



Licence

Environmental Protection Act 1986, Part V

Licensee: Hillcroft Farms Pty Ltd

Licence: L8812/2014/1

Registered office: Hillcroft Farms Pty Ltd
Byfields
Paringa Professional Centre
Suite 2, 2 Williams Road
NARROGIN WA 6312

ACN: 158 889 699

Premises address: Hillcroft Farms
1561 Yornaning Road
Lot 4301 on Plan 146817 and Lot 13054 on Plan 146817
LOL GRAY WA 6311

as depicted in Schedule 1

Issue date: Friday, 13 June 2014

Commencement date: Monday, 16 June 2014

Expiry date: Tuesday, 15 June 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	16,170 animals
23	Animal feed manufacturing: premises on which animal food is manufactured or processed.	1,000 tonnes or more per year	10,000 tonnes per annual period

Conditions

Subject to this Licence and the conditions set out in the attached pages.

Date signed: 19 December 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

Hillcroft Farms (the premises) is located 13km south-southwest of Popanyinning in the Shire of Cuballing. The premises has been operational since 1982 and comprises an intensive farrow-to-finish piggery and an animal feed manufacturing facility with a design capacity to produce up to 10,000 tonnes per annum.

Works approval W5636/2014/1 was granted by the Department on 20 June 2014 and authorised the construction of a new farrowing shed, two dry sow sheds, and four bacon sheds. The works approval authorised an increase in the design capacity of the intensive piggery from 8,463 animals (8,158 Standard Pig Units (SPUs) to 16,170 animals (15,912 SPUs). On 5 November 2015, the Licensee submitted a compliance document to confirm completion of works authorised under the works approval.

Infrastructure at the premises now includes:

Deep litter shelters x 19 (for housing weaners and growers aged from 4 to 16 weeks). The number of animals in the deep litter shelters is 7,345 pigs at any one time or 5,497 SPUs).

Intensive sheds x 11 where the configuration includes:

- 1 x mating shed;
- 2 x farrowing sheds;
- 2 x grower sheds;
- 4 x baconer sheds; and
- 2 x dry sow sheds.

Current Licence amendment:

This licence amendment authorises the Licensee to operate the piggery at the increased capacity (16,170 animals) approved under Works Approval W5636/2014/1. In addition, the licence amendment authorises construction of the following new infrastructure proposed by the Licensee:

- A new intensive piggery shed (bacon shed), dimensions 80m x 12m, is proposed to be constructed south of the existing bacon sheds. The Licensee has not proposed to increase the capacity of the piggery operations more than what was approved under W5636. The proposed shed is intended to provide additional room for the pigs currently held onsite as they grow. Effluent from the proposed bacon shed will be connected to the existing effluent system via sealed PVC piping. The total amount of effluent generated from the piggery operations is not expected to increase as the pig numbers will not change.
- A desalination unit, with a capacity to treat up to 25,000 litres per day, will be installed on site to treat bore water prior to use in the cooling systems in the piggery sheds during the hotter months when the temperature exceeds 28 °C. The unit will be located in a 40-foot container. A new evaporation pond (70m x70m x 2m deep) will be constructed to store concentrated brine generated from the desalination plant. The Licensee has



indicated that the proposed desalination plant will be operated for no more than six months in a year; and

- Three sludge drying beds, each with dimensions of 50m x 10m x 3.5m, are proposed to be constructed adjacent to the existing Pond 1 to allow sludge storage during cleanout of the ponds every 5-10 years. The Licensee has committed to construct the sludge drying beds out of clay and compacted gravel. The floor will be compacted with two layers (250mm each) of compacted gravel, and the sludge drying bed embankments will be constructed to have a 3 in 1 batter.

Solid/liquid waste management at the premises:

The premises generates approximately 34.19ML of wastewater, including conventional shed flushing water, manure water and drinking water wastage per year. Wastewater is directed to the wastewater treatment system on the premises comprising of four wastewater ponds (2 anaerobic, 1 facultative/ aerobic, 1 evaporation pond) via underground PVC pipes. All ponds are clay lined and wastewater is transferred to subsequent ponds via overflow pipes located 500mm below the top water level. The ponds are desludged using a long-reach excavator. The last desludging event occurred in 2013. There is no pre-screening of the effluent prior to discharge into the pond system.

Solid waste generated from the deep litter sheds within the premises boundary includes spent straw used for bedding, containing manure, urine, waste feed and any water spillages. When a new batch of pigs is moved to the shelters, the spent straw is pushed out and stockpiled on a hardstand consisting of gravel with clay present 0.5m below the surface. A purpose-built sump contains any contaminated stormwater from the stockpile area.

Location and siting:

The premises is located in an area zoned General Agriculture, with General Agriculture areas to the north and State Forest areas to the south and east of the property under the Shire of Cuballing Town Planning Scheme No. 2. The premises location has a gently undulating topography and gravelly soils. The average annual rainfall in the area is 513 mm. A combination of surface water from dams, three production bores and water from the proposed desalination unit will provide water for piggery operations. Groundwater depth at the premises ranges from 20m to 60m below ground level. The groundwater is brackish with total dissolved solids of between 2,000 and 3,000ppm. The surrounding land uses include Lol Gray State Forest to the west and south of the property and dryland grazing.

The closest occupied residences are located between 1.3km and 1.5km from the premises and are owned by the Licensee. The closest habitable residences not associated with the piggery are located approximately 2.8km south-south-east and 4km north-west from the premises. The nearest major watercourse, Fourteen Miles Brook, is located approximately 1.1km south of the premises. A surface water stream, which flows after major rainfall events, is located approximately 700m north of the premises. The premises is not located inside the 1 in a 100-year flood area or a declared public drinking water source protection area.

Summary of assessment of emissions and discharges from the premises:

Key emissions and discharges associated with the piggery operations include the management of wastewater, odour emissions, spent straw generated from the deep litter sheds and carcass disposal. Key emissions associated with the operation of the existing feed mill include dust and noise emissions.

The current separation distance between the premises and residential properties (not relating to piggery operations) complies with the site-specific separation distance requirements of the National Environmental Guidelines for Piggeries – Second Edition 2010, Australian Pork Limited (NEGP). New infrastructure proposed to be constructed through this licence amendment will not increase the number of pigs (16,170 animals) on site. The new shed will be constructed in close proximity to existing infrastructure on the premises and the existing separation distance from sensitive receptors will be maintained. DER has not received any odour or dust related complaints attributable to premises activities.



The Licensee will be required to submit a construction compliance document upon completion of construction, and prior to operation, of the new bacon shed, desalination plant, evaporation pond and the sludge drying beds.

The licences and works approvals issued for the Premises since 13/06/2014 are:

Instrument log		
Instrument	Issued	Description
L8812/2014/1	13/06/2014	New licence issued for existing operation
L8812/2014/1	29/04/2016	Licence amendment by administrative notification to extend the expiry date of the licence from 15 June 2019 to 15 June 2021
L8812/2014/1	15/12/ 2016	Licence amendment to authorise the construction of one new intensive piggery shed, three sludge drying beds, a desalination plant and an evaporation pond for storage of reject water from desalination plant. Premises design capacity changed in accordance with Works Approval W5636/2014/1. The following management conditions were included: <ul style="list-style-type: none">• composted straw wastes and sludge from the sludge drying beds to be disposed off-site; and• monitoring of treated wastewater to be conducted prior to irrigation to determine nutrient loading.

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 the inclusive period from 1 April until 31 March in the following year;

'anniversary date' means 31 March of each year;

'AS/NZS 5667.10' means the Australian Standard AS/NZS 5667.10 *Water Quality – Sampling – Guidance on sampling of waste waters*;

'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;

'carcass' means the dead body of animal (pig);

'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

'evaporation pond' means a type of holding pond where the primary disposal mechanism of the effluent is by evaporation;

'freeboard' means the distance between the maximum water surface elevations and the top of retaining banks or structures at their lowest point;

'hardstand' means a surface with a permeability of 10^{-9} metres/second or less;

'leachate' means liquid released by or water that has percolated through waste and which contains some of its constituents.

'Licence' means this Licence numbered L8812/2014/1 and issued under the Act;

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

'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' 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;

‘**Standard Pig Unit (SPU)**’ has the meaning as defined in the *National Environmental Guidelines for Piggeries – Second Edition 2010, Australian Pork Limited*; and

‘**wastewater treatment system**’ means a wastewater and effluent management system associated with the treatment of wastewater generated from on-site activities.

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.

2 Works

2.1 The Licensee shall ensure that each item of infrastructure or equipment specified in Column 1 is designed and constructed in accordance with the requirements specified in column 2, as set out in Table 2.1 (Infrastructure Requirements Table).

Table 2.1: Infrastructure Requirements Table	
Column 1	Column 2
Infrastructure authorised to be constructed	Requirements (design and construction)
Bacon Shed	The Licensee must ensure that the Bacon Shed is designed and constructed so as to meet the following specifications: (a) a slatted concrete floor; (b) a pull and plug system comprising of impermeable, corrosion-resistant and sturdy underfloor pits and concrete collection sump; (c) impermeable PVC pipes to convey the effluent generated from the shed to existing wastewater treatment system on the premises; and (d) ingress of clean stormwater runoff into the shed and discharge of effluent, solid by-products, or contaminated waters to the environment must be prevented.
Desalination Plant	The Licensee must ensure that the Desalination Plant is designed and constructed so as to meet the following specifications: (a) installed such that any failure or malfunction of the plant or its components does not result in the discharge of high salinity wastewater into the environment; and (b) impermeable PVC pipes must be installed to convey the wastewater from desalination process to the purpose-built evaporation pond specified in this table.
Evaporation pond for storage of saline reject water from Desalination Plant	The Licensee must ensure that the evaporation pond is designed and constructed so as to meet the following specifications: (a) sufficient capacity to contain volume of reject water from the desalination plant, rainfall ingress, and freeboard of at least 500 mm to minimise the potential for pond overflow; (b) lined with compacted clay and have a permeability of less than 1×10^{-9} m/s; and (c) pond embankments must be structurally stable with a wall batter that minimises the probability of embankment failure or uncontrolled release of large quantities of wastewater into the environment.



Table 2.1: Infrastructure Requirements Table	
Column 1	Column 2
Infrastructure authorised to be constructed	Requirements (design and construction)
Sludge drying beds	The Licensee must ensure that the sludge drying beds are designed and constructed so as to meet the following specifications: (a) the base must be a minimum 500mm thick, constructed of gravel and compacted clay, with a minimum of two separate compacted layers each of 250mm to achieve a permeability of less than 1×10^{-9} m/s; and (b) each layer must be scoured to ensure the layers are effectively bonded.

- 2.2 The Licensee must locate the works specified in Table 2.1 generally in accordance with the Site Plans in Schedule 1.
- 2.3 Subject to Condition 2.4, on completion of the works specified in Table 2.1, the Licensee must provide to the CEO engineering or building certification from a suitably qualified professional confirming each item of infrastructure or component of infrastructure specified in column 1 of Table 2.1 has been constructed in accordance with the requirements specified in column 2, with no material defects.
- 2.4 The Licensee must not depart from the requirements specified in column 2 of Table 2.1 except:
(a) where such departure is minor in nature and does not materially change or affect the infrastructure; or
(b) where such departure improves the functionality of the infrastructure and does not increase risks to public health, public amenity or the environment; and all other conditions of this Licence are still satisfied.
- 2.5 If condition 2.4 applies, the Licensee must provide the CEO with a list of departures which are certified as complying with Condition 2.4 at the same times, and from the same professional, as the certifications required under Conditions 2.3.

3 Premises operation

- 3.1 The Licensee shall ensure that all wastewaters from piggery operations including wash down water, by-products wastewater, leachate collection and contaminated run-off are directed to the wastewater treatment system.
- 3.2 The Licensee shall ensure that material is only stored and/or treated within vessels or compounds provided with the infrastructure detailed in Table 3.2.

Table 3.2: Containment infrastructure		
Structure	Material	Infrastructure requirements
Anaerobic Pond 1	Wastewater	Lined to achieve a permeability of less than 1×10^{-9} m/s.
Anaerobic Pond 2		
Holding / Facultative Pond 3		
Evaporative Pond 4		
Stockpile area	Spent straw	As specified in Condition 2.1
Burial pits	Carcasses	
Sludge drying beds	Sludge from the wastewater ponds	As specified in Condition 2.1
Evaporation pond for storage of reject water from desalination plant	Reject water from desalination plant	As specified in Condition 2.1



- 3.3 The Licensee shall manage all wastewater treatment ponds such that:
- (a) overtopping of the ponds does not occur;
 - (b) a minimum top of embankment freeboard of 500mm is maintained;
 - (c) the integrity of the containment infrastructure is maintained;
 - (d) trapped overflows are maintained on the outlet of ponds to prevent carry-over of surface floating matter; and
 - (e) vegetation and floating debris (emergent or otherwise) is prevented from encroaching onto pond surfaces or inner pond embankments.
- 3.4 The Licensee shall ensure that where wastes produced on the Premises are not taken off-site for lawful use or disposal, they are managed in accordance with the process requirements in Table 3.4.

Table 3.4: Management of Waste		
Waste type	Process	Process requirements
Treated wastewater	Evaporation or reused for washdown in piggery sheds	None specified.
	Irrigation	The Licensee must ensure that: <ul style="list-style-type: none"> (i) irrigation does not occur in areas where the water table rises to within 2m of the surface during the irrigation period; (ii) irrigation does not occur within 50m of a surface water body; (iii) no irrigation generated runoff, spray drift or discharge occurs beyond the boundary of the Premises; (iv) treated wastewater is evenly distributed over the irrigation area; (v) no soil erosion occurs; (vi) vegetation cover is maintained over the wastewater irrigation areas; and (vii) irrigation does not occur on land that is waterlogged.
Carcasses	On-site burial	The Licensee must ensure that: <ul style="list-style-type: none"> (a) all carcasses to be removed daily to the burial pit; (b) carcasses shall be covered with at least 500mm of soil immediately upon deposit; and (c) carcass burial pits to be located 300m away from watercourses and 50m away from the Premises boundary.
Spent straw	Handling and storage prior to disposal offsite	The Licensee must ensure that: <ul style="list-style-type: none"> (a) composting of spent straw is undertaken in the composting area prior to being disposed off-site; (b) leachate from the composting area shall not enter the environment; and (c) stockpiles shall be managed so as to avoid offensive odour generation.
Dried sludge from the sludge drying beds	Handling and storage prior to disposal offsite	The Licensee must ensure that: <ul style="list-style-type: none"> (a) sludge is allowed to dry on the sludge drying beds prior disposal off site; and (b) any leachate and contaminated stormwater run-off from the sludge drying beds are contained, collected and returned to the wastewater treatment system.

- 3.5 The Licensee shall ensure that the number of animals on the site does not exceed 16,170 animals or 15,912 SPU.



4 Emissions

4.1 Emissions to land

4.1.1 The Licensee shall ensure that where waste is emitted to land from the emission points in Table 4.1.1 [and identified on the map of emission points in Schedule 1] it is done so in accordance with the conditions of this Licence.

Table 4.1.1: Emissions to land

Emission point reference [and location on Map of emission points]	Description	Source including abatement
L1 – as shown on Map of monitoring points in Schedule 1	Discharge to on-site irrigation area	Treated wastewater from the evaporation pond

4.1.2 The Licensee shall not cause or allow emissions to land greater than the limits listed in Table 4.1.2.

Table 4.1.2: Emission limits to land

Emission point reference	Parameter	Limit (including units)	Averaging period
L1 as shown on Map of monitoring points in Schedule 1	Nitrogen loading	< 140 kg/hectare	Annual
	Phosphorus loading	<10 kg/hectare	Annual

5 Monitoring

5.1 General monitoring

5.1.1 The Licensee shall ensure that:

- all wastewater sampling is conducted in accordance with AS/NZS 5667.10; and
- all laboratory samples are submitted to and tested by a laboratory with current NATA accreditation for the parameters being tested.

5.2 Monitoring of emissions to land

5.2.1 The Licensee shall undertake the monitoring in Table 5.2.1 according to the specifications in that table.

Table 5.2.1: Monitoring of emissions to land

Emission point reference	Parameter	Units	Averaging period	Frequency
M1 as shown on map of monitoring points in Schedule 1	Volumetric flow rate	m ³ /min	Daily	Continuous when irrigating
	Irrigation time	minutes		
	Total Nitrogen and Total Phosphorus	mg/L	Spot sample	Monthly when irrigation is occurring
	Total area used for irrigation	hectares	--	To be calculated following cessation of irrigation

5.2.2 The Licensee shall monitor the emissions to land according to the requirements listed in Table 5.2.2.

Table 5.2.2: Emissions to land when irrigating treated wastewater from Evaporation Pond

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



6 Information

6.1 Records

- 6.1.1 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.
- 6.1.2 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.
- 6.1.3 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.

6.2 Reporting

- 6.2.1 The Licensee shall submit to the Director an Annual Environmental Report within 60 calendar days after the Anniversary Date. The report shall contain the information listed in Table 6.2.1 in the format or form specified in that table.

Table 6.2.1: Annual Environmental Report		
Condition or table (if relevant)	Parameter	Format or form¹
-	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	N1
-	Total number of animals	Tabular format: monthly maximum including annual total
Table 5.2.1	If irrigation has been conducted during the annual period being reported, the following parameters are to be reported: <ul style="list-style-type: none"> - Volumetric flow rate; - Irrigation time; - Total Nitrogen; - Total Phosphorus; and - Total area used for irrigation. 	None specified
Table 5.2.2	Nutrient loading for total nitrogen and total phosphorous in kg/hectare/annum	None specified
6.1.2	Compliance	www.der.wa.gov.au/aacr
6.1.3	Complaints summary	None specified

Note 1: Forms are in Schedule 2

Note 2: Annual Audit Compliance Report form is available from the DER website (www.der.wa.gov.au)

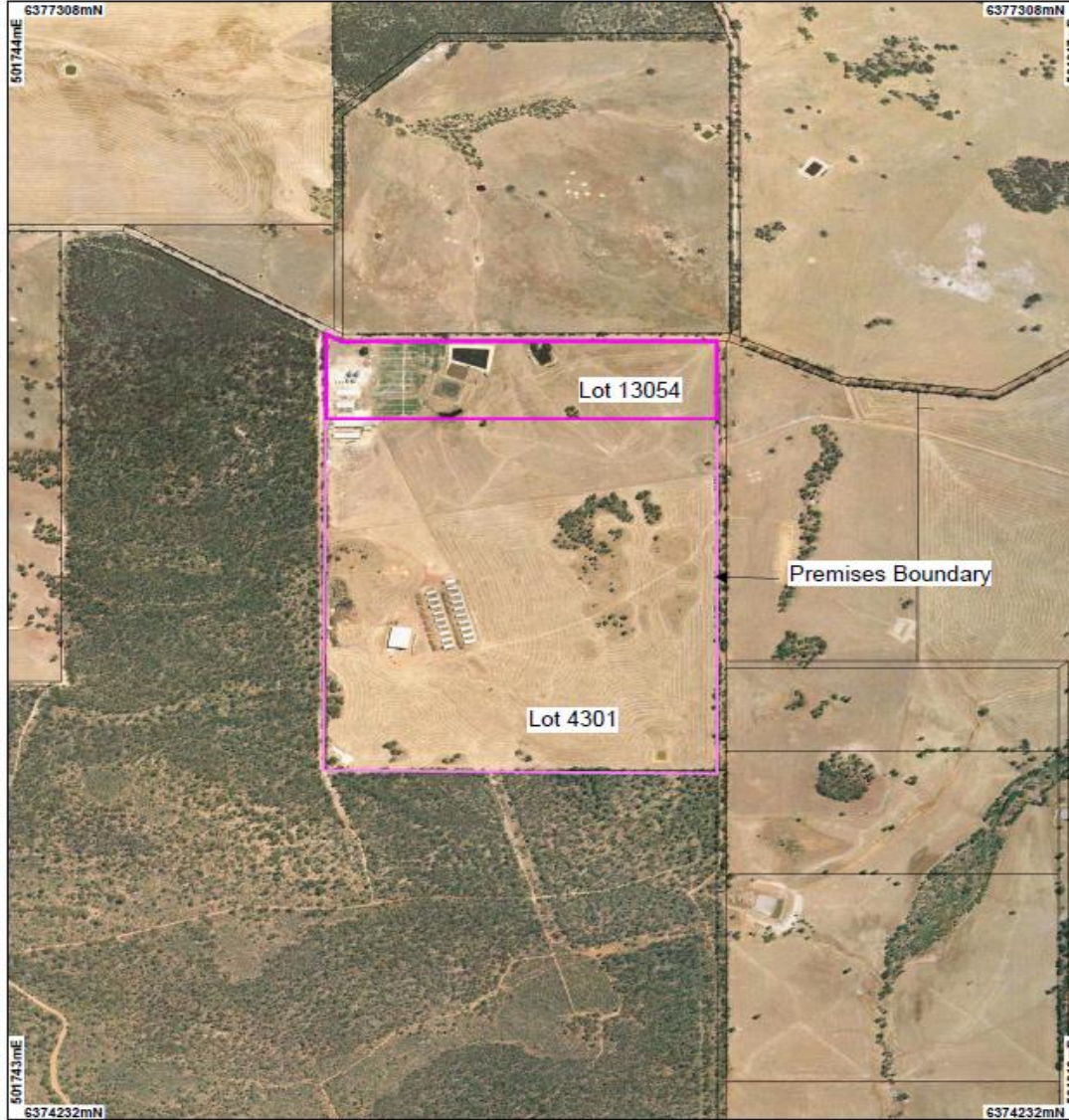


Schedule 1: Maps

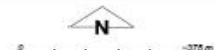
Premises map

The Premises is shown on the map below. The pink line depicts the Premises boundary.

Hillcroft Farms Pty Ltd



LEGEND
 Cadastre
 Narragjin 50cm Orthomosaic - Landgate 2005



Scale 1:13650
 (Approximate when reproduced at A4)

Geocentric Datum Australia 1994

Note: the data in this map have not been projected. This may result in geometric distortion or measurement inaccuracies.

Prepared by: nashette
 Prepared for:
 Date: 25/10/2016 2:50:25 PM

Information derived from this map should be confirmed with the data custodian acknowledged by the agency acronym in the legend.



Government of Western Australia
 Department of Environment Regulation
 WA Crown Copyright 2002

* Project Data. This data has not been quality assured. Please contact map author for details.



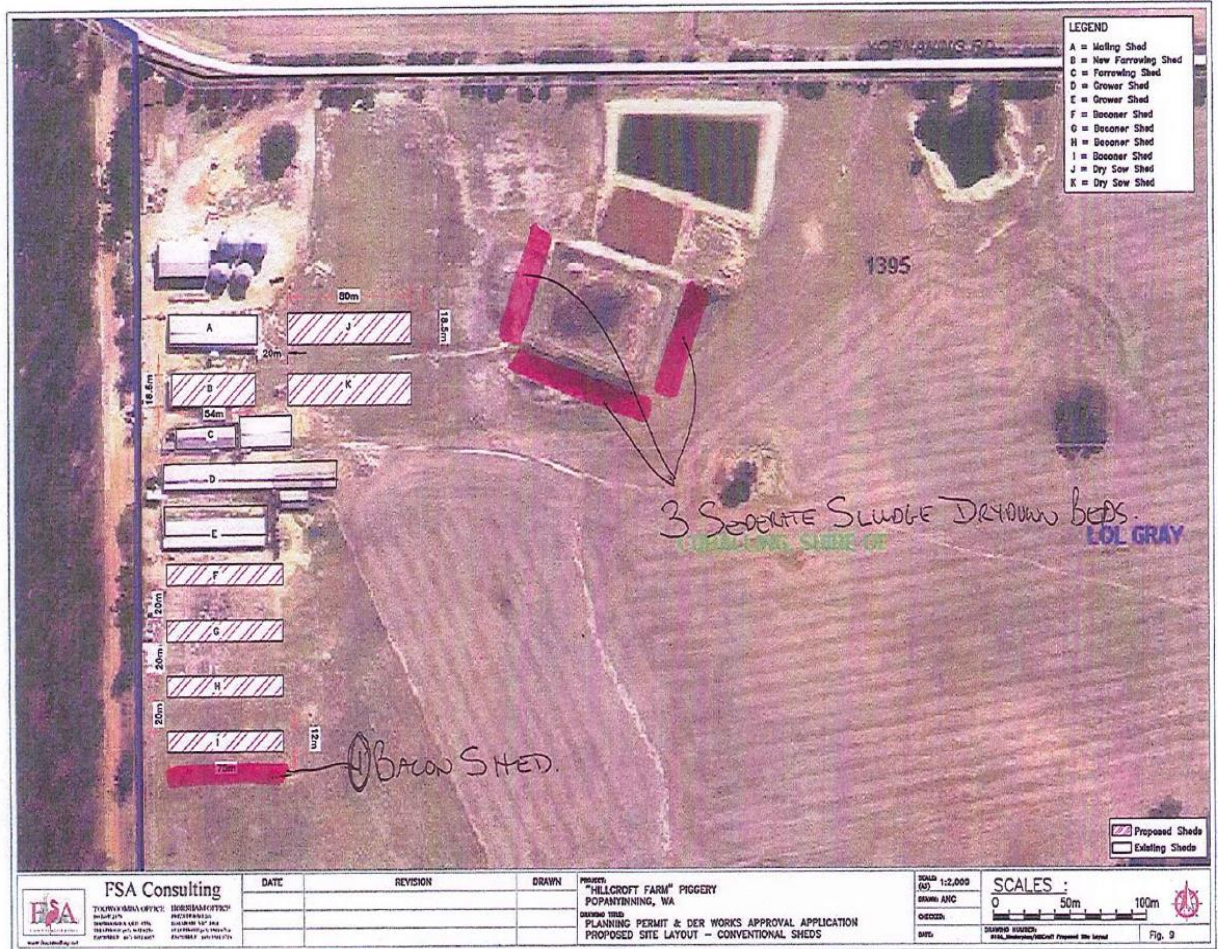
Infrastructure on the Premises as shown on the map below and the location of M1 sampling point.



Source: [Google Maps](#), accessed 3 November 2016.



Site Plan indicating general location of proposed bacon shed and sludge drying beds



Source: Hillcroft Farms Pty Ltd Licence Amendment Application dated 1 February 2016



Site Plan indicating general location of proposed desalination plant and evaporation pond for reject water



Source: Hillcroft Farms Pty Ltd Licence Amendment Application dated 1 February 2016



Site Plan showing the area to be irrigated with treated wastewater (referred to as L1).



Source: Hillcroft Farms Pty Ltd Licence Amendment Application dated 1 February 2016



Licence: L8812/2014/1 Licensee: Hillcroft Farms Pty Ltd
 Form: N1 Date of breach: _____

Notification of detection of the breach of a limit or any failure or malfunction of any pollution control equipment or any incident which has caused, is causing or may cause pollution.

These pages outline the information that the operator must provide.
 Units of measurement used in information supplied under Part A and B requirements shall be appropriate to the circumstances of the emission. Where appropriate, a comparison should be made of actual emissions and authorised emission limits.

Part A

Licence Number	L8812/2014/1
Name of operator	Hillcroft Farms Pty Ltd
Location of Premises	Hillcroft Farms 1561 Yornaning Road Lot 4301 on Plan 146817 and Lot 13054 on Plan 146817 LOL GRAY WA 6311
Time and date of the detection	
<i>Notification requirements for the breach of a limit</i>	
Emission point reference/ source	
Parameter(s)	
Limit	
Measured value	
Date and time of monitoring	
Measures taken, or intended to be taken, to stop the emission	
Name	
Post	
Signature on behalf of Hillcroft Farms Pty Ltd	
Date	



Decision Document

Environmental Protection Act 1986, Part V

Proponent: Hillcroft Farms Pty Ltd

Licence: L8812/2014/1

Registered office: Hillcroft Farms Pty Ltd
Byfields
Paringa Professional Centre
Suite 2, 2 Williams Road
NARROGIN WA 6312

ACN: 158 889 699

Premises address: Hillcroft Farms
1561 Yornaning Road
Lot 4301 on Plan 146817 and Lot 13054 on Plan 146817
LOL GRAY WA 6311

Issue date: Friday, 13 June 2014

Commencement date: Monday, 16 June 2014

Expiry date: Tuesday, 15 June 2021

Decision

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

Decision Document prepared by:	Gargi Joshi Licensing Officer
Amended by:	Nanette Schapel Licensing Officer
Decision Document authorised by:	Christine West Delegated Officer



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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	Category number(s)	Assessed design capacity
	2	16,170 pigs (15,912 Standard Pig Units)
	23	10,000 tonnes per annual period
Application verified	Date: Not applicable	
Application fee paid	Date: Not applicable	
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 type="checkbox"/>	
Commercial-in-confidence claim	Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	
Commercial-in-confidence claim outcome	NA	
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 type="checkbox"/>	
Is the Premises within an Environmental Protection Policy (EPP) Area	Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	
If Yes include details of which EPP(s) here.		
Is the Premises subject to any EPP requirements?	Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	



3 Executive summary of proposal and assessment

Hillcroft Farms (the premises) is located 13km south-southwest of Popanyinning in the Shire of Cuballing. The premises has been operational since 1982 and comprises an intensive farrow-to-finish piggery and an animal feed manufacturing facility with a design capacity to produce up to 10,000 tonnes per annum.

Works approval W5636/2014/1 was granted by the Department on 20 June 2014 and authorised the construction of a new farrowing shed, two dry sow sheds, and four bacon sheds. The works approval authorised an increase in the design capacity of the intensive piggery from 8,463 animals (8,158 Standard Pig Units (SPUs)) to 16,170 animals (15,912 SPUs). On 5 November 2015, the Licensee submitted a compliance document to confirm completion of works authorised under the works approval.

Infrastructure at the premises now includes:

Deep litter shelters x 19 (for housing weaners and growers aged from 4 to 16 weeks). The number of animals in the deep litter shelters is 7,345 pigs at any one time or 5,497 SPUs).

Intensive sheds x 11 where the configuration includes:

- 1 x mating shed;
- 2 x farrowing sheds;
- 2 x grower sheds;
- 4 x baconer sheds; and
- 2 x dry sow sheds.

Current Licence amendment:

This licence amendment authorises the Licensee to operate the piggery at the increased capacity (16,170 animals) approved under Works Approval W5636/2014/1. In addition, the licence amendment authorises construction of the following new infrastructure proposed by the Licensee:

- A new intensive piggery shed (bacon shed), dimensions 80m x 12m, is proposed to be constructed south of the existing bacon sheds. The Licensee has not proposed to increase the capacity of the piggery operations more than what was approved under W5636. The proposed shed is intended to provide additional room for the pigs currently held onsite as they grow. Effluent from the proposed bacon shed will be connected to the existing effluent system via sealed PVC piping. The total amount of effluent generated from the piggery operations is not expected to increase as the pig numbers will not change;
- A desalination unit, with a capacity to treat up to 25,000 litres per day, will be installed on site to treat bore water prior to use in the cooling systems in the piggery sheds during the hotter months when the temperature exceeds 28 degree Celsius. The unit will be located in a 40-foot container. A new evaporation pond (70m x 70m x 2m deep) will be constructed to store concentrated brine generated from the desalination plant. The Licensee has indicated that the proposed desalination plant will be operated for no more than six months in a year; and
- Three sludge drying beds, each with dimensions of 50m x 10m x 3.5m, are proposed to be constructed adjacent to the existing Pond 1 to allow sludge storage during cleanout of the ponds every 5-10 years. The Licensee has committed to construct the sludge drying beds out of clay and compacted gravel. The floor will be compacted with two layers (250mm each) of compacted gravel, and the sludge drying bed embankments will be constructed to have a 3 in 1 batter.

Solid/liquid waste management at the premises:

The original conventional sheds have slatted flooring with concrete flush channels underneath. The conventional sheds constructed under Works Approval W5636/2014/1 have slatted flooring and use a pull-plug system for flushing. Clean water is used to wash out the sheds in between batches of pigs. Flushing frequency varies between sheds as follows:

- dry sow sheds 2-3 times per day;
- farrowing sheds once per week; and



- bacon sheds 4-5 times per week.

Effluent from the conventional sheds is directed to the wastewater treatment system via underground PVC pipes. Effluent generated includes shed flushing water, manure water, and drinking water wastage which are calculated at 34.19ML per year.

All ponds are clay lined and wastewater is transferred to subsequent ponds via overflow pipes located 500mm below the top water level. The ponds are desludged using a long-reach excavator where the last desludging event occurred in 2013. There is no pre-screening of the effluent prior to discharge into the pond system which consists of the following:

- Pond 1 (deep anaerobic pond);
- Pond 2 (second anaerobic pond);
- Pond 3 (facultative or holding pond); and
- Pond 4 (evaporation pond).

The solid waste stream generated from deep litter sheds within the premises boundary includes the spent straw used for bedding. This contains manure, urine, waste feed and any water spillages. When a new batch of pigs is moved to the shelters, the spent straw is pushed out and stockpiled on a hardstand consisting of gravel with clay present at 0.5 m below the surface. A purpose-built sump contains any contaminated stormwater from the stockpile area.

Location and siting:

The premises is located in an area zoned General Agriculture, with General Agriculture areas to the north and State Forest areas to the south and east of the property under the Shire of Cuballing Town Planning Scheme No. 2. The premises location has a very gently undulating topography and gravelly soils. The average annual rainfall in the area is 513 mm. A combination of surface water from dams, three production bores and water from the proposed desalination unit provide water for piggery operations. Groundwater depth at the premises ranges from 20-60 m below ground level. The groundwater is brackish with total dissolved solids of between 2,000 and 3,000ppm. The surrounding land uses include Lol Gray State Forest to the west and south of the property and dryland grazing.

The closest occupied residences are located between 1.3km and 1.5km from the premises and are owned by the Licensee. The closest habitable residences not associated with the piggery are located approximately 2.8km south-south-east and 4km north-west from the premises. The nearest major watercourse, Fourteen Miles Brook, is located approximately 1.1km south of the premises. A surface water stream, which flows after major rainfall events, is located approximately 700m north of the premises. The premises is not located inside the 1 in a 100-year flood area or a declared public drinking water source protection area.

Summary of assessment of emissions and discharges from the premises

Key emissions and discharges associated with the piggery operations include the management of wastewater, odour emissions, spent straw generated from the deep litter sheds and carcass disposal. Key emissions associated with the operation of the existing feed mill include dust and noise emissions.

The current separation distance between the premises and residential properties (not relating to piggery operations) complies with the site-specific separation distance requirements of the National Environmental Guidelines for Piggeries – Second Edition 2010, Australian Pork Limited (NEGP). New infrastructure proposed to be constructed through this licence amendment will not increase the number of pigs (16,170 animals) on site. The new shed will be constructed in close proximity to existing infrastructure on the premises and the existing separation distance from sensitive receptors will be maintained. DER has not received any odour or dust related complaints attributable to premises activities.

The Licensee will be required to submit a construction compliance document upon completion of construction, and prior to operation, of the new bacon shed, desalination plant, evaporation pond and the sludge drying beds.



4 Decision table

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 boundary	N/A	The premises boundary has been updated to include the treated wastewater irrigation areas associated with waste generated from the primary activity (piggery) on the premises. This is consistent with the premises approved under works approval W5636/2014/1. See <i>Emissions to Land</i> for details of decision making and risk assessment.	W5636/2014/1
Production capacity	N/A	Works approval W5636/2014/1 authorised the construction of infrastructure to increase the design capacity of the premises to 16,173 animals (15,912 SPUs). Works authorised under the works approval have been completed and a Compliance Document was received by DER on the 5 November 2015. The production capacity authorised in this licence amendment acknowledges the increased design capacity.	W5636/2014/1



DECISION TABLE			
Works Approval / Licence section	Condition number W = Works Approval L= Licence	Justification (including risk description & decision methodology where relevant)	Reference documents
General conditions	-	<p>The following conditions included on previous Licence L8812/2014/1 granted on 12 June 2014 have been reviewed and removed from the amended licence L8812 to ensure consistency with DER's <i>Guidance Statement: Setting Conditions</i>.</p> <ul style="list-style-type: none"> • Previous licence condition 1.2.1, which instructed that the licence conditions do not authorise pollution, unreasonable emissions, or discharge of waste in circumstances likely to cause pollution has not been retained. This condition only provided clarification to the Licensee regarding the operation of a licence rather than stipulating specific operational requirements. • Previous licence condition 1.2.2 regarding operation and maintenance of pollution control and monitoring equipment has not been retained. No specific monitoring requirements have been stipulated in the licence. Key infrastructure requirements are specified in other conditions of the licence to manage emissions and discharges from the premises. • Previous licence condition 1.2.3 relating to stormwater control has been removed from the licence. See <i>Premises Operation</i> section for details. <p>Operation A DER compliance inspection conducted at the premises in 2015 noted that diesel is stored at the premises in a purpose built tank (capacity 55,000 litres) and containers of herbicides and pesticides are stored in an area without adequate secondary containment. No additional storage is proposed under this licence amendment.</p> <p><u>Emission Description</u> <i>Emission:</i> Leaks and spills of herbicides, pesticides, or other chemicals used in agricultural activities or fuel stored on the premises. <i>Impact:</i> Leaks and spills can lead to soil and groundwater contamination. Groundwater at the premises is brackish and is located at a depth of 20 to 60 metres below ground level. The premises is not located in a public drinking water source protection area. DER's Geographic Information System database indicates that regionally, soils in the area are dominated by yellow earths containing ironstone gravel and clay horizons. Information previously provided by Licensee notes that soils at the</p>	<p><i>Guidance Statement: Setting Conditions</i></p> <p><i>Guidance Statement: Licensing and Works Approvals Processes</i></p> <p><i>Environmental Protection (Unauthorised Discharges) Regulations 2004</i></p> <p><i>Guidance Statement: Setting Conditions</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>piggery site are gravelly, whereas the remainder of the land on-farm has gravelly to gravelly loam soils. Given the soil type and depth to groundwater, a spill or leak could result in localised impact. <i>Control:</i> No specific infrastructure controls have been proposed by the Licensee. Siting of the premises is the primary control measure.</p> <p><u>Risk Assessment</u> <i>Consequence:</i> Minor <i>Likelihood:</i> Unlikely <i>Risk Rating:</i> Moderate</p> <p><u>Regulatory Controls</u> Storage of herbicides and pesticides used in agriculture is not considered to be a primary or contributory activity to the prescribed activities (piggery and feed mill) being undertaken on the premises. In accordance with DER's <i>Guidance Statement: Licensing and Works Approvals Processes</i>, no conditions are recommended to be included on the licence to manage herbicide or pesticide storage. General provisions of the EP Act and <i>Environmental Protection (Unauthorised Discharges) Regulations 2004</i> will be applicable. The previous licence condition requiring storage in accordance with the Department of Mines and Petroleum's <i>Code of Practice for the Storage and Handling of Dangerous Goods</i> has not been retained. The <i>Environmental Protection (Unauthorised Discharges) Regulations 2004</i> apply to hydrocarbon discharges.</p> <p><u>Residual Risk</u> <i>Consequence:</i> Minor <i>Likelihood:</i> Unlikely <i>Risk Rating:</i> Moderate</p>	



DECISION TABLE			
Works Approval / Licence section	Condition number W = Works Approval L= Licence	Justification (including risk description & decision methodology where relevant)	Reference documents
Works	L2.1 -- L2.5	<p>The Licensee is proposing to construct a new bacon shed, three sludge drying beds and install a desalination plant. See <i>Fugitive emissions</i> and <i>noise emissions</i> sections of this document for details of risk assessment and decision making relating to the construction of works.</p> <p>Infrastructure requirements have been specified in Condition 2.1 of the licence and relate to management of emissions to land, stormwater, surface water and groundwater during the operation phase once infrastructure authorised under this licence amendment is constructed. Details of the risk assessment and decision making are included in <i>Premises Operation</i> and <i>Emissions to Land</i> sections of this document.</p> <p>Condition 2.3 requires that upon completion of works authorised under this licence amendment and prior to operation, the Licensee provides an engineering or building certification confirming that infrastructure has been constructed as per the requirements specified.</p> <p>Condition 2.4 allows the Licensee to depart from requirements specified in Condition 2.3 so long as the departures do not materially change the infrastructure or increase the risk of public health, amenity or environment. Condition 2.5 requires any departures to still comply with the requirements contained in Condition 2.3.</p>	



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	L2.1 to L2.5 L3.1 to L3.4	<p>These conditions have been retained from the previous licence (Conditions noted under Premises operation in section 1.3) and are considered appropriate to manage emissions and discharges associated with premises activities.</p> <p>Operation Through this licence amendment application, the Licensee is proposing to construct three sludge drying beds where sludge will be stored during cleanup of wastewater ponds. The Licensee is also proposing to construct an additional bacon shed (intensive shed) to provide additional room for the pigs on the site without increasing the maximum number of pigs held on site.</p> <p><u>Emission Description</u> <i>Emission:</i> Runoff of contaminated or potentially contaminated stormwater from piggery sheds, spent straw (bedding) storage area, sludge storage area and from treated wastewater irrigation area(s) can enter the environment. <i>Impact:</i> Contaminated stormwater runoff has the potential to degrade surface water quality. Minor surface water courses flow through the area. The closest major watercourse is Fourteen Miles Brook, which is located approximately 1 km away from the premises. The premises is located outside the 1 in a 100-year flood area. There is the potential for contaminated stormwater causing localised impact on surface water quality. <i>Control:</i> Effluent from the conventional piggery sheds is directed to the wastewater pond system on the premises to minimise the potential for stormwater contamination. Conventional and deep litter piggery sheds are constructed above ground level to prevent uncontaminated stormwater entering the sheds. There are no surface water streams located on the premises.</p> <p><u>Risk Assessment</u> <i>Consequence:</i> Minor <i>Likelihood:</i> Unlikely <i>Risk Rating:</i> Moderate</p>	<p>Works Approval Application for W5636/2014/1 titled:</p> <p><i>Planning Permit & DER Works Approval Application: "Hillcroft Farms" Piggery, authored by FSA Consulting, dated 15 January 2014.</i></p> <p><i>Environmental Protection (Unauthorised Discharges) Regulations 2004</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><u>Regulatory Controls</u> Condition 1.2.3 from the previous licence which required the Licensee to implement all practical measures to prevent stormwater contamination and to treat contaminated stormwater prior to discharge has not been retained as it was not specific. Other conditions of the licence are considered adequate to manage stormwater contamination issues associated with premises activities.</p> <p>Previous Licence conditions 1.3.1 and 1.3.4 have been retained and renumbered as conditions 3.1 to 3.4. These require the Licensee to ensure all wastewaters from the piggery including contaminated run-off are directed to the wastewater treatment system, runoff from the irrigation of treated wastewater does not extend beyond the premises boundaries and leachate from the stockpile area does not enter the environment.</p> <p>Condition 2.1 specifies the infrastructure requirements for the bacon shed and sludge drying beds with the objective of minimising the potential for contaminated or potentially contaminated stormwater runoff entering the environment.</p> <p><u>Residual Risk</u> <i>Consequence:</i> Minor <i>Likelihood:</i> Unlikely <i>Risk Rating:</i> Moderate</p> <p>See <i>Odour emissions</i> section of this document for details of risk assessment and decision making.</p>	
Emissions to land including monitoring	L3.1 – 3.5 L4.1 to 4.1.2 L5.1.1 to 5.2.2	<p>Construction No point source emissions to land are proposed during construction of the bacon shed, sludge drying beds or desalination plant.</p> <p>Operation See <i>Appendix A – Emissions to land - irrigation of treated wastewater</i> for details of risk assessment and decision making.</p>	Works Approval Application for W5636/2014/1 titled: <i>Planning Permit & DER Works Approval Application: “Hillcroft Farms” Piggery,</i>



DECISION TABLE			
Works Approval / Licence section	Condition number W = Works Approval L= Licence	Justification (including risk description & decision methodology where relevant)	Reference documents
			authored by FSA Consulting, dated 15 January 2014.
Fugitive emissions	-	<p>Construction (Works) The Licensee is proposing to construct a bacon shed, three sludge drying beds and install a desalination plant. An evaporation pond is proposed to be constructed for storage of saline reject water from the desalination plant.</p> <p><u>Emission Description</u> <i>Emission:</i> Dust emissions associated with construction activities and earthworks undertaken to allow construction of the bacon shed, sludge drying beds and the evaporation pond. <i>Impact:</i> Dust emissions can cause amenity issues for the surrounding community. The closest occupied residences, located 1.3km to 1.5km from the premises, are owned by the Licensee. The closest habitable residences not associated with the piggery are located approximately 2.8 km south-south-east and 4 km north-west from the premises. Dust emissions from construction may cause limited, localised impact and possible complaints if not adequately managed. <i>Control:</i> No specific management or control measures have been proposed by the Licensee to manage potential dust emissions during construction. Location of the premises and siting of proposed infrastructure is the primary control.</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> General provisions of the EP Act are considered appropriate to manage potential dust emissions during construction. No specific licence conditions are required.</p>	<p>EP Act;</p> <p><i>Guidance Statement: Setting Conditions;</i></p> <p>Works Approval Application for W5636/2014/1 titled:</p> <p><i>Planning Permit & DER Works Approval Application: "Hillcroft Farms" Piggery,</i> authored by FSA Consulting, dated 15 January 2014.</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>Residual Risk</u> <i>Consequence:</i> Insignificant <i>Likelihood:</i> Unlikely <i>Risk Rating:</i> Low</p> <p>Operation <i>Emission:</i> Potential dust emissions associated with existing operations at the premises include emissions from the feed mill and vehicle movements along unsealed roads. No additional dust emission sources will be introduced as a result of the construction of works approved under this licence amendment. <i>Impact:</i> Dust emissions can cause amenity issues for the community. The closest occupied residences, located 1.3km to 1.5km, from the premises, are owned by the Licensee. The closest habitable residences not associated with the piggery are located approximately 2.8 km south-south-east and 4 km north-west from the premises. Dust emissions from construction may cause limited, localised impact and possible complaints if not adequately managed. DER has not received any complaints associated with the premises operations. <i>Control:</i> The Licensee has committed to limit vehicle speeds on unsealed roads on the premises. No other infrastructure or operational controls have been proposed. Location of the premises and siting of proposed infrastructure is the primary control.</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> General provisions of the EP Act are considered appropriate to manage potential dust emissions during operation. No specific licence conditions are recommended.</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>Residual Risk</u> <i>Consequence:</i> Insignificant <i>Likelihood:</i> Unlikely <i>Risk Rating:</i> Low	
Odour	L3.4	<p>Construction (Works) The Licensee is proposing to construct a bacon shed, three sludge drying beds and install a desalination plant. An evaporation pond is proposed to be constructed for the storage of saline reject water from the desalination plant. Odour emissions associated with the proposed construction activities are not expected.</p> <p>Operation See Appendix A for details of DER's risk assessment and decision making regarding odour emissions from operations.</p>	<p><i>National Environmental Guidelines for Piggeries 2010 (NEGP)</i></p> <p>Works Approval Application for W5636/2014/1 titled: <i>Planning Permit & DER Works Approval Application: "Hillcroft Farms" Piggery</i>, authored by FSA Consulting, dated 15 January 2014.</p>
Noise	-	<p>Construction (Works) The Licensee is proposing to construct a bacon shed, three sludge drying beds, and install a desalination plant. An evaporation pond is proposed to be constructed for the storage of saline reject water from the desalination plant.</p> <p><u>Emission Description</u> <i>Emission:</i> Noise emissions associated with construction activities and earthworks undertaken for construction and vehicle movement. <i>Impact:</i> Noise emissions can cause amenity issues for the community. The closest habitable</p>	<p><i>Environmental Protection (Noise) Regulations 1997 (EP (Noise) Regulations)</i></p> <p>Works Approval Application for W5636/2014/1 titled:</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>residences not associated with the piggery are located approximately 2.8 km south-south-east and 4 km north-west from the premises. Noise emissions from construction may cause limited, localised impact and possible complaints.</p> <p><i>Control:</i> No specific management or operational control measures have been proposed by the Licensee to manage potential noise emissions during construction. Location of the premises and siting of proposed infrastructure are the primary controls.</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> Provisions of the EP (Noise) Regulations are considered appropriate to manage potential noise emissions during construction. No specific licence conditions are required.</p> <p><u>Residual Risk</u> <i>Consequence:</i> Insignificant <i>Likelihood:</i> Unlikely <i>Risk Rating:</i> Low</p> <p>Operation Existing noise emissions from the premises are attributed to mechanical noise from feed mill operations, vehicle movements and the operation of farm machinery and pumps. Operation of the new bacon shed and desalination plant is not expected to significantly increase background noise emissions from the premises. The amendment does not increase the approved design capacity of the premises. As a result, there is not expected to be an increase in traffic or vehicle movement for the delivery of pigs. The Licensee has previously committed to scheduling pig movements during the day.</p>	<p><i>Planning Permit & DER Works Approval Application: "Hillcroft Farms" Piggery, authored by FSA Consulting, dated 15 January 2014.</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
Improvements		<p>The previous licence included four improvement requirements (IRs) where:</p> <ul style="list-style-type: none"> IR1 required the Licensee to determine the permeability of soils in the solid and liquid waste storage areas. This information was provided on the 5 November 2015; IR2 and IR3 required a report detailing the works implemented to prevent runoff from the spent bedding storage area. An inspection carried out on the 14 April 2015 noted that a dedicated sump has been constructed to capture any contaminated stormwater runoff from the spent bedding storage area. No further action is required. IR4 required the Licensee to submit a Solids Application to Land Assessment Report. The Licensee has now committed to disposing of spent bedding off site so no further action is required. 	-
Information	L6.1.1	<p>Reporting requirements included as Condition 5.1 and 5.2 of the previous licence has been retained as Condition 6.2.1. Condition 5.1.2 of previous licence, which instructed any person performing tasks on premises be informed of licence conditions relating to that task and that any person in charge of premises be aware of licence conditions, has not been retained. It is not a defence to offences under the EP Act for the Licensee or its agents to claim they were unaware of licence conditions. Notification requirements have been removed from the licence as there are no conditions that require notification. Removal of notification requirements in the Licence does not negate the requirement for the Licensee to comply with s72 of the Act.</p>	<i>Guidance Statement: Setting Conditions</i>
Licence Duration		<p>DER's <i>Guidance Statement: Licence Duration</i> provides for the granting of licences for up to 20 years in duration. The Chief Executive Officer (CEO) of DER has determined that the licence expiry dates for almost all of the licensed prescribed premises in the State are to be amended. This amendment was given effect on 29 April 2016 by an administrative notice which is available on the department's website www.der.wa.gov.au. Under this process, the expiry date for this licence was extended until 15 June 2021. The amended licence reflects this change to the expiry date.</p>	<i>Guidance Statement: Licence Duration</i>



5 Advertisement and consultation table

Date	Event	Comments received/Notes	How comments were taken into consideration
14 July 2016	Proponent sent a copy of draft instrument	Comments received on 29 September and 21 October 2016 which notes: <ul style="list-style-type: none">• confirmation of the lot numbers where prescribed activities are carried out and where the irrigation of treated wastewater will occur;• confirmation that wastewater is not used to flush pig sheds; and• confirmation that solid wastes including spent straw and manure will be disposed off-site.	Draft Licence amended to: <ul style="list-style-type: none">• remove the authorisation to spread spent straw stockpiles on the prescribed premises;• The premises is defined as Lots 4301 and 13054;• In the event that irrigation occurs on site, the Licensee is required to monitor the treated wastewater; nutrient loading limits have been included as condition 5.2.2; and• Improvement condition 4.1.1 requiring the Licensee to submit a "Solids/Liquids Application to Land Assessment Report" has been removed as solid wastes will be disposed off-site.
23 November 2016	Proponent sent a copy of draft amended licence	No comments received. Licensee returned waiver form on 11 December 2016	N/A



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

Odour emissions

Operation

The Licensee had previously undertaken a level 1 assessment for odour emissions using the *S-factor* calculation method from the *National Environmental Guidelines for Piggeries*. Site-specific separation distances from residential receptors were determined based on that assessment.

The additional bacon shed constructed through this licence amendment will not increase the number of pigs held on site or the quantity of solid and liquid waste generated. The shed is also proposed to be located adjacent to the existing piggery sheds on the premises and will not result in a reduction in the separation distance from receptors.

The Delegated Officer considers that the screening assessment conducted for Works Approval W5636/2014/1 is valid for the assessment of odour emissions from the premises during operation

Table 1: Separation distance

Factors	Rural Dwelling	Rural Residential	Town
Level 1 ‘S’ Factor recommended minimum distance (m)¹	1.63km	2762.37 m (Poppanyining Rural Residential) 2127.03m (Yornaning Rural Residential)	4603.96m (Poppanyining) 3545.05m (Yornaning)
Actual Distance (m) from the piggery	3.8km (west of premises) ² 4km (NW of premises) ² 2.8km (S-SE of premises) ²	>10km	>10km
Applicant calculated minimum distance (based on Level 1 ‘S’ Factor) (m)	2.61km	4421m (Poppanyining Rural Residential) 3404m (Yornaning Rural Residential)	7369m (Poppanyining) 5674m (Yornaning)

Note 1: Based on the methodology used by the applicant as per National Environmental Guidelines for Piggeries, 2010

Note 2: See Figure 1 map of separation distances

Desalination is not considered to be an odorous activity. The operation of the desalination plant and reject water generated will not contribute to odour emissions from the premises. Sludge storage on the sludge drying beds proposed to be constructed through this amendment may cause odour emissions.

Other existing odour sources at the premises include the effluent generated in the conventional piggery sheds, spent straw from the deep litter sheds the irrigation of treated wastewater on site, effluent treatment ponds and the burial of carcasses.



Emission Description

Emission: Odour emissions associated with piggery operations and the irrigation of treated wastewater.
Key odour emission sources at the premises include the effluent generated from the conventional piggery sheds, spent straw / bedding from deep litter sheds, irrigation of treated wastewater, effluent treatment ponds and burial of carcasses. Pigs produce manure, varying in amounts according to their class (lactating sow, weaner, etc.). Odour generation from the premises also relates to piggery design, management practices, and the number of pigs held on site.

Impact: Odour emissions can cause amenity issues for the community. The closest habitable residences not associated with the piggery are located approximately 2.8km south-southeast and 4km north-west from the piggery infrastructure. This separation distance conforms to the recommended separation distance derived using the *S-factor* calculation methodology referenced in the *National Environmental Guidelines for Piggeries*.

Odour emissions from the premises may cause localised impact if the irrigation of treated wastewater is applied to land at excessive rates or under unfavourable wind / meteorological conditions. The premises has been operational since 1982 and DER has not received any odour complaints to date.

Control: The location of the premises and siting of infrastructure providing separation from the receptors are the primary controls. The Licensee has previously committed to manage the land application of effluent so as to avoid application under overcast conditions, windy conditions, when the wind is blowing directly towards nearby houses and on weekends or during holiday periods.

Risk Assessment

Consequence: Minor

Likelihood: Unlikely

Risk Rating: Moderate

Regulatory Controls

Previous licence condition 2.7.1 requiring the Licensee to ensure odour emissions do not unreasonably interfere with the health, welfare, convenience or amenity of any person not on the premises has not been retained.

Provisions of the EP Act are considered appropriate to manage potential odour emissions during operation. Condition 6.1.3 requires the Licensee to implement a complaints management system and record the number and details of any complaints. This condition has been retained.

Current separation distances from sensitive receptors have been deemed to be acceptable based on the current design capacity of 16,170 animals. Condition 3.5 restricts the maximum number of pigs (and equivalent SPUs) that can be held onsite at any one time.

Residual Risk

Consequence: Minor

Likelihood: Rare

Risk Rating: Low



Emissions to land – Application of treated wastewater

Operation

Wastewater generated from the new bacon shed will be directed to the existing wastewater treatment system on the premises. Total wastewater generation volume from the premises will not change. This amended Licence authorises the application of treated wastewater on site.

Emission Description

Emission: Treated wastewater generated from piggery operations are rich in nutrients (including total nitrogen, total phosphorus) and have a high biochemical oxygen demand.

Impact: Treated wastewater applied at rates exceeding the nutrient holding capacity of in-situ soils or nutrient uptake by vegetation can lead to contaminants leaching into groundwater. High BOD loading to land can degrade soil structure and impact subsequent land use. Groundwater at the premises is located at a depth of 20 to 60mBGL. There is the potential for localised impact if emissions to land are not appropriately managed.

Control: Management practices for the irrigation of treated wastewater were provided by the Licensee in the *Planning Permit & DER Works Approval Application: "Hillcroft Farms" Piggery*, authored by FSA Consulting, dated 15 January 2014. In the supporting documentation for W5636/2014/1, the Licensee committed to sampling and analysing effluent annually for at least three years to determine sustainable reuse rates and to sample and analyse soils in the reuse area annually to ensure that nutrient levels and salts do not rise to detrimental levels. Irrigation will be via a travelling irrigator. The Licensee will place a sampling tap along the feeder pipe which will be located prior to the first outlet. This will provide representative samples of wastewater for analysis.

Risk Assessment

Consequence: Minor

Likelihood: Possible

Risk Rating: Moderate

Regulatory Controls

The supporting documentation for W5636/2014/1 provided a water balance for the wastewater treatment pond and estimated that wastewater could overflow the system and approximately 3.59ML would need to be irrigated each year to prevent overtopping of the wastewater treatment ponds. For this amended licence, the Licensee has revised the amount of land available for the irrigation of treated wastewater at approximately 76 hectares. The irrigation area is highlighted in Figure 2 below and Schedule 1 of the licence.

Based on the expected average nutrient levels in the final treatment pond as provided in the NEPG, the expected nutrient loading from the irrigation of treated wastewater is as follows:

Total nitrogen:

- Average nutrient levels of 584mg/L with a range of 158 to 955mg/L;
- Expected nutrient loading for total nitrogen, based on 3.59ML over 76 hectares is an average of 27.6kg/ha/year and a worst case scenario of 45kg/ha/year.

Total phosphorus:

- Average nutrient levels of 69.7mg/L with a range of 19.3 to 175.1mg/L;
- Expected nutrient loading for total phosphorus, based on 3.59ML over 76 hectares is an average of 3.3kg/ha/year and a worst case scenario of 8.3kg/ha/year.



To minimise the likelihood of adverse impacts to soils and the underlying groundwater, Conditions 5.2.1 and 5.2.2 require the Licensee to monitor the wastewater when irrigation occurs and Condition 4.1.2 sets limits for nutrient loading of 140kg/hectare per annum for total nitrogen and 10kg/hectare per annum for total phosphorus.

Reporting requirements have been specified in Table 6.2.1 requiring the Licensee to report annually the quantity and quality of treated wastewater applied to land, identify the total land application area and provide the nutrient loading rates when irrigation occurs on site.

Residual Risk

Consequence: Minor

Likelihood: Possible

Risk Rating: Moderate

Emissions to land – Evaporation pond for storage of reject water from the desalination plant

Emission Description

Emission: Reject water from the desalination plant to be stored in the evaporation pond constructed under this licence amendment.

Impact: Desalination plant reject water is high in salinity and dissolved solids content. Storage in a containment area with inadequate permeability can result in infiltration to groundwater. Groundwater at the premises is located 20 to 60 metres below ground level and is brackish in quality. There is potential for localised impact on groundwater quality.

Control: The evaporation pond will be sealed with compacted clay and will have a permeability of less than 1×10^{-9} m/s and sufficient capacity to contain at least 2,730m³ of reject water per day for six months of anticipated operational period per year (including freeboard). The Licensee has committed to maintaining an operational freeboard of 500mm. The desalination plant is not likely to be used every day in those six months.

Risk Assessment

Consequence: Minor

Likelihood: Unlikely

Risk Rating: Moderate

Regulatory Controls

Infrastructure requirements have been specified in Condition 2.1 of the licence regarding construction of the evaporation pond to store reject water from desalination plant. Operational containment infrastructure requirements have been specified in Condition 3.2.

Residual Risk

Consequence: Minor

Likelihood: Unlikely

Risk Rating: Moderate

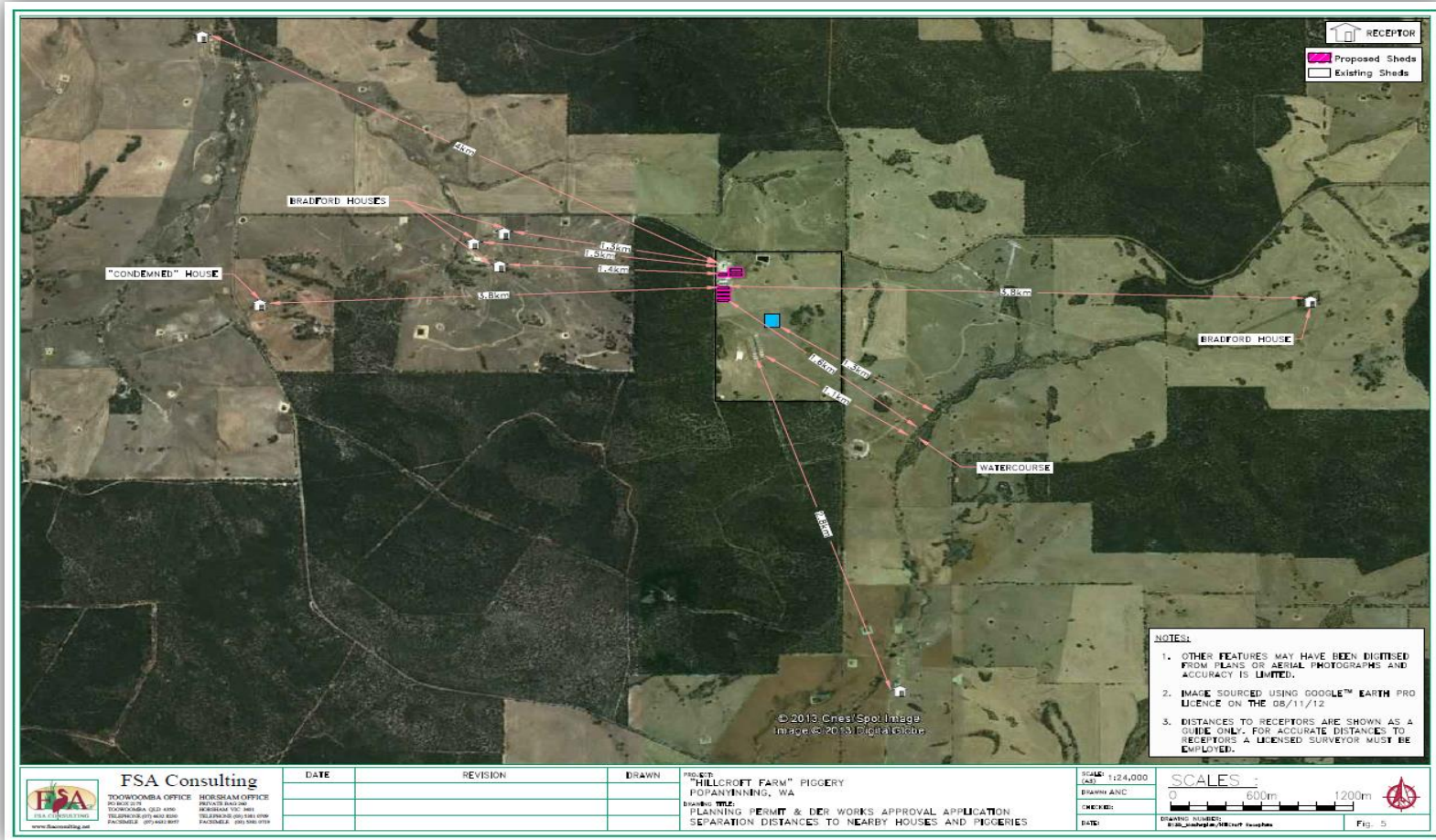


Figure 1: Separation distance between piggery sheds and the nearest rural residential dwellings as assessed under Works Approval W5636/2014/1



Figure 2: Treated wastewater irrigation areas proposed by the Licensee