 metres AHD to north-east at 175 metres AHD.

### *Nearby residents:*

Regans Ford is the nearest populated community, located approximately 13km to the north-west of the Premises. The closest single occupied residence is located approximately 2,890m south of the Premises boundary. The Moore River/Palm Flats Aboriginal cultural site of significance is located 1.2km from the north-eastern boundary of the Premises. This site has been registered on the interim register with the Department of Indigenous Affairs.

### **Current and Proposed Operations:**

The intensive piggery sheds on site will include a concrete slab with an under pen flushing system and a one-metre high concrete perimeter wall around the shed. Proposed and existing infrastructure includes the following:

<b>Shed facilities - Intensive</b>	<b>Proposed</b>	<b>Current</b>	<b>Total</b>
Farrowing houses	2	2	4
Nursery sheds	3	3	6
Grower/finisher sheds	7	6	13
Load out shed	1	1	2
Hospital shed	1		2
<b>Total intensive sheds</b>	<b>14</b>	<b>12</b>	<b>26</b>
<b>Shed facilities – Straw based</b>			
Gilt shed	1	0	1
Gestating shed.	2	1	3



**Liquid and Solid wastes:**

The wastewater treatment system currently consists of the following:

- One storage/mixing tank where wastewater is directed prior discharge to Pond 1. The tank includes a mechanical stirrer to thoroughly mix the solids and liquid portion of the wastewater stream. An additional storage tank will be constructed as part of the expansion;
- A screening system where the waste from the sheds is channelled through a fan separator consisting of a screw press and screen for solids separation. The liquid portion is directed to Pond 1 and the collected solids are directed to the composting hardstand. There will be no change to the screening system following the expansion in pig numbers.
- Wastewater treatment ponds consisting of:
  - Pond 1 (anaerobic, clay lined). Dimensions of 60m x 100 x 6m and a total capacity of 30,600 m<sup>3</sup>. Hydraulic retention time is estimated at 134 days.
  - Pond 2 (aerobic/facultative, clay lined). Dimensions of 42m x 60m x 2.5m deep and a total capacity of 5,300 m<sup>3</sup>;
  - Pond 3 (aerobic/facultative, clay lined). Dimensions of 60m x 110m x 2m and a total capacity of 19,600 m<sup>3</sup>; and
  - Pond 4 (holding/evaporative pond, HDPE lined). Dimensions of 245m x 125m x 4.5m and a total capacity of is 117,000 m<sup>3</sup>.

Ponds 1, 2 and 3 were constructed under Works Approval W3214 in 2001 from *in-situ* clay. Compliance advice provided by Western Savannah Piggery Pty Ltd in 2005 indicated that the ponds were constructed in 20 to 30mm deep clay, over gravel topsoil and lined with clay to achieve a permeability of 10<sup>-9</sup>m/sec. In 2008 further drill tests at the base of the ponds were conducted by Craig Mostyn where the tests did not detect any surficial groundwater at a depth greater than 6m. Test results showed the underlying soil to be kaolinite clay with low permeability properties.

Stormwater is directed away from the wastewater ponds using clay bunds on the edges of the ponds and spoon drains which run parallel and upslope of the ponds. The ponds have raised embankments and flow consecutively between each other.

The solid waste composting area is located adjacent to the wastewater ponds. Solids from the screening/screw press, spent hay from the eco-sheds, sludge and carcasses are composted in windrows. The composting area was constructed of compacted *in situ* clay and the area slopes to the north-east corner of the site. Testing in 2008 confirmed that the composting area conforms to the required permeability of 10<sup>-9</sup> m/sec.

A bund surrounds the composting area to prevent ingress of stormwater. Composting windrows are placed across the slope so that any incident stormwater and generated leachate are absorbed by each windrow as it travels down slope. In the event of a large rainfall event, a drainage ditch surrounds the composting area with a collection point located at the lowest corner. Runoff and leachate are either left to evaporate or pumped back to Pond 1. Any solids at the collection point are collected by a front end loader and returned to the composting area.

The compost produced is removed by a local farmer for spreading on nearby paddocks. With the proposed increase in pig numbers, the composting activities may meet the threshold for category 67A: *Compost manufacturing and soil blending (1,000 tonnes or more per year)* but this category has not been included on the licence as a prescribed activity as the compost will not be sold commercially.

Other facilities include two separate above ground fuel tanks which are located in a concrete bund with a surrounding brick wall. The tanks include a diesel tank of 2,000L capacity and ULP of 1,000L capacity.