ENVIRONMENTAL MANAGEMENT PLAN

Angora Feedlot

[redacted]

Date: 14 November 2024

Prepared by:

[redacted]

Agricultural Development Services Australia Pty Ltd (AgDSA)

[redacted]

Document Control						
Revision	**Description**	**Date Issued**	**Prepared by**	**Signed**	**Reviewed by**	**Signed**
Rev 0	Final	13/12/2023	MRN	[redacted]	TCG	[redacted]
Rev A	Amendment	14/11/2024	MRN		TCG	

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1 INTRODUCTION

Angora Feedlot [redacted] (Angora) currently operate a 1,000 head feedlot on 'Annabrae', Rannock Burn Road, Rushes Creek. They are proposing to construct an additional 3,000 head feedlot on a greenfield site. This will result in a combined feedlot capacity of 4,000 head. Based on the expected cattle type, this equates to a capacity of 3,240 standard cattle units (SCU). The construction of the new feedlot will be staged by row based on market demands and finance availability.

This Environmental Management Plan (EMP) has been prepared to support a development application for the feedlot and to guide future management. Where relevant, parts of it have been written as though the expanded feedlot has obtained town planning consent and an Environmental Protection Licence (EPL). However, an update is likely to be required following the development approval and prior to the submission of the EPL application. Subsequent amendments to this EMP may be required to ensure ongoing compliance with conditions of the town planning consent or EPL.

This document is to be read in conjunction with the information provided in the Environmental Impact Statement (EIS) submitted with the development application. If there is a contradiction between this EMP and the conditions of the Tamworth Regional Council (TRC) consent or the EPL, the EMP should be updated to reflect the conditions. If required, a modification to the consent or variation to the EPL can be completed to ensure consistency.

A copy of this EMP should be retained at the site office where it is readily accessible to all staff.

Refer to Appendix A for the EPL.

2 SITE AND LOCALITY

2.1 SUBJECT SITE

The subject site, 'Annabrae' is located on Rannock Burn Road, Rushes Creek approximately 27 km east, north-east of Gunnedah and 39 km north-west of Tamworth. The property includes seven land parcels with a total area of 525 ha (Table 1). The property is bounded by Rannock Burn Road on the northern side and the Peel River on the southern side. There are several Crown or 'paper' roads across the property which have been considered in the design of the feedlot. While the property is in the TRC local government area (LGA), The Gunnedah Shire Council LGA commences approximately 2 km south-west of the property.

The existing property includes the 1,000 head feedlot, with the remainder of the property used for dryland cropping and grazing. Effluent from the existing feedlot is irrigated on adjacent land via a travelling irrigator. Upon approval, the property will also include the new feedlot complex and two centre pivots for effluent irrigation.

Table 1 – Property Description

Land Parcel (Lot/Plan)	Area (ha)
19/DP752169	176.9
1/DP842391	259.7
43/DP752169	21.8
44/DP752169	21.9
141/DP752169	22.4
142/DP752169	22.0
Total	**524.7**

2.2 CLIMATE

Climate for the region is warm temperate with mean monthly rainfall slightly higher in summer but more evenly distributed throughout the year than a sub-tropical climate (Figure 1). Long-term rainfall statistics show a mean annual rainfall of 628 mm with a January average maximum temperature of 32.2 ^{O}C and a July average minimum temperature of 4.8 ^{O}C. Climate data, sourced from the Bureau of Meteorology, is presented for Gunnedah.

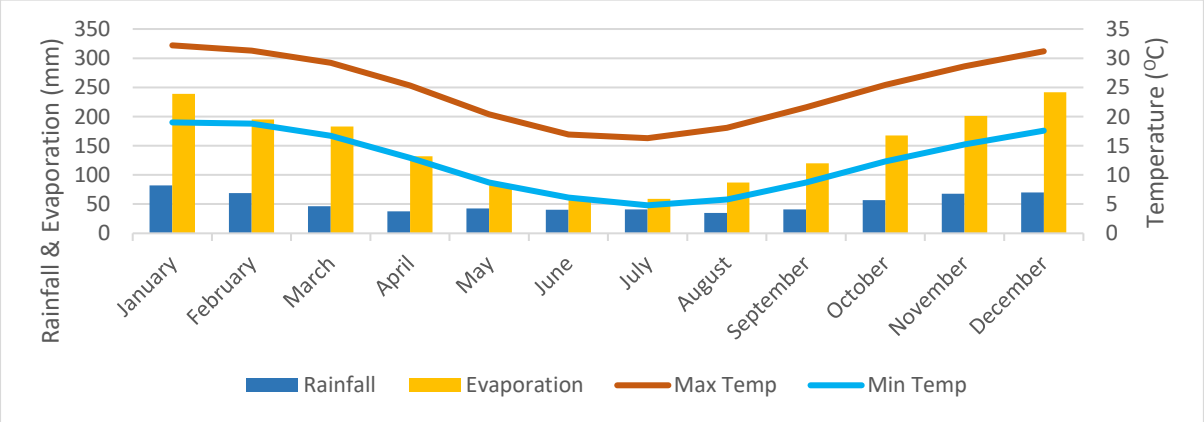


Figure 1 –Climate Data

2.3 RECEPTORS AND SURROUNDING LAND USE

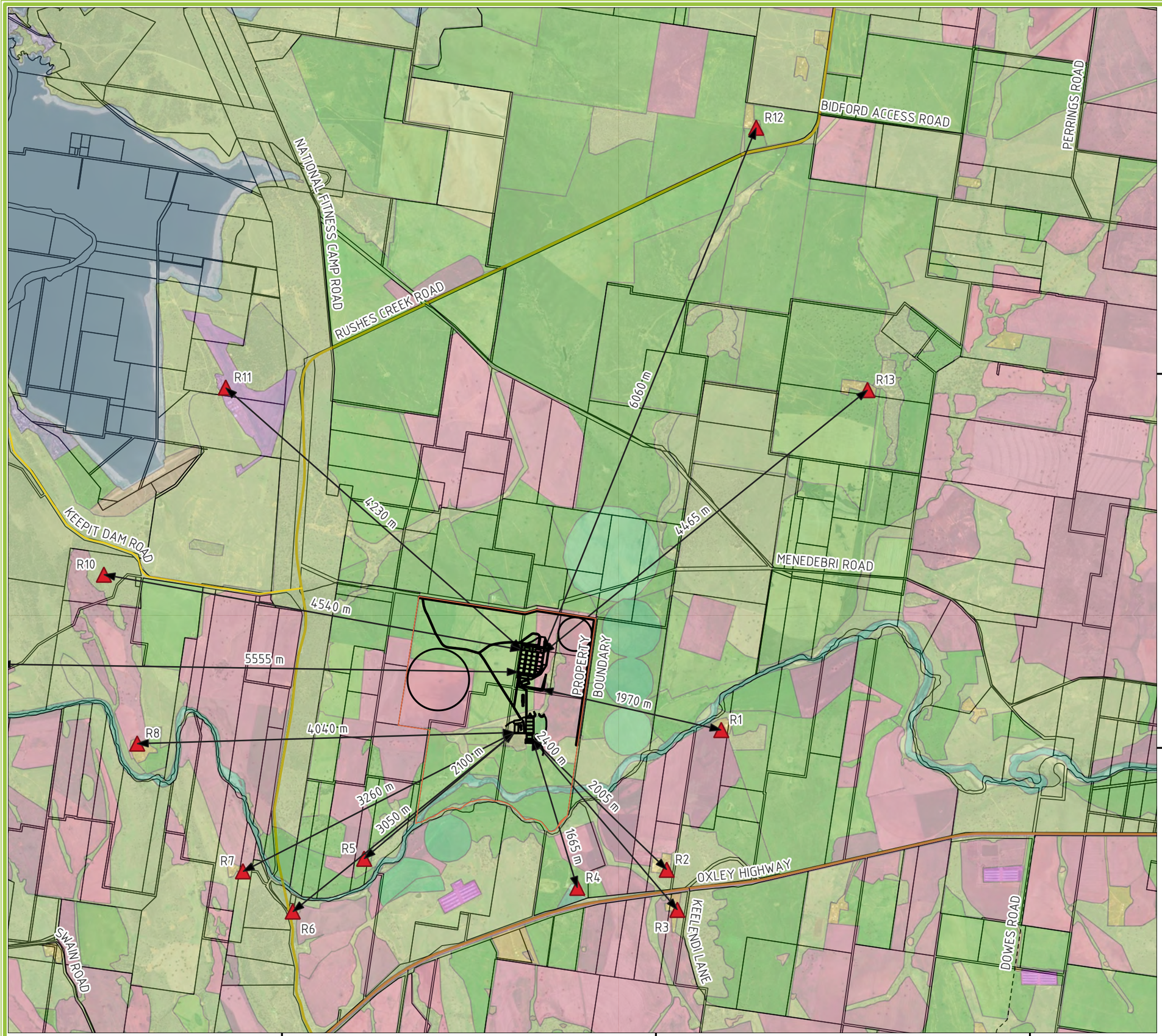
The nearest sensitive receptors surrounding the property have been identified (Table 2, Figure 2). The nearest sensitive receptor (R4, Lot 2/DP705509) is approximately 1,665 m south of the existing feedlot. Generally, the region is dominated by cropping and grazing uses with a poultry farm located to the south of the feedlot. There are numerous small to medium feedlots in the region and several small to large poultry farms. The potential for cumulative impacts from the nearby poultry farm and proposed feedlot has been considered in the odour impact assessment.

Table 2 – Sensitive Receptors

Receptor	Lot/Plan	Direction	Distance (m)
R1	3/DP755331	E	1,970
R2	27/DP755331	SE	2,005
R3	38/DP755331	SE	2,400
R4	2/DP705509	SSE	1,665
R5	16/DP752189	SW	2,100
R6	121/DP755331	SW	3,050
R7	47/DP755331	SW	3,260
R8	3/DP834485	W	4,040
R9	228/DP752189	W	5,555
R10	1/DP834485	W	4,540
R11	5/DP179323	NW	4,230
R12	1/DP1180266	NNE	6,060
R13	80/DP752169	NE	4,465
Somerton	12/DP758910	ESE	7,500

2.4 TOPOGRAPHY

On-site topography varies from sloping areas to flat alluvial landscapes. The highest point of the property, in the north-west corner near the property access, has an elevation of 330 m and the lowest point of the property, along the Peel River in the south-west corner, has an elevation of 295 m. Steeper areas are to the west of the feedlot site and not subject to development. The gradient of the property site is typically 1-2 % with some steeper areas on the edge of the Peel River.



Agricultural Development Services Australia Pty Ltd (AgDSA)

0.48 0 0.48 0.96 1.44 1.92 KM

SPATIAL REFERENCE
GDA 2020 MGA ZONE 56
DATUM: GDA 2020
MAP UNITS: METRE
SCALE 1:40,000 AT A3

LEGEND

SITE SPECIFIC
SITE LAYOUT - PROPOSED
PROPERTY BOUNDARY
SENSITIVE RECEPTORS
DISTANCE TO RECEPTORS
Sensitive_Receptors

NSW
SOILS
NSW LANDUSE 2017
1.2.0 Managed resource protection
2.1.0 Grazing native vegetation
3.2.0 Grazing modified pastures
3.3.0 Cropping
4.3.0 Irrigated cropping
4.4.0 Irrigated perennial horticulture
5.2.0 Intensive animal production
5.4.0 Residential and farm infrastructure
5.5.0 Services
5.7.0 Transport and communication
6.1.0 Lake
6.2.0 Reservoir/dam
6.3.0 River

BTC-001
ANGORA FEEDLOT PTY LTD

RANNOCK BURN RD,
RUSHES CREEK NSW 2346

SENSITIVE RECEPTORS AND LANDUSE PLAN

FIGURE B2

3 FEEDLOT OPERATIONS

3.1 OVERVIEW

Angora currently operates a 1,000 head feedlot on 'Annabrae', Rannock Burn Road, Rushes Creek. They are proposing to construct an additional 3,000 head feedlot on a greenfield site. This will result in a combined feedlot capacity of 4,000 head. Based on the expected cattle type, this equates to a capacity of 3,240 standard cattle units (SCU). The construction of the new feedlot will be staged by row based on market demands and finance availability.

The existing drought pens will be decommissioned, and on-site backgrounding operations will be managed to ensure ground cover can be maintained across most of the paddocks during normal weather conditions (i.e. outside of drought periods).

The new feedlot pens will have a stocking density of 18.7 m^2/SCU across 18 pens with dimensions of 52.5 m (width) by 48 m (depth) resulting in an individual pen area of 2,520 m^2. Each pen will have a maximum capacity of 135 SCU with pens constructed in a back-to-back configuration with two rows sharing each feed road and some rows sharing a cattle lane and drain. The pens will have a uniform downslope of approximately 3 % which facilitates pen drainage and minimises pen-to-pen drainage. Each pen may have a slightly different slope based on earthworks optimisation. Each drain will have a slope of approximately 0.5 % which will minimise sediment deposition in the drains. As with the pen slope, final drain slope may vary to provide flexibility for earthworks optimisation.

The proposed feedlot will be located in a controlled drainage area (CDA) which will ensure all clean, upslope water is diverted around the feedlot and all contaminated runoff from the feedlot controlled and contained in a 2.5 ML sedimentation basin and a 22 ML effluent holding pond.

Generally, the feedlot has been constructed in accordance with the *National Guidelines for Beef Cattle Feedlots in Australia* (National Guidelines) and the *National Beef Cattle Feedlot Environmental Code of Practice* (Code of Practice).

The feedlot has been designed and will be managed for long-term sustainability and has an indefinite lifetime. Should the feedlot be decommissioned, infrastructure not required for the ongoing operation of the property will be removed and all effluent and manure applied to paddocks. The sedimentation and effluent holding ponds will be filled in and the site returned to pasture.

Due to welfare requirements, staff and general operations can be required 24 hours a day, seven days a week. However, where possible, operations, work and heavy vehicle movements are restricted to daylight hours between 6 am and 6 pm. Occasionally, heavy vehicle movements are required outside of these hours.

3.2 WASTE MANAGEMENT

3.2.1 EFFLUENT IRRIGATION

As per the National Guidelines and industry best practice, runoff contained in the effluent holding pond is either reused for dust suppression on internal roadways or sustainably irrigated to surrounding agricultural land. A total of 45 ha of effluent utilisation area (EUA), across two centre pivots, is available for irrigation. EUA 1, the larger pivot, will be primarily used for effluent irrigation. EUA 2 will be established if annual soil monitoring indicates unsustainable trends in soil conditions, such as increasing Phosphorus.

Due to the size of the groundwater allocation, there is additional fresh water available for irrigation to optimise plant growth, maximise yields and maximise nutrient removal rates. Crop selection will change each year but will usually include a high-biomass silage crop during summer and cereal crops during winter. Pasture may also be utilised, which would be cut for hay. Opportunistic grazing may occur in the EUA, but this will not be relied upon for nutrient removal.

3.2.2 MANURE MANAGEMENT

A new manure handling area is proposed on the eastern side of the new feedlot. Once manure is removed from the pens, it will be stockpiled and/or composted on the manure pad prior to utilisation on-site or transport to off-site properties for use. To ensure compliance with the relevant resource recovery order and exemption (manure or compost), manure-only stockpiles will be managed separately to manure used for composting of mortalities.

A total of 155 ha of manure utilisation area (MUA) is available on the property. Application rates will be determined each year based on soil sampling and agronomic advice. This area will be prioritised for the application of manure and composted mortalities. Should excess manure be accumulated on the manure pad, due to seasonal, soil nutrient, or cropping variations, it will be exported to other properties owned by the applicant.

3.2.3 MORTALITY MANAGEMENT

The mortality composting area will be located at the southern end of Row 1 with raw manure stockpiles separated to prevent cross-contamination. This will allow for manure to be exported off-site under the current manure resource recovery exemption. Except for a mass death event, mortalities will not be buried.

Should a mass death event occur, a burial pit will be excavated in the paddock containing the EUA 1 centre pivot, but to the south-east or south-west of the pivot. The pit will be excavated to a minimum depth that ensures at least 1 m of soil coverage can be placed above the carcasses. The base of the pit will be rolled and compacted to minimise permeability. Should the in-situ material have inadequate clay to form an impermeable layer, an alternate location will be selected, or clay material imported to form a clay liner. The selection of an alternate site will be undertaken following consultation with TRC and the EPA. However, the process of preparation and burial will remain the same. Any location should be free from inundation

during a flood event and ensure that the shallowest depth to groundwater exceeds 2 m below the base of the pit. This needs to consider seasonal changes in groundwater conditions.

3.2.4 GENERAL WASTE

Any general waste generated will be placed in commercial bins near the feedmill or house and removed by the property owner or a commercial contractor. General waste will not be buried on the property.

4 ENVIRONMENTAL MANAGEMENT

The environmental design and management of the feedlot aims to ensure compliance with the requirements of the planning consent, EPL, and environmental standards of the National Feedlot Accreditation Scheme (NFAS). As Angora is a family run business, the directors of the business are responsible for compliance with the EPL.

4.1 DATA COLLECTION AND MONITORING

Identified management actions will be recorded as they are completed. An electronic database, or spreadsheet, will be utilised to record each date on which the action is completed, and any corrective action required. Regular training and internal communication will ensure all employees, new and existing, are aware of their environmental obligations.

An Annual Environmental Monitoring Report (AEMR) will be prepared each year to accompany the annual return. Preliminary monitoring locations and requirements have been identified but will require confirmation following the issuing of the EPL. A Monitoring Plan (Appendix B) will be prepared once the requirements are finalised. All laboratory analyses will be completed at a NATA accredited laboratory.

Data on the following will need to be collected and recorded:

- Climate data (automated weather station);
- Cattle entering and exiting the feedlot and average monthly head on feed;
- Daily mortalities and mass mortality events;
- Vehicle movements outside of normal operating hours (6am – 6pm);
- Pen cleaning events (recorded per pen);
- Mature manure quality (1-2 sampling events per year);
- Manure quantity exported from the property;
- Effluent quality from both ponds (1-2 sampling events per year);
- Effluent irrigation volumes – daily records preferred but adequate recording to determine average application rates;
- Effluent pond volume observations following heavy rainfall;
- Effluent spill events including an effluent quality sample;
- Sediment and effluent pond cleaning;
- Soil monitoring (MUA and EUA)– number of sites to be confirmed, 1-2 sampling events per year;
- Groundwater monitoring – number of sites to be confirmed but must include an upgradient and downgradient location, 1-2 sampling events per year;
- Complaints received; and
- Maintenance inspections (embankments, drains, roads, pens, ponds, etc) and corrective actions.

4.2 POLLUTION INCIDENT RESPONSE MANAGEMENT PLAN

A Pollution Incident Response Management Plan (PIRMP) will be developed and submitted as part of the subsequent application for an EPL. The PIRMP will include notification and response procedures in the event of an effluent spill.

4.3 ENVIRONMENTAL AND LAND USE CONFLICT RISK ASSESSMENT

An environmental and land use conflict risk assessment allows for the risks presented by the proposed development to be identified and minimised as much as reasonably possible. Environmental risk is determined by the potential consequences of the activity and the likelihood of those consequences occurring (Table 3). Appropriate management strategies can then be identified based on the risk (Table 4). This risk assessment has been completed in accordance with the Land Use Conflict Risk Assessment Guide.

For the purposes of this environmental risk assessment, consequence is described as:

- Negligible – environmental harm/nuisance is not detectable;
- Minor – environmental harm/nuisance is detected but is short term or easily remedied;
- Moderate – environmental harm/nuisance is ongoing and difficult to remedy but unlikely to result in prosecution;
- Significant – environmental harm/nuisance is long-term and difficult to remedy; or
- Severe – environmental harm is permanent, irreversible, and likely to result in prosecution.

Likelihood is described as:

- Rare – practically impossible;
- Unlikely – could occur in some circumstances, but not likely to occur;
- Possible – could occur, or 'I've heard of it happening';
- Likely – known to occur, or 'it has happened'; or
- Almost certain – common or repeating occurrence.

Table 3 – Environmental Risk Assessment Matrix

Likelihood	Consequence				
	Negligible	**Minor**	**Moderate**	**Major**	**Severe**
Almost Certain	Medium (15)	Med-High (19)	Med-High (22)	High (24)	High (25)
Likely	Low Med (10)	Medium (14)	Med-High (18)	Med-High (21)	High (23)
Possible	Low Med (6)	Low Med (9)	Medium (13)	Med-High (17)	Med-High (20)
Unlikely	Low (3)	Low Med (5)	Low Med (8)	Medium (12)	Med-High (16)
Rare	Low (1)	Low (2)	Low Med (4)	Low Med (7)	Medium (11)

Table 4 – Environmental and Land Use Conflict Risk Assessment

Environmental Value		Initial Risk	Justification	Residual Risk	Justification
Surface Water		**Med-high (18)** Consequences are moderate and likely.	The on-site surface water features include a drainage line adjacent to the two feedlot areas. This drainage line converges into the Peel River.	**Low-Med (9)** Consequences are minor and possible.	Refer to Section 4.4.
Groundwater		**Low-Med (5)** Consequences are minor and unlikely.	Seasonal depth to groundwater in alluvial areas may be between 1 m and 6 m. Groundwater at the feedlot site is estimated at approximately 11 m	**Low (2)** Consequences are minor and rare.	Refer to Section 4.5.
Land (Soil and Vegetation)		**Medium (14)** Consequences are minor and likely.	The clearing of scattered paddock trees will be required for construction of the feedlot and establishment of pivot irrigators. There is native vegetation in or near the areas identified for manure spreading. Soils have been identified as suitable for manure and/or effluent application.	**Low-Med (10)** Consequences are negligible and likely.	Refer to Section 4.6.
Community Amenity	**Air**	**Med-high (18)** Consequences are moderate and likely.	The region has a low population density and undulating landscape. Houses near the Peel River experience katabatic effects and there is a history of odour issues from other activities in the area.	**Low-Med (9)** Consequences are minor and possible.	Refer to Section 4.7.
	Acoustic	**Low-Med (5)** Consequences are minor and unlikely.	The noise and vibration assessment identified a low risk of noise impact from the feedlot. Noise from on-site vehicle movements has the highest potential for impacts.	**Low (3)** Consequences are negligible and unlikely.	
	Visual	**Low-Med (6)** Consequences are negligible and possible.	The feedlot will be visible at a distance from the Oxley Highway. However, it is a rural activity in a rural area.	**Low (3)** Consequences are negligible and unlikely.	

4.4 SURFACE WATER

4.4.1 DESCRIPTION OF ENVIRONMENTAL VALUE

Environmental values for surface waters include ecological, agricultural use, domestic use, recreational, and cultural heritage values. It is expected that water from the Peel River is used for stock, irrigation, and domestic purposes. There are two minor drainage lines on the property which converge into the Peel River. One of these is located adjacent to the CDA for the existing and proposed feedlot.

4.4.2 OBJECTIVES

The feedlot aims to achieve the following surface water objectives:

- Compliance with conditions of the EPL;
- Compliance with conditions of consent;
- Prevention of unreasonable impacts to surface water quality;
- Prevention of impacts to the bed and banks of watercourses; and
- Prevention of increases in surface water velocity.

4.4.3 POTENTIAL IMPACTS

The feedlot has the potential to cause the following impacts to surface waters:

- Increased contaminants resulting in algal blooms or damage to aquatic biodiversity and a restriction of the use of surface water for stock, irrigation, or domestic purposes; and
- Increased sediment loads because of erosion.

4.4.4 DESIGN CONSIDERATIONS

The following design considerations have been implemented to minimise the potential impact to surface waters:

- The proposed feedlot is in a CDA, which has been designed in accordance with the National Guidelines;
- The effluent system has been designed to contain runoff from the feedlot up to a 96 th percentile wet-year;
- The feedlot site and waste utilisation areas have been selected to maintain buffers to surface water features; and
- There are existing contour banks across the property for soil conservation, which reduce the velocity of water across the property.

4.4.5 MANAGEMENT PRACTICES

Table 5 describes management strategies and actions to prevent or minimise the impact of the feedlot on adjacent surface water features. Specific actions and the timing of these actions have also been identified.

Table 5 – Surface Water Management Practices

Management	Actions	Timing
Effluent holding pond	Check effluent holding pond levels.	Following a major rainfall event (>20 mm).
	Irrigate effluent from the effluent holding pond.	As soon as possible after major rainfall.
	Check sediment levels and record observed estimation.	When effluent holding pond is dry prior to summer.
	Remove sediment from the effluent holding pond.	When sediment accumulation reduces capacity by 50 %.
CDA maintenance.	Check drains, diversion bunds and effluent holding pond and sedimentation pond walls.	Following a major rainfall event (>20 mm) or monthly during extended dry periods.
	Repair any damage to the CDA.	As required and when possible following cleaning of the sedimentation pond and effluent holding pond.
Irrigation	Ensure soil moisture levels are appropriate to allow infiltration of effluent to prevent runoff. Appropriate levels determined by soil moisture probe or expert opinion. Suitable application rate determined by soil moisture.	Check levels prior to irrigation.
	Record effluent irrigation events and application rates.	Daily when irrigation occurs.
	Inspect irrigation equipment.	Prior to commencement of irrigation.
	Briefly observe irrigators during operation.	Daily when effluent is being irrigated.
	Maintain and replace irrigation equipment.	As required.
	Maintain 50 m buffers to all on-site drainage lines and creeks.	During irrigation.
Spill event	Construct temporary bunds or sediment fences downslope of the spill location to prevent or minimise effluent entering the Peel River.	Prior to or immediately following anticipated spill event.
	Notify EPL of a spill event.	During or immediately following spill event.

4.4.6 MONITORING

Sampling and analysis of effluent will occur every 6 months and in the event of a spill. As spill events are likely to occur during major flood events, the safe sampling of water quality in the Peel River is unlikely to be possible.

4.5 GROUNDWATER

4.5.1 DESCRIPTION OF ENVIRONMENTAL VALUE

Environmental values for groundwater include ecological, agricultural use, domestic use, recreational, and cultural heritage values. Due to the undulating landscape, depth to groundwater varies across the property. Groundwater depth on alluvial landscapes will vary seasonally based on the flow conditions of the adjacent creek.

According to the Water NSW real-time water data platform, alluvial groundwater depth in this area is normally approximately 5 m below ground level. However, it may be as shallow as 1 m during extended periods of rain when the landscape is saturated. However, the feedlot is not proposed on alluvial landscapes, and depth to groundwater is much greater. Groundwater works summaries for the nearest representative bore identified a low-yielding, water-bearing zone at a depth of approximately 11 m.

It is anticipated that groundwater gradients will be towards the Peel River near the feedlot and parallel with the Peel River in underlying alluvial aquifers. The installation of a piezometer network will allow for an accurate measurement of groundwater depth and flow.

4.5.2 OBJECTIVES

The feedlot aims to achieve the following groundwater objectives:

- Compliance with conditions of the EPL;
- Compliance with conditions of consent;
- Prevention of unreasonable impacts to groundwater quality.

4.5.3 POTENTIAL IMPACTS

The feedlot has the potential to cause the following impacts to groundwater:

- Increase in groundwater contaminants impacting on groundwater biodiversity or water supply to adjacent properties.

4.5.4 DESIGN CONSIDERATIONS

The following design considerations have been implemented to minimise the potential impact to groundwater:

- The CDA has been constructed with suitable materials and compaction to ensure a maximum permeability of 1 $x10^{-9}$ m/s (0.1 mm/day);
- There is adequate on-site land available for effluent utilisation and adequate land available, both on-site and off-site, for manure spreading to prevent the accumulation of nutrient in sub-soils and potential leaching into groundwater.

4.5.5 MANAGEMENT PRACTICES

Table 6 describes management strategies and actions to prevent or minimise the impact of the feedlot on underlying groundwater aquifers. Specific actions and the timing of, and person responsible, for these actions have also been identified.

Table 6 – Groundwater Management Practices

Management	Actions	Timing
CDA surface maintenance	Check drains, diversion bunds and the base of the effluent holding pond and sedimentation basin.	Following a major rainfall event (>20 mm) or monthly during extended dry periods.
	Repair any damage to the CDA.	As required and when possible following cleaning of the sedimentation basin and effluent holding pond.
Effluent and manure	Ensure effluent and manure is evenly distributed across available land.	Prior to and during application
	Ensure application rates and crop selection are determined following agronomic advice to adequately remove nutrients with the crop.	Prior to application
	Avoid the use of alluvial land for MUA.	During extended wet periods which influence seasonal groundwater depths.
	Ensure the long-term stockpiling of manure only occurs on hardstand areas within the CDA.	At all times.
	Ensure manure is not stored adjacent to utilisation areas for longer than necessary to facilitate application (i.e. less than a week). Rotate the location of these storage areas to minimise accumulation of nutrient in one spot.	Prior to manure application.
	Remove any excess manure stored adjacent to paddocks following application. Transport it back to a location within the CDA or on to the next location requiring manure application.	Following the completion of manure applications.
	Record details of irrigation and manure utilisation events (e.g. date, area, application rate, etc).	Following effluent and manure application.

4.5.6 MONITORING

Groundwater monitoring will be undertaken annually in accordance with the conditions of the EPL. Four locations for piezometers have been proposed to ensure an upgradient and down gradient location for each potential direction of groundwater flow.

4.6 LAND

4.6.1 DESCRIPTION OF ENVIRONMENTAL VALUE

The environmental values for soils and biodiversity have been combined into land management. On-site and nearby environmental values of land include the ongoing use of the land for agricultural purposes, remnant native vegetation and associated ecosystems, as well as any fauna that may be present within the landscape.

Based on the information presented in the EIS and supporting reports, the site is characterised by undulating landscapes to flat alluvial soils in the Peel River floodplain. Broadscale soil mapping incorrectly identifies the soils as Sodosols, with site-specific sampling identifying soils as Dermosols in most areas and some shallower, rocky Tenosols in the north-west portion of the property.

There are scattered remnant native trees across the property.

4.6.2 OBJECTIVES

The feedlot aims to achieve the following land objectives:

- Compliance with conditions of the EPL;
- Compliance with conditions of consent;
- Minimisation of the impact of development on the ongoing use of agricultural land;
- Minimisation of the clearing of or impact to remnant native vegetation; and
- Prevention of unreasonable impacts to the physical and chemical structure of soils.

4.6.3 POTENTIAL IMPACTS

The feedlot has the potential to cause the following impacts to land:

- Fragmentation of agricultural land through development;
- Loss of biodiversity associated with native vegetation;
- Excessive soil nutrient levels; and
- Erosion of topsoil due to the breakdown of soil structure.

4.6.4 DESIGN CONSIDERATIONS

The following design considerations have been implemented to minimise the potential impact to land:

- There is adequate agricultural land available for effluent irrigation;
- The feedlot is not located on steep (>10 % slope) land;
- The feedlot has been located on a site which has limited native vegetation;
- Adjacent areas disturbed during construction, including the outer banks of the effluent holding pond will be revegetated with grass.

4.6.5 MANAGEMENT PRACTICES

Table 7 describes management strategies and actions to prevent or minimise the impact of the feedlot on the land including soil and native vegetation. Specific actions and the timing of these actions have also been identified.

Table 7 – Land Management Practices

Management	Actions	Timing
Soil surface	Check exposed soil within or adjacent to the CDA for erosion following rainfall events.	Following a major rainfall event (>20 mm) or monthly during extended dry periods.
	Re-seed and facilitate the re-growth of grass in areas of exposed soil (e.g. following construction or in high traffic areas)	Following construction or periodically as required.
Effluent and manure	Ensure effluent and manure is distributed evenly across available land.	Prior to and during application
	Ensure application rates and crop selection are determined following agronomic advice to ensure nutrients are removed with the crop.	Seasonally prior to planting or following harvest.
	Ensure the long-term stockpiling of manure only occurs on hardstand areas within the CDA.	At all times.
	Ensure manure is not stored adjacent to utilisation areas for longer than necessary to facilitate application (i.e. less than a week). Rotate the location of these storage areas to minimise accumulation of nutrient in one spot.	Prior to manure application.
	Remove any excess manure stored adjacent to paddocks following application. Transport it back to a location within the CDA or on to the next location requiring manure application.	Following the completion of manure applications.
	Record details of irrigation and manure utilisation events (e.g. date, area, application rate, etc).	Following effluent and manure application.
	Increase or relocate effluent irrigation areas should long-term soil nutrient trends suggest current area is not sustainable.	As required.
	Implement agronomic advice in the next crop.	Following expert review of monitoring data.
	Maintain a 20 m buffer around individual or groups of native trees.	When spreading manure
Biodiversity	Inspect adjacent native vegetation for damage which may have resulted from the feedlot or farming activities (e.g. spray drift). Investigate any potential impacts.	Annually.
	Engage a suitably qualified person to conduct a pre-clearing survey and inspect felled trees for fauna.	Prior to and following clearing.
	Separately identify and mark trees for clearing to delineate from retained trees.	Prior to clearing.
	Where possible, plant native trees around the farm and feedlot complex.	Ongoing.
	Control weeds, pests, and feral animals on the property.	At all times.

Management	Actions	Timing
Construction	Place sediment fences downslope of all potentially disturbed areas.	Prior to construction
	Inspect contours downslope of construction areas. Remove sediment and repair as required.	Following a major rainfall event (>20 mm).
	Replace topsoil on outer batters of the effluent ponds and reseed with grass.	Following completion of construction.
Rehabilitation	Decommission the holding and backgrounding paddocks adjacent to the existing cattle yards. Convert these paddocks to short-term, low-intensity use.	Upon construction of the first new row.
	Remove infrastructure no longer required for the ongoing use of the land and remove clay liners and hardstand areas (deep ripping or root penetration). Sustainably dispose of effluent and manure on-site or off-site. Fill in the effluent system and level surface and return the land to pasture or another suitable non-polluting use.	Following cessation of the activity

4.6.6 MONITORING

Soil monitoring will be completed in accordance with EPL conditions and is expected to occur twice a year for the EUA and MUA immediately following the removal of summer or winter crops. Sampling should include multiple depths. Laboratory analyses will be completed in accordance with the EPL. Laboratory results must be reviewed by a suitably qualified person (agronomist or soil/environmental scientist). This review must include a long-term trend analysis for the effluent irrigation areas. Laboratory data must be retained for five years with summary of results retained, where possible, indefinitely (e.g. spreadsheet or database).

4.7 COMMUNITY AMENITY

4.7.1 DESCRIPTION OF ENVIRONMENTAL VALUE

Amenity is the ability for people to enjoy their lifestyle, free from unreasonable impacts from odour, dust, and noise and with limited impacts on the surrounding visual landscape. It is understood that odour, dust, noise, or visual amenity complaints have not been received in relation to the existing feedlot.

4.7.2 OBJECTIVES

The feedlot aims to achieve the following community amenity objectives:

- Compliance with conditions of the EPL;
- Compliance with conditions of consent;
- Prevention of unreasonable odour, dust, and noise impacts on nearby sensitive receptors; and
- Prevention of unreasonable impacts to the visual landscape of the locality.

4.7.3 POTENTIAL IMPACTS

The feedlot has the potential to cause the following impacts to community amenity:

- Environmental nuisance because of odour, dust and noise emissions including impacts on sleep;
- Adverse health impacts (e.g. asthma) from unreasonable dust emissions;
- Interruption of the rural landscape which is otherwise dominated by low intensity agricultural uses and scattered intensive livestock operations; and
- Increase weeds and pests in the area and on adjacent properties.

4.7.4 DESIGN CONSIDERATIONS

The following design considerations have been implemented to minimise the potential impact on community amenity:

- In accordance with the National Guidelines and NSW S-Factor Guidelines, the proposed feedlot complies with the required separation distances for all nearby receptors;
- Areas requiring cleaning (e.g. pens and drains) have been designed with consideration of machinery access; and
- Pen surfaces and drains are free-draining.

4.7.5 MANAGEMENT PRACTICES

Table 8 describes management strategies and actions to prevent or minimise the impact of the feedlot on community amenity. Specific actions and the timing of these actions have also been identified.

Table 8 – Community Amenity Management Practices

Management	Actions	Timing
Odour	Pen and under-fence cleaning of stocked pens.	At least every 12 weeks.
	Repair potholes and wet patches on pen surface.	As soon as possible following identification and within a month.
	Maintain a gravel stockpile on-site to facilitate pen surface repair.	At all times
	Remove sediment accumulated in sedimentation basin.	When sediment has dried following a major rainfall event (>20 mm).
Dust	Repair internal road surfaces (e.g. potholes and loose surface material) to minimise excessive dust.	As soon as possible following identification and within a month.
	Maintain a gravel stockpile on-site to facilitate road surface repair.	At all times
	Water internal roads during dry periods.	As required
Noise	Noisy activities such as feeding and heavy vehicle movements generally occur between 6 am and 6 pm.	At all times

Management	Actions	Timing
	The only operations that occur 24 hours a day are those required for animal welfare reasons (e.g. emergency maintenance).	At all times
	On-site vehicle speed limits of 40 km/hour will be signed and enforced.	At all times
	Ongoing training and communication to ensure speed limits are observed.	Upon staff induction and annually
Visual	Inspect, maintain, and replace any visible buildings to ensure they do not become an eyesore.	As required.
Complaints	Set up and maintain a complaint register.	At all times.
	Provide a contact number in a visible location on the property entrance.	At all times.
	Undertake a brief review of weather conditions and operations following a complaint. Include potential causes and any necessary corrective actions. Provide feedback to the complainant.	Within a week of a complaint being received.
	Provide a summary of complaints to EPA.	As part of the annual return.

4.7.6 MONITORING

Monitoring for odour, dust, and noise will be completed if requested by TRC or EPA, or temporarily following receipt of a complaint.