Government of Western Australia
Department of Water and Environmental Regulation

Works Approval

Works approval number	W6867/2023/1
Works approval holder	Emu Hill Pastoral Pty Ltd
ACN	616 643 817
Registered business address	Level 5, 50 Colin Street WEST PERTH WA 6005
DWER file number	DER2023/000737
Duration	29/04/2024 to 28/04/2029
Premises details	'Emu Hill Pastoral' Cattle Feedlot 3957 Kondinin-Narembeen Road NAREMBEEN WA 6369 Legal description – Lot 803 on Plan 413065 (feedlot) Lots 800, 801, 804 & 805 on Plan 413065, Lots 17207, 25521 & 25522 on Plan 225586, and Lots 19660 & 19661 on Plan 228716 (manure utilisation areas)

Prescribed premises category description (Schedule 1, Environmental Protection Regulations 1987)	Assessed design capacity
Category 1: Cattle feedlot: premises on which the watering and feeding of cattle occurs, being premises – (a) situated more than 100 metres from a watercourse; and (b) on which the number of cattle per hectare exceeds 50.	Not more than 10,000 head (8,400 SCUs equivalent) at any one time

This works approval is granted to the works approval holder, subject to the attached conditions, on 29 April 2024, by:

Daniel Hartnup

Digitally signed by Daniel Hartnup
Date: 2024.04.29 11:47:42 +08'00'

Daniel Hartnup
SNR ENVIRONMENTAL OFFICER, PROCESS INDUSTRIES
REGULATORY SERVICES
an officer delegated under section 20 of the *Environmental Protection Act 1986* (WA)

Works approval history

Date	Ref number	Summary of changes
29/04/2024	W6867/2023/1	Works approval granted for new feedlot (10,000 head)

Interpretation

In this works approval:

(a) the words 'including', 'includes' and 'include' in conditions mean 'including but not limited to', and similar, as appropriate;
(b) where any word or phrase is given a defined meaning, any other part of speech or other grammatical form of that word or phrase has a corresponding meaning;
(c) where tables are used in a condition, each row in a table constitutes a separate condition;
(d) any reference to an Australian or other standard, guideline or code of practice in this works approval:
  (i) if dated, refers to that particular version; and
  (ii) if not dated, refers to the latest version and therefore may be subject to change over time;
(e) unless specified otherwise, any reference to a section of an Act refers to that section of the EP Act; and
(f) unless specified otherwise, all definitions are in accordance with the EP Act.

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

Works approval conditions

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

Construction phase

Infrastructure and equipment

1. The works approval holder must construct the infrastructure listed in Table 1:

(a) in accordance with the corresponding design and construction requirements; and
(b) at the corresponding infrastructure location,

as set out in that table.

Table 1: Design and construction requirements

	Infrastructure	Design and construction requirements	Infrastructure location
1	Cattle yard	(a) Must construct one yard for processing animals at arrival/dispatch, to be located within the controlled drainage area; (b) Floor area must not exceed 1,500 m^2; (c) Floor must be constructed with a long fall of at least 3% towards the nearest effluent catch drain; (d) Floor must be constructed with a lining system comprising at least 300 mm of clay or other suitable compactable soil constructed in two 150 mm layers following compaction with an in-situ coefficient of permeability of 7 x 10^{-9} m/s or less;	"Yard", as shown in Schedule 1: Map of infrastructure
2	Feedlot pens,	(a) Must only construct four (4) rows, each with 14	"Pen", as shown

	Infrastructure	Design and construction requirements	Infrastructure location
	including feed and cattle lanes	individual pens (56 pens total); (b) Each row must comprise the following pen configuration: (i) 8 pens with max. dimensions: 54 m x 48 m; (ii) 5 pens with max. dimensions: 36 m x 48 m; (iii) 1 pen with max. dimensions: 12 m x 48 m; (c) Each row must comprise: (i) a 5 m wide feed lane running along the high point (front) of the row; (ii) a 6 m wide cattle lane running along the low point (back) of the row; (d) Pen floors, feed and cattle lanes must be constructed with: (i) a fall of at least 3% towards the relevant effluent catch drain; and (ii) a lining system comprising at least 300 mm of clay or other suitable compactable soil constructed in two 150 mm layers following compaction with an in-situ coefficient of permeability of 7 x 10^{-9} m/s or less.	in Schedule 1: Map of infrastructure
3	Effluent catch drains	(a) Each feedlot pen must be constructed with an outer effluent catch drain, with minimum dimensions: 3 m bed width, 1V:4H batter and 0.5 m depth; (b) Drains must be constructed with a long fall of at least 0.5% and connect to the evaporation pond; (c) Drains must be constructed with a lining system comprising at least 300 mm of clay or other suitable compactable soil constructed in two 150 mm layers following compaction with an in-situ coefficient of permeability of 7 x 10^{-9} m/s or less;	"Drain", as shown in Schedule 1: Map of infrastructure
4	Controlled drainage area	(a) Must comprise all operational areas relating to the feedlot, including the cattle yard, feedlot pens, hard catchment (feed and cattle lanes, effluent drains), evaporation pond, and solid waste storage area; (b) Area must be sloped to facilitate drainage of surface runoff to the evaporation pond;	As per description
5	Evaporation pond	(a) Must construct an evaporation pond at the lowest point of the controlled drainage area, with a holding capacity of at least 25,010 m^3 (including minimum operational freeboard of 200 mm); (b) Pond floor and walls must be constructed with a lining system comprising at least 300 mm of clay or other suitable compactable soil constructed in two 150 mm layers following compaction with an in-situ coefficient of permeability of 7 x 10^{-9} m/s or less;	"Pond", as shown in Schedule 1: Map of infrastructure
5	Solid waste storage area	(a) Must construct a solid waste storage area with a minimum floor area of 14,400 m^2; (b) Storage area must be constructed with a lining comprising at least 300 mm of clay or other suitable compactable soil constructed in two 150 mm layers following compaction with an in-situ coefficient of permeability of 7 x 10^{-9} m/s or less.	"Compost pad", as shown in Schedule 1: Map of infrastructure

Construction materials testing

2. The works approval holder must ensure that:

(a) clay materials used in the construction of infrastructure specified in condition 1 are well graded and tested for conformance against the particle size distribution, plasticity index and other characteristics listed in Schedule 2; and
(b) permeability and compaction requirements for clay materials used to comply with the requirements specified in condition 1 are demonstrated by geotechnical testing conducted by a qualified professional engineer and in accordance with AS 1289.

Compliance reporting

3. The works approval holder must, within 30 calendar days of the infrastructure specified in condition 1 being constructed for each of Stage 1, Stage 2, Stage 3 and Stage 4:

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

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

(a) certification whether the items of infrastructure or components thereof, as specified in condition 1, have been constructed in accordance with the relevant requirements specified in condition 1 for each stage;
(b) as constructed plans and a detailed site plan for each item of infrastructure or component of infrastructure specified in condition 1 for each stage;
(c) results of clay materials testing and geotechnical testing required by condition 2; and
(d) be signed by a person authorised to represent the works approval holder and contains the printed name and position of that person.

5. Subject to condition 4(a), where an item of infrastructure or component of infrastructure has been certified as not being constructed, or does not comply with the corresponding requirements, or contains material defects, the works approval holder must:

(a) correct the non-compliant or defective works, prior to re-certifying in accordance with condition 4(a); or
(b) provide to the CEO a description of, and explanation for, any departures from the requirements specified in Table 1 that do not require rectification and do not constitute a material defect along with the Environmental Compliance Report required by condition 3.

Time limited operational phase

Commencement and duration

6. The works approval holder may only commence time limited operations for the first row of feed pens where:

(a) the following infrastructure has been constructed:
    (i) the pens, feed lane and cattle lane for the first row of pens;
    (ii) the effluent catch drain for the first row of pens;
    (iii) the evaporation pond; and
    (iv) the hardstand pad for the first few pens of the second row (for temporary manure and mortalities management) and associated effluent catch drain;

    and
(b) the Environmental Compliance Report as required by condition 3 has been submitted by the works approval holder for all the infrastructure listed in condition 6(a).

7. The works approval holder may conduct time limited operations:

(a) for a period not exceeding 180 calendar days from the date the works approval holder meets the requirements of condition 6; or
(b) until such time as a licence is granted in accordance with Division 3, Part V of the *Environmental Protection Act 1986*,

whichever is sooner.

Infrastructure and equipment

8. During time limited operations, the works approval holder must ensure the premises infrastructure listed in Table 2 is maintained and operated in accordance with the corresponding operational requirement set out in Table 2.

Table 2: Infrastructure requirements during time limited operations

	Site infrastructure	Operational requirement
1	Feedlot pens	<u>Stocking density</u> (a) Stocking density must not exceed 14.5 m^2/SCU within the pens; <u>Pen cleaning and maintenance, manure removal</u> (b) Pens must be cleaned at least once every 13 weeks; (c) Manure and spoilt bedding material harvested from pen surfaces must only be stockpiled on the hardstand pad built for the first few pens of the second row for temporary manure and mortalities management, until the solid waste storage area has been constructed; (d) Pens must be maintained to ensure there are no depressions, potholes or wet spots in the surface; <u>Mortalities</u> (e) Deceased cattle and foreign materials must be removed from the pens by the end of the working day in which they were discovered; (f) Following post mortem (if required), deceased cattle must be directly taken to the hardstand pad built for the first few pens of the second row for temporary mortalities management, until the solid waste storage area has been constructed;
2	Effluent catch drains	(a) Must be maintained to ensure all surface runoff from the pens can flow freely to the evaporation pond without scouring; (b) Must be maintained such that each drain flows freely after rainfall events;
3	Controlled drainage area	Must be maintained to ensure all runoff is able to flow freely to the evaporation pond;
4	Evaporation pond	An operational freeboard of at least 200 mm must be maintained at all times;
5	Solid waste storage area	<u>Management of manure and mortalities</u> (a) Processing of manure and composting of mortalities must only occur on the hardstand pad built for the first few pens of the second row for temporary manure and mortalities management; (b) Only low risk feedstocks may be brought onto the premises as supplementary organic material for use in the composting process; (c) Must be operated to prevent ingress of surface water runoff from entering the area.

Destocking original set of pens

9. The works approval holder must:

(a) destock the original set of feedlot pens on the premises within 3 months of the completion of stage 4; and
(b) provide to the CEO within 30 days of completion, evidence to confirm the original set of feedlot pens have been destocked.

10. Once destocked, cattle must not be held within the original set of feedlot pens, unless for short-term stock management purposes where the number of cattle per hectare is less than 50.

11. During time limited operations, the works approval holder must not conduct backgrounding of animals outside of the feedlot complex on the premises, unless it is done:

(a) outside of designated manure utilisation areas; and
(b) where the number of cattle per hectare is less than 50.

Emissions

Manure and mortalities management

12. During time limited operations, the works approval holder must ensure manure, including raw or unprocessed manure and spent bedding, is:

(a) managed as an unprocessed material by:

(i) adding to mortalities windrows as a carbon source; and/or
(ii) applying to land in accordance with the requirements of Table 3 (as raw manure); and/or
(iii) ageing in windrows, prior to applying to land in accordance with the requirements of Table 3 (as aged manure); and/or
(iv) taken off-site to a premises that is lawfully able to accept that type of waste, such as a licensed composting or organics recycling facility or a licensed solid waste facility;

and/or

(b) processed (i.e., pasteurised, to significantly reduce the number of pathogens, by:

(i) maintaining the core of the windrow mass at 55°C or higher for 15 consecutive days or longer; and
(ii) turning the windrow at least 5 times during the 15-day period, with the outer material being effectively turned to the inside of the windrow mass to ensure the whole mass is subjected to the required temperature and process;

to enable the material to be taken off-site for re-use.

13. During time limited operations, the works approval holder must ensure mortalities are:

(a) composted (i.e., pasteurised), to significantly reduce the number of pathogens, prior to applying to land in accordance with the requirements of Table 3; and/or
(b) taken off-site to a premises that is lawfully able to accept that type of waste, such as a licensed composting or organics recycling facility, a licensed rendering facility, or licensed solid waste facility.

14. During time limited operations, the works approval holder must ensure mortalities composted in accordance with condition 13(a):

(a) the core of the mass is maintained at 55°C or higher for at least 3 consecutive days;
(b) the whole mass is turned at least once 3 months after the last carcasses were added within each windrow; and
(c) after turning, the mass is allowed to cure for a period of at least 4 months.

Table 3: Authorised management of manure and mortalities compost

Reference point	Requirements
"Manure utilisation area", as depicted in Schedule 1 map	Spreading of: (a) raw and/or aged manure and/or processed manure at a rate of not more than 2.2 t dm/ha; (b) mortalities compost at a rate of not more than 3.0 t dm/ha; and in accordance with conditions 15, 16 & 17.

15. During time limited operations, the works approval holder may manage manure processed in accordance with condition 12(b), by:

(a) removing from the premises for off-site reuse, subject to the requirements of condition 18; and/or
(b) applying to land in accordance with the requirements of condition 16.

16. During time limited operations, the works approval holder must ensure that when applying manure and mortalities compost to land in accordance with condition 12(a)(ii), 12(a)(iii) and 13(a):

(a) raw, aged, and processed manure, and mortalities compost generated from operations at the premises are the only solid wastes that are spread over manure utilisation area(s);
(b) it is evenly distributed over the manure utilisation area(s);
(c) it is only spread onto areas growing crops or pasture within manure utilisation area(s);
(d) it is not spread within 50 m of any defined watercourse or within 25 m of the premises boundary;
(e) it is not spread under the following conditions:
    (i) when rain or heavy cloud is expected within the following 24 hours; and
    (ii) when an inversion layer is present;
(f) the manure utilisation area(s) are harvested at least once every 12 months.

17. During time limited operations, the works approval holder must keep accurate records of the date, time, area, and volumes of manure and mortalities compost applied in accordance with conditions 12(a)(ii), 12(a)(iii), 13(a) and 15(b).

Off-site removal of manure

18. During time limited operations, the works approval holder must ensure all manure removed from the premises has been processed to achieve pasteurisation, in accordance with condition 12(b).

19. The works approval holder must keep accurate records of the volumes of all manure removed from the premises.

Monitoring

General monitoring

20. The works approval holder must ensure that all soil samples:

(a) are collected in accordance with DPIRD guidelines for soil sampling; and
(b) submitted to and tested by a laboratory with current ASPAC certification (or equivalent).

Soil monitoring

21. During time limited operations, the works approval holder must conduct soil sampling at the corresponding depths down the soil profile, for the corresponding parameters, units and frequency specified in that table.

Table 4: Soil testing requirements

Soil sampling locations	Soil profile	Parameter	Units	Frequency
At least one sample made up of at least 5 individual cores for each farm paddock across the manure utilisation area[1,2]	0 – 10 cm; 10 – 20 cm; 20 – 30 cm;	pH	$CaCl_2$	Prior to the first manure spreading event to establish baseline, then prior to each subsequent manure spreading event within that paddock thereafter
		Electrical conductivity	mS/cm	
		Moisture content	%	
		Total nitrogen, ammonium-nitrogen, nitrate-nitrogen	mg/kg	
		Total phosphorus		
		Phosphorus retention index (PRI)	-	
		Phosphorus buffering index (PBI)	-	
		Aluminium	$CaCl_2$ extract	

Note 1: For soil sampling purposes, each farm paddock must represent a maximum area of 100 ha.
Note 2: GPS coordinates must be recorded for each sampling location, to ensure subsequent sampling events are in the same location.

Monitoring of inputs and outputs

22. During time limited operations, the works approval holder must keep accurate records for the items specified in Table 5.

Table 5: Monitoring of inputs and outputs

Input / Output	Parameter	Units	Frequency
Animals received and dispatched at the premises	Animals	Number	Each truck arriving/leaving at the premises
Mortalities			Monthly
Low risk organic materials brought onto the premises	Organic material type	Tonnes	Each load brought onto the premises, by type
Yield harvested, dry matter yield	Harvested crops or fodder	t/ha	Each crop harvested from the manure utilisation areas
N & P removal rate		kg/ha	

Complaints management

23. The works approval holder must investigate any complaints received by the works approval holder (whether received directly from a complainant or forwarded to them by the department or another party) about any alleged emissions from the premises.

24. Following receipt of a complaint, directly from a complainant, about any alleged emissions from the premises, the works approval holder must:

(a) respond to the complainant within 72 hours of receipt of the complaint; and
(b) within 10 calendar days of receipt of the complaint, provide a summary of the outcomes of any investigation conducted in response to the complaint, including any corrective and preventative actions taken in response to the complaint, unless such communication is not requested by the complainant.

Records and reporting (general)

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

(a) the name and contact details of the complainant (if provided);
(b) the time and date of the complaint;
(c) the complete details of the complaint and any other concerns or other issues raised;
(d) the complete details of any activities being undertaken, where, and the weather and wind conditions at the time of the complaint;
(e) the complete details and dates of any investigation conducted in response to the complaint;
(f) a summary of the findings of any investigation conducted in response to the complaint, including the details of the person(s) responsible for the investigation;
(g) a summary of any corrective and preventative actions taken in response to the complaint;
(h) a summary of the time taken to respond to the complaint; and
(i) a summary of all communications with the complainant.

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

(a) the works conducted in accordance with condition 1;
(b) any maintenance of infrastructure that is performed in the course of complying with condition 8;
(c) results of soil monitoring required by condition 21;
(d) records of inputs and outputs in accordance with condition 22; and
(e) complaints received under condition 25.

27. The books specified under condition 26 must:

(a) be legible;
(b) if amended, be amended in such a way that the original version(s) and any subsequent amendments remain legible and are capable of retrieval;
(c) be retained by the works approval holder for the duration of the works approval; and
(d) be available to be produced to an inspector or the CEO as required.

Notification requirements

28. The works approval holder must notify the CEO, within 24 hours of a mass mortalities event and/or an emergency animal disease (EAD) incident, including:

(a) the number of cattle that have died;
(b) the proposed plan for on-site handling and management of all carcasses; and
(c) the proposed disposal method and site.

Definitions

In this works approval, the terms in Table 6 have the meanings defined.

Table 6: Definitions

Term	Definition
aged manure	means manure that has been aged in windrows for a period of 6 months or longer
AS 1289	means the most recent version and relevant parts of the Australian Standard AS 1289 *Methods of testing soils for engineering purposes*
ASPAC	Australian Soil and Plant Analysis Council
ASPAC certification	means in relation to the analysis of a sample that the laboratory is certified by ASPAC for the specified analysis at the time of the analysis
backgrounding	means grouping, growing or acclimatising animals prior to entry into a feedlot
books	has the same meaning given to that term under the EP Act
CDA	Controlled Drainage Area
CEO	means Chief Executive Officer of the Department CEO for the purposes of notification means: Director General Department administering the *Environmental Protection Act 1986* Locked Bag 10 JOONDALUP DC WA 6919 info@dwer.wa.gov.au
condition	means a condition to which this works approval is subject under s.62 of the EP Act
Department	means the department established under section 35 of the *Public Sector Management Act 1994* and designated as responsible for the administration of Part V, Division 3 of the EP Act
DPIRD guidelines for soil sampling	means the document entitled "*A guide for fit for purpose soil sampling*" (Fertilizer Australia 2019), available at https://fertilizer.org.au
EAD	Emergency Animal Disease; means a disease that is: (a) exotic to Australia; (b) a variant of an endemic disease; (c) a serious infectious disease of unknown or uncertain cause; or (d) a severe outbreak of a known endemic disease and that is considered to be of national significance with serious social or trade implications
Environmental Compliance Report	means a report to satisfy the CEO that the conditioned infrastructure has been constructed in accordance with the works approval
EP Act	*Environmental Protection Act 1986* (WA)
freeboard	means the distance between the maximum surface water elevations and the top of retaining banks or structures at their lowest point
harvested	means the process of cutting and gathering a ripened crop by mechanical means, such as a combine harvester
licensed composting facility	means a premises that holds a current and valid licence granted by the CEO under section 57 of the EP Act for a compost manufacturing and soil blending facility (category 67A)
licensed solid waste facility	means a premises that holds a current and valid licence granted by the CEO under section 57 of the EP Act for a solid waste facility (category 61A)

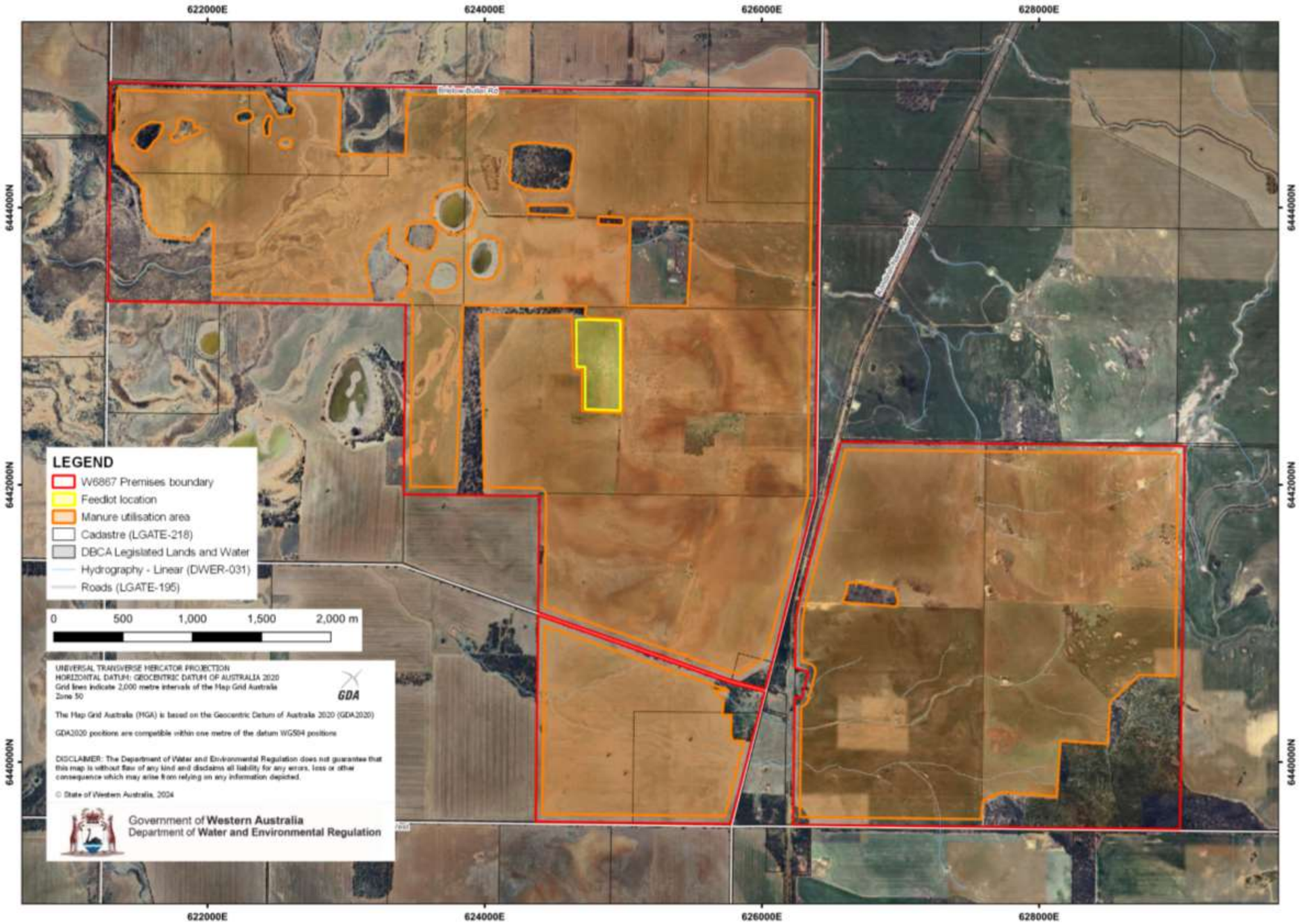
manure	means faeces and urine. For the purpose of this works approval, manure also means spent bedding and sludge removed from catch drains and the evaporation pond
manure utilisation area	means an area of land in which manure generated from operations at the premises may be applied as a soil ameliorant, subject to conditions
mass mortalities event	means a noteworthy occurrence of one or more sick or dead animals clustered in space and time, especially where the cause of death is unknown or where the mortality rate exceeds baseline mortality expectations
mortalities compost	means the product of the partial decomposition of carcasses, which have been managed within bays or windrows. For the purpose of this licence, mortalities compost means mortalities that have been composted in accordance with condition 14
original set of feedlot pens	means the original set of feedlot pens on the premises, that are required to be destocked
pasteurisation	means a process whereby organic materials are treated to significantly reduce the numbers of plant and animal pathogens, and plant propagules
premises	the premises to which this works approval applies, as specified at the front of this works approval and as shown on the map in Schedule 1 to this works approval
prescribed premises	has the same meaning given to that term under the EP Act
Phosphorus retention index (PRI)	means the ratio of phosphorus adsorbed by soil (micrograms per gram) compared to that remaining in a solution (of initial concentration of 10 mg phosphorus per litre) after 16 hours
time limited operations	means operation of the infrastructure identified under this works approval that is authorised for that purpose, subject to the relevant conditions
Stage 1	means the cattle yards, first row of pens and associated feed and cattle lanes, effluent catch drain, and evaporation pond, and the hardstand pad for the first few pens of the second row and associated effluent catch drain
Stage 2	means the second row of pens and associated feed and cattle lanes and effluent catch drain, and the hardstand pad for the first few pens of the third row and associated effluent catch drain
Stage 3	means the third row of pens and associated feed and cattle lanes and effluent catch drain, and the hardstand pad for the first few pens of the fourth row and associated effluent catch drain
Stage 4	means the final, fourth row of pens and associated feed and cattle lanes and effluent catch drain, and the solid waste storage area and associated effluent catch drain
Standard cattle unit (SCU)	means a Standard Cattle Unit, which is equivalent to an animal with a liveweight of 600 kg and calculated using the method outlined in the *National Beef Cattle Feedlot Environmental Code of Practice*, Meat & Livestock Australia Limited, June 2012
works approval	refers to this document, which evidences the grant of the works approval by the CEO under s.54 of the EP Act, subject to the conditions
works approval holder	refers to the occupier of the premises being the person to whom this works approval has been granted, as specified at the front of this works approval

END OF CONDITIONS

Schedule 1: Maps

Premises map

The boundary of the prescribed premises is shown in the map below, in addition to the location of the feedlot complex. The orange cross-hatch represents the nominated manure utilisation areas.



Schedule 1: Maps

Map of infrastructure

The location of key feedlot infrastructure is shown in the map below.

Schedule 2: Clay liner characteristics

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