

NOTICE OF DEVELOPMENT PROPOSAL

Application No: DA040/2023

Application: Feedlot (Construction of additional 26 pens, expansion of existing manure pad and other ancillary infrastructure and earthworks).

Location: Lot 113, 119, 121 & 124 DP754199, Lot 1 DP1124929
701 Quambone Road, Coonamble NSW 2829

Applicant: Rural Marketing Australia Pty Ltd

Exhibition Period: 20 December 2023 – 29 January 2024

Coonamble Shire Council has received a Development for alterations and additions to an existing feedlot (Construction of additional 26 pens, expansion of existing manure pad and other ancillary infrastructure and earthworks).

The development application can be viewed at:

- Coonamble Shire Administration Centre
80 Castlereagh Street, Coonamble NSW 2829, or
- Online at Council's website: www.coonambleshire.nsw.gov.au or the NSW Planning Portal at: <https://www.planningportal.nsw.gov.au/daexhibitions>.

Any interested person may, within the aforementioned period, make written submission to the Coonamble Shire Council with respect to the proposed development. If your comments are an objection, then the grounds of the objection must be specified.

Any submission that you wish to make on this proposal may be included without alteration (including names and addresses) in reports that are available to the public, in Council business papers (which are published on Council's website) and also made available to the applicant for comment during consideration of the development application. Anonymous submissions may be given less (or no) weight in consideration of the proposal.

Paul Gallagher
GENERAL MANAGER



Premise

RURAL MARKETING AUSTRALIA PTY LTD

Statement of Environmental Effects

IN SUPPORT OF A DEVELOPMENT APPLICATION

Report No: 222230/SEE

Rev: 001B

2 November 2023

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DOCUMENT AUTHORISATION		
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1. INTRODUCTION

Premise has been commissioned by Rural Marketing Australia Pty Ltd to prepare a Statement of Environmental Effects (SEE) to accompany a Development Application (DA) for alterations and additions to the existing Moonya feedlot facility. The subject site is located at 701 Quambone Road, Coonamble, being Lot 113 DP 754199.

The site is located within the RU1 Primary Production zone under the *Coonamble Local Environmental Plan 2011* (the CLEP 2011). The existing feedlot benefits from the existing development consent Development Application No. 14/97, determined 16 March 1998.

The proposed alterations and additions involve the construction of a further 26 pens to the immediate east of the existing feedlot facility, expansion of the existing manure pad to the immediate west of the existing facility and other ancillary works including associated infrastructure and earthworks.

The proposed alterations and additions are required to facilitate ongoing repairs and upgrades to the existing feedlot facility without the need to de-stock. The proposed alterations and additions do not seek to make any other change to the operation of the existing facility, including the overall 10,000 head capacity.

This SEE has been prepared pursuant to the relevant provisions of the *Environmental Planning and Assessment Act 1979* (the EP&A Act) and *Environmental Planning and Assessment Regulation 2021* (the EP&A Regulation) and is provided in the following format.

- **Section 2** of this report provides a description of the subject site and its locality.
- **Section 3** outlines the proposed development.
- **Section 4** details the planning framework applicable to the subject site and proposed development.
- **Section 5** identifies the impacts of the proposed development.
- **Section 6** provides a conclusion to the SEE.

2. THE SITE & ITS LOCALITY

2.1 The Site

The subject site is located 7.5km southwest of Coonamble between the Coonamble Quambone Road and the Dubbo Coonamble Railway and west of the Castlereagh River.

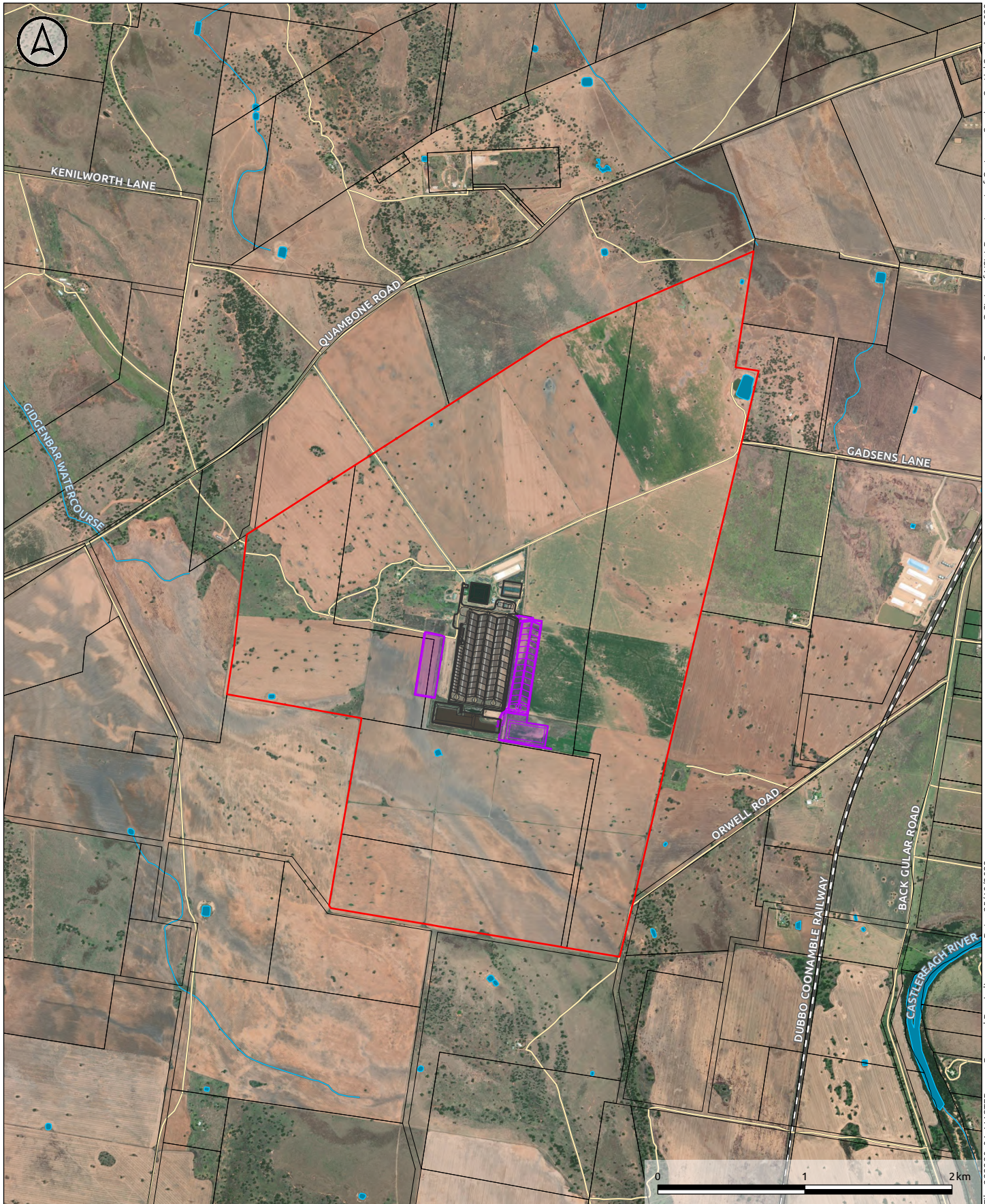
The site has an irregular shape with an area of approximately 382 ha of which the most significant feature is the existing feedlot. The site otherwise devoid of significant features and vegetation. Hydrogeologically, the site is located within the Great Artesian Basin where extensive, deep sandstone aquifers are present.

The subject site is depicted in Figure 1, below.

2.2 The Locality

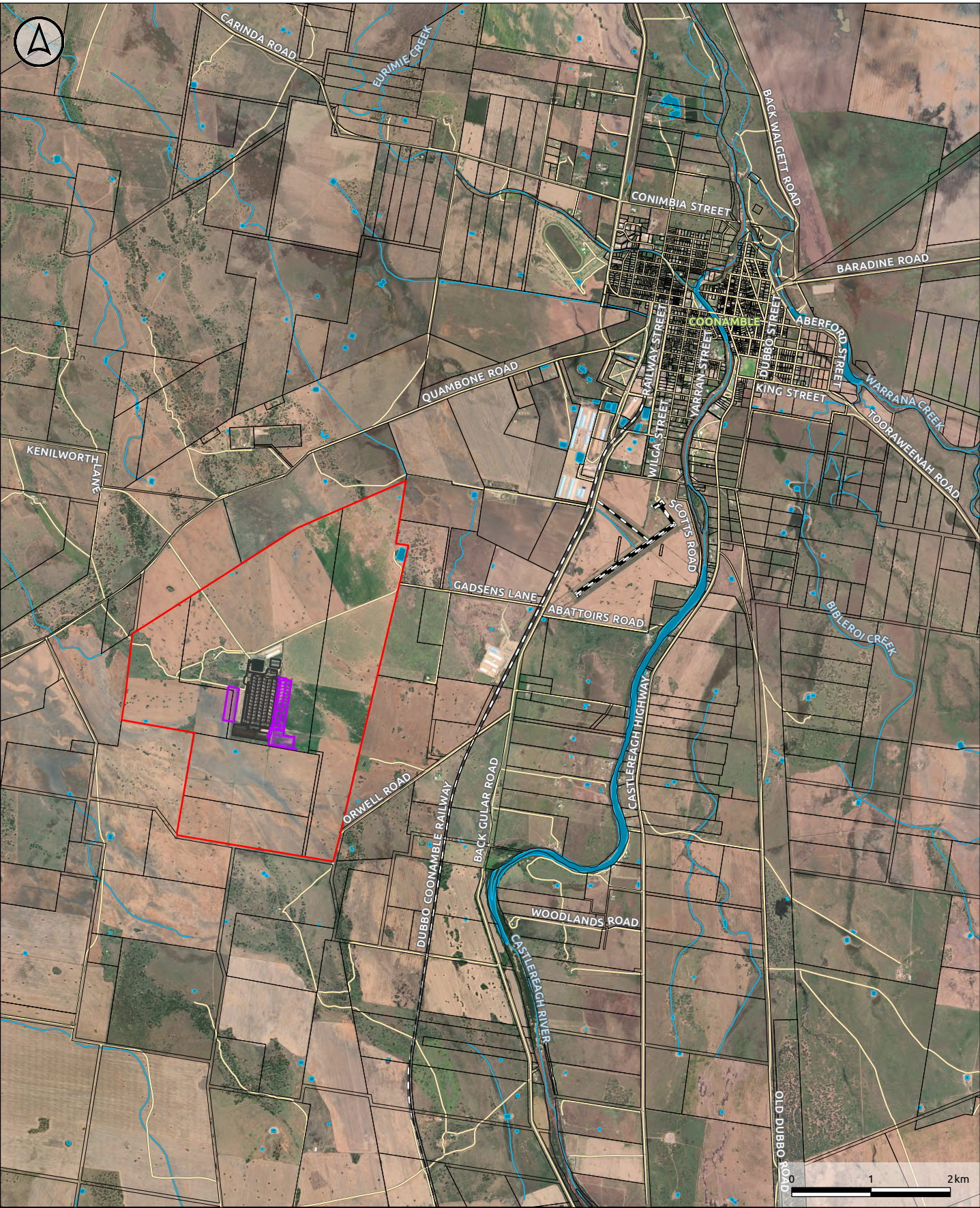
The subject site is located in the central portion of the Coonamble LGA to the south-west of the consolidated urban area. It is surrounded by mix of agricultural land and rural residential properties. The area is primarily characterised by broadacre agricultural activities including grazing and cropping. Coonamble Airport is located approximately 2.5km east to the subject site. The subject site is depicted in **Figure 2**, below.

Figure 1 - The Subject Site



- Legend**
- Site
 - Existing Development Footprint
 - Proposed Development Footprint
 - Cadastre
 - Road
 - Railway
 - Water Body
 - Watercourse

Figure 2 - The Site Locality



- Legend**
- Site
 - Proposed Development Footprint
 - Existing Development Footprint
 - Cadastre
 - Road
 - Railway
 - Runway
 - Water Body

Watercourse



FIGURE 2
The Site Locality

File: 222230_01_MASTER.aprx Prepared By: zindia.narver Date: 25/10/2023 Sources: © State of NSW, Department of Customer Service, Spatial Services 2023 ESRI 2023

3. THE DEVELOPMENT

3.1 Development Description

The proposed alterations and additions involve the construction of a further 26 pens to the immediate east of the existing feedlot facility and an expansion of the existing manure pad to the immediate west of the existing facility.

The proposed alterations and additions are illustrated in Figure 3 and the Project Drawings at Appendix A.

The layout of the pens shown in Project Drawings is indicative only. The detailed design of the pen layout will be finalised prior to construction. Any change to the pen layout will not affect the location of the proposed alterations and additions or the overall environmental impact as addressed throughout the body of this report.

4. STATUTORY PLANNING FRAMEWORK

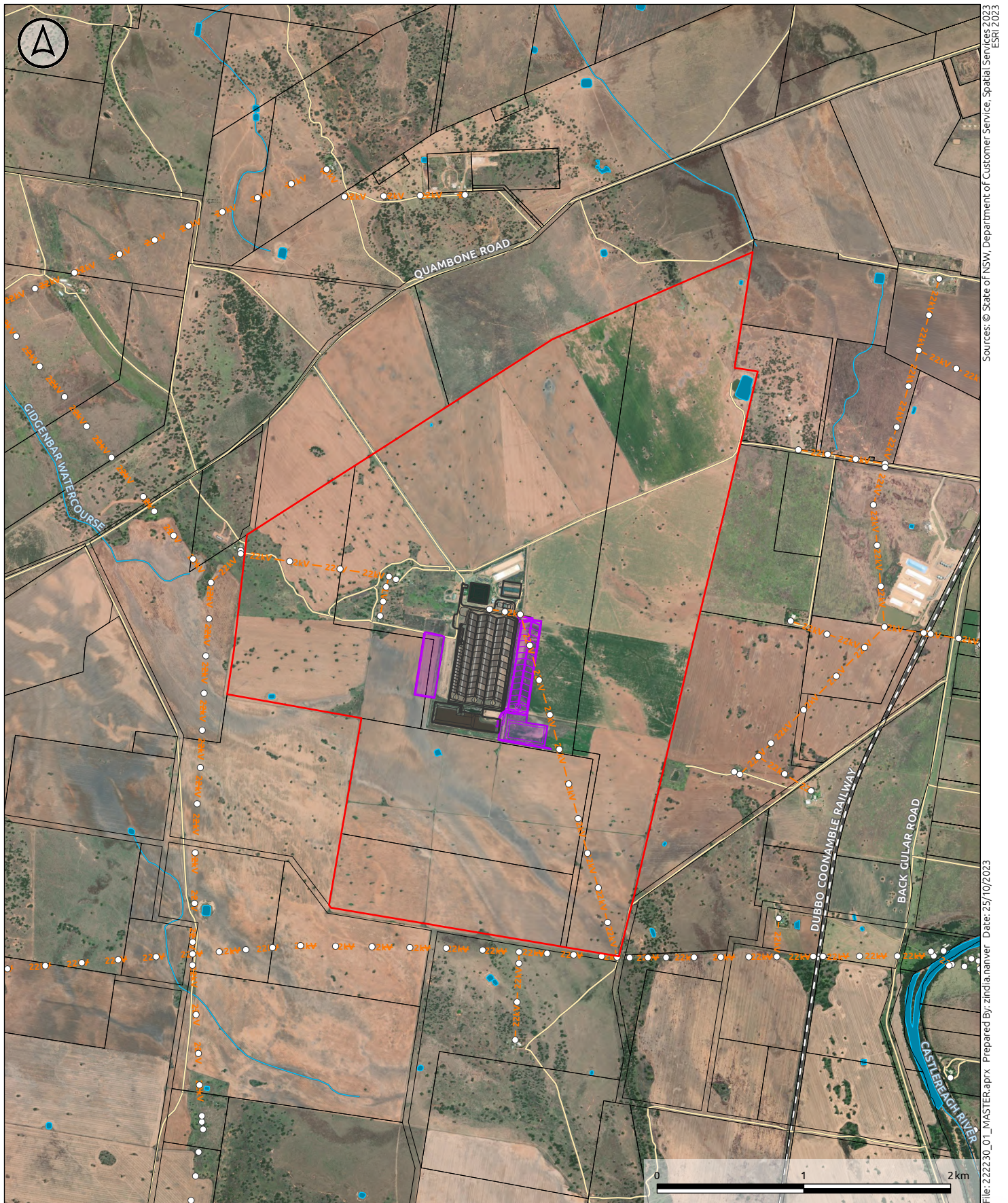
4.1 Object of the EP&A Act

In New South Wales (NSW), the relevant planning legislation is the *Environmental Planning and Assessment Act 1979* (EP&A Act). The EP&A Act instituted a system of environmental planning and assessment in NSW and is administered by the Department of Planning, Industry & Environment (DPIE). In 2017, the Act was amended to provide a range of updated objects. The objects of the EP&A Act are:

- (a) To promote the social and economic welfare of the community and a better environment by the proper management, development and conservation of the State's natural and other resources,*
- (b) To facilitate ecologically sustainable development by integrating relevant economic, environmental and social considerations in decision-making about environmental planning and assessment,*
- (c) To promote the orderly and economic use and development of land,*
- (d) To promote the delivery and maintenance of affordable housing,*
- (e) To protect the environment, including the conservation of threatened and other species of native animals and plants, ecological communities and their habitats,*
- (f) To promote the sustainable management of built and cultural heritage (including Aboriginal cultural heritage),*
- (g) To promote good design and amenity of the built environment,*
- (h) To promote the proper construction and maintenance of buildings, including the protection of the health and safety of their occupants,*
- (i) To promote the sharing of the responsibility for environmental planning and assessment between the different levels of government in the State,*
- (j) To provide increased opportunity for community participation in environmental planning and assessment.*

The proposed development is not considered to be antipathetic to the above objects.

Figure 3 - Proposed Alterations and Additions



4.2 Section 1.7

Section 1.7 of the EP&A Act requires consideration of Part 7 of the *Biodiversity Conservation Act 2016* (BC Act). Part 7 of the BC Act relates to an obligation to determine whether a proposal is likely to significantly affect threatened species.

Under Section 7.2 of the BC Act, there are three triggers for development or activities to be considered as “likely to significantly affect threatened species”. Under Section 7.7(2) of the BC Act, the development application is required to be accompanied by a biodiversity development assessment report (BDAR) if it meets one or more of conditions for “likely to significantly affect threatened species”.

Despite these requirements, it is considered that the portion of the subject property that is the subject of the proposed alterations and additions meets the definition of Category 1 – exempt land pursuant to Section 60H(1) of the *Local Land Services Act 2013*.

(1) Land is to be designated as category 1-exempt land if the Environment Agency Head reasonably believes that—

(a) the land was cleared of native vegetation as at 1 January 1990, or

(b) the land was lawfully cleared of native vegetation between 1 January 1990 and the commencement of this Part.

Section 6.8(3) of the BC Act provides that the biodiversity assessment method is to exclude the assessment of the impacts of any clearing of native vegetation and loss of habitat on category 1 - exempt land (within the meaning of Part 5A of the *Local Land Services Act 2013*), other than any impacts prescribed by the regulations under section 6.3 of the BC Act.

In this regard it is noted that all native vegetation within the immediate vicinity of the existing feedlot was cleared during site preparation works and construction. A native windbreak was subsequently planted to the immediate east of the feedlot around 2008.

While the proposed alterations and additions may require the removal of the native windbreak, this is not subject to the requirements of the BC Act by reference to Section 6.3.

4.3 Subordinate Legislation

The EP&A Act facilitates the preparation of subordinate legislation, consisting of:

- Environmental Planning Instruments (EPIs) (including State Environmental Planning Policies (SEPP), Local Environmental Plans (LEP), and deemed EPIs; and
- Development Control Plans (DCP).

In relation to the proposed development, the relevant subordinate legislation includes:

- Coonamble Local Environmental Plan 2011
- State Environmental Planning Policy (Biodiversity and Conservation) 2021; and
- State Environmental Planning Policy (Resilience and Hazard) 2021; and
- State Environmental Planning Policy (Transport and Infrastructure) 2021; and
- Coonamble Development Control Plan 2009 (Annexure A - development requirements for industrial land use)

The requirements of these are discussed in **Section 4.5** of this Statement.

4.4 Integrated Development

Section 4.46 of the EP&A Act states that development requiring consent and another activity approval is defined as Integrated Development.

The existing Moonya feedlot is regulated by Environmental Protection Licence (EPL) pursuant to the *Protection of the Environment and Operations Act 1997* (POEO Act 1997).

While the proposed alterations and additions do not specifically require an EPL, it is understood that Council may seek to engage with the NSW EPA to determine any need for a license variation.

4.5 Planning Instruments

4.5.1 LOCAL ENVIRONMENTAL PLAN

4.5.1.1 Introduction

The *Coonamble Local Environmental Plan 2011 (CLEP 2011)* is the applicable local planning instrument applying to the land. The aims of the LEP are:

- (aa) to protect and promote the use and development of land for arts and cultural activity, including music and other performance arts,*
- (a) to encourage sustainable economic growth and development within Coonamble,*
- (b) to encourage and provide opportunities for local employment growth and the retention of population in Coonamble,*
- (c) to encourage the retention of productive rural land for agriculture,*
- (d) to identify, protect, conserve and enhance Coonamble's natural assets,*
- (e) to identify and protect Coonamble's built and cultural heritage assets for future generations,*
- (f) to allow for the equitable provision of social services and facilities for the community,*
- (g) to provide for future tourist and visitor accommodation in a sustainable manner that is compatible with, and will not compromise, the natural resource and heritage values of the surrounding area.*

The proposed development is not antipathetic to the aims of the plan and is specifically consistent with the aims (a), (b) and (c).

4.5.1.2 Mapping

A review mapping via the NSW Planning Portal identifies the following applicable mapped constraints:

Table 1 – CLEP 2011 Maps

Constraint	Applicability	Section addressed
Land Application Map	Applies	N/A
Land Zoning Map	RU1 – Primary Production	4.5.1.3
Lot Size Map	1000 ha	4.5.1.4
Natural Resource – Biodiversity Map	Partially affected	4.5.1.6
Natural Resource – Groundwater Vulnerability Map	Affected	4.5.1.7

The above matters, together with other relevant LEP clauses, are discussed in the following sections.

4.5.1.3 Land Use Zoning

The site is located within the RU1 Primary Production zone under the CLEP 2011 (refer to **Figure 4**).

The existing feedlot is permitted with consent in the RU1 Primary Production zone on the basis that intensive livestock agriculture (group term which includes dairies (restricted), feedlots, pig farms and poultry farms) is permitted with consent in the RU1 Primary Production zone without the exclusion of feedlots.

The proposed alteration and additions do not change the purpose of the development from a feedlot. It is considered that the proposed alteration and addition is permitted within the RU1 Primary Production Zone.

Further, the proposed alterations and additions are considered to be consistent with the objectives of the RU1 Primary Production zone under the CLEP 2011.

4.5.1.4 Minimum Subdivision Lot Size

Clause 4.1(3) of the CLEP 2011 provides that the size of any lot resulting from a subdivision of land is not to be less than the minimum lot size shown on the Lot Size Map in relation to that land, being 200 hectares (refer to **Figure 5**).

The proposed development does not include subdivision.

4.5.1.5 Intensive Livestock Agriculture

Clause 5.18 Intensive livestock agriculture seeks to ensure appropriate environmental assessment of development for the purpose of intensive livestock agriculture. Specifically, Clause 5.18 identifies that the following matters must be taken into consideration before determining whether to grant development consent for purpose of intensive livestock agriculture:

Table 2 – Intensive Livestock Agriculture

Provisions:		Comment:
(2)	This clause applies if development for the purpose of intensive livestock agriculture is permitted with consent under this Plan.	Intensive livestock agriculture is permitted with consent in the RU1 Primary Production zone applying to the site under the CLEP 2011.
(3)	In determining whether or not to grant development consent under this Plan to development for the purpose of intensive livestock agriculture, the consent authority must take the following into consideration—	
(a)	the adequacy of the information provided in the statement of environmental effects or (if the development is designated development) the environmental impact statement accompanying the development application,	<p>This SEE provides a detailed description of the proposed alterations and additions, their compatibility with the applicable environmental planning framework and the potential environmental impacts.</p> <p>It is considered that the information provided is adequate to allow Council to undertake an informed assessment of the proposed development.</p>
(b)	the potential for odours to adversely impact on the amenity of residences or other land uses within the vicinity of the site,	<p>The potential for odours was addressed as part of the original Development Application for the existing feedlot.</p> <p>Given that the proposed alterations do not seek to increase the overall capacity of the feedlot it is considered unnecessary to provide a detailed assessment of odour.</p> <p>The proposed alterations and additions are unlikely to have any additional impact on the amenity of any residence or other land use within the vicinity of the site.</p>
(c)	the potential for the pollution of surface water and ground water,	<p>The potential for the pollution of surface water and groundwater was addressed as part of the original Development Application for the existing feedlot.</p> <p>Surface water</p> <p>Potential pollution of surface water is only likely to occur during the construction phase. It is considered that any potential impact can be mitigated by the implementation of safeguards such as sediment and erosion controls.</p> <p>It is recommended that a condition of consent be applied to require the installation and maintenance of sediment and erosion controls throughout the construction phase in accordance with <i>Managing Urban Stormwater: Soils and</i></p>

			<p><i>construction</i> (Landcom, 2004). Following construction, all surface water will be directed to the existing sediment and effluent ponds.</p> <p>Groundwater</p> <p>It is understood that the water bearing zones below the feedlot are first encountered at 461m (GW041028, Water NSW Work Summary, 2006). Coupled with low permeability and the silty clay nature of soils, leaching of effluent is restricted.</p> <p>Given that the proposed alterations and additions do not require any change to the existing sediment and effluent pond, it is considered that the potential for pollution of groundwater is unlikely and that no further mitigation measures are required.</p>
	(d)	the potential for the degradation of soils,	<p>The potential for degradation of soils is minor due to the negligible gradients across the property. Existing land use and management practices such as conservative crop rotations and good pasture management result in little soil erosion.</p> <p>As discussed above, it is recommended that a condition of consent be applied to require the installation and maintenance of sediment and erosion controls throughout the construction phase.</p>
	(e)	the measures proposed to mitigate any potential adverse impacts,	<p>Mitigation measures for erosion and sediment control are outlined above.</p>
	(f)	the suitability of the site in the circumstances,	<p>The site was identified as suitable for the development of a feedlot with capacity for 10,000 head under the original DA which enabled its development.</p> <p>The proposed alterations and additions are required to facilitate ongoing repairs and upgrades to the existing facility without any need to de-stock. Consent is not sought to increase the number of cattle. Incidentally, it is considered that the site is suitable for the proposed development</p>
	(g)	whether the applicant has indicated an intention to comply with relevant industry codes of practice for the health and welfare of animals,	<p>All relevant industry codes of practice for the health and welfare of animals are to be maintained in accordance with current arrangements.</p>

	(h)	the consistency of the proposal with, and any reasons for departing from, the environmental planning and assessment aspects of any guidelines for the establishment and operation of relevant types of intensive livestock agriculture published, and made available to the consent authority, by the Department of Primary Industries (within the Department of Industry) and approved by the Planning Secretary.	The development will not depart from the environmental planning and assessment aspects of any guidelines for the establishment and operation of the relevant types of intensive livestock agriculture.
(4)	Despite any other provision of this Plan, development for the purpose of intensive livestock agriculture may be carried out without development consent if—		
	(a)	the development is of a type specified in subclause (5), and	The development is not of a type specified in subclause (5).
	(b)	the consent authority is satisfied that the development will not be located—	
	(i)	in an environmentally sensitive area, or	
	(ii)	within 100 metres of a natural watercourse, or	
	(iii)	in a drinking water catchment, or	
	(iv)	within 500 metres of any dwelling that is not associated with the development, or a residential zone, or	
	(v)	if the development is a poultry farm—within 500 metres of another poultry farm.	
(5)	The following types of development are specified for the purposes of subclause (4)—		
	(a)	a cattle feedlot having a capacity to accommodate fewer than 50 head of cattle,	Refer above.
	(b)	a goat feedlot having a capacity to accommodate fewer than 200 goats,	Refer above.
	(c)	a sheep feedlot having a capacity to accommodate fewer than 200 sheep,	Refer above.
	(d)	a pig farm having a capacity to accommodate fewer than 20 breeding sows, or fewer than 200 pigs (of which fewer than 20 may be breeding sows),	Refer above.
	(e)	a dairy (restricted) having a capacity to accommodate fewer than 50 dairy cows,	Refer above.
	(f)	a poultry farm having a capacity to accommodate fewer than 1,000 birds for meat or egg production (or both).	Refer above.

(6)	For the avoidance of doubt, subclause (4) does not apply to development that is prohibited or that may be carried out without development consent under this or any other environmental planning instrument.	Noted.
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4.5.1.6 Terrestrial Biodiversity

Under clause 6.1(3) of the CWLEP 2011, Coonamble Shire Council is prevented from granting development consent to development on land identified as "Biodiversity" on the Natural Resource — Terrestrial Biodiversity Map unless it has considered the potential for adverse impacts on:

- the condition, ecological value and significance of the fauna and flora on the land,
- the importance of the vegetation on the land to the habitat and survival of native fauna,
- potential to fragment, disturb or diminish the biodiversity structure, function and composition of the land,
- the habitat elements providing connectivity.

As shown in **Figure 6**, the proposed development does not require the removal of any vegetation within land shown as Biodiversity on the Terrestrial Biodiversity Map.

4.5.1.7 Groundwater Vulnerability

Under clause 6.4(3) of the CWLEP 2011, Coonamble Shire Council is prevented from granting development consent to development on land identified as "Macquarie" or "Castlereagh" on the Natural Resource — Groundwater Vulnerability Map unless it has considered:

- whether or not the development (including any on-site storage or disposal of solid or liquid waste and chemicals) will cause any groundwater contamination or any adverse effect on groundwater dependent ecosystems, and
- the cumulative impact (including the impact on nearby groundwater extraction for potable water supply or stock water supply) of the development and any other existing development on groundwater.

Clause 6.4(4) of the CWLEP 2011 specifies that development consent must not be granted to development on land to which this clause applies unless the consent authority is satisfied that—

- the development is designed, sited and will be managed to avoid any significant adverse environmental impact, or
- if that impact cannot be avoided by adopting feasible alternatives—the development is designed, sited and will be managed to minimise that impact, or
- if that impact cannot be minimised—the development will be managed to mitigate that impact.

The proposed alterations and additions involve the construction of a further 26 pens to the immediate east of the existing feedlot facility and an expansion of the existing manure pad to the immediate west of the existing facility.

The proposed alterations and additions are required in order to facilitate ongoing repairs and upgrades to the existing facility without any need to de-stock. The proposed alterations and additions do not seek to make any other change to the operation of the existing facility, including the overall 10,000 head capacity.

It is understood that the water bearing zones below the feedlot are first encountered at 461m (GW041028, Water NSW Work Summary, 2006). Coupled with low permeability and the silty clay nature of soils, leaching of effluent is restricted.

Given that the proposed alterations and additions do not require any change to the existing effluent ponds, it is considered that the potential for pollution of groundwater is unlikely and that no further mitigation measures are required.

4.5.1.8 Earthworks

Clause 6.7(2) of the CLEP 2011 provides that development consent is required for earthworks unless the works are exempt under the TRLEP 2010 or another environmental planning instrument (EPI) or ancillary to development for which consent has been given. If development consent is required, The Council is required to consider the matters in clause 7.2(3).

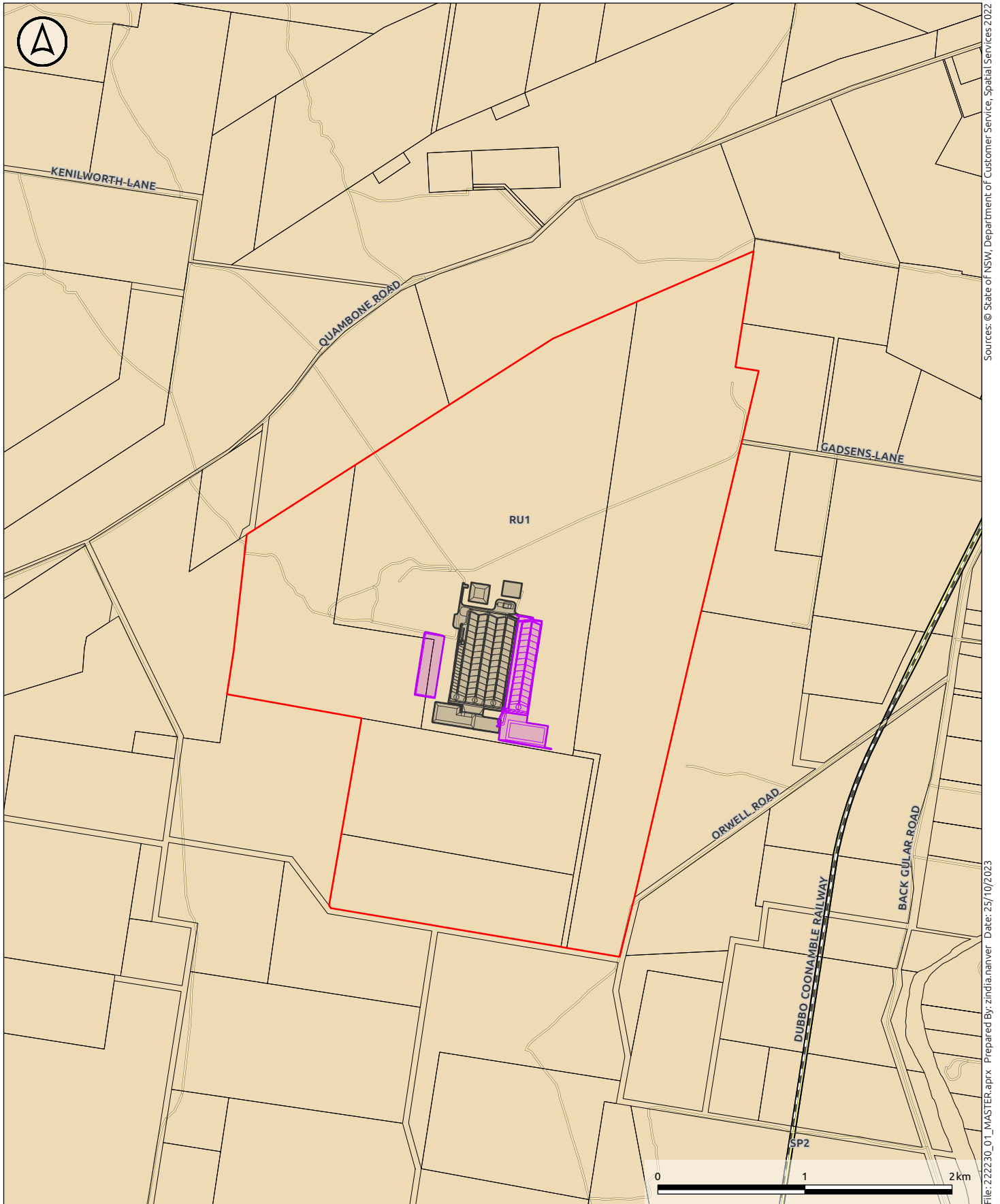
While the proposed development involves earthworks, they are not exempt under the CLEP 2011 or another EPI or ancillary to development for which consent has been given. Accordingly, the proposed earthworks are considered in the context of the matters for consideration in clause 6.7(3) in **Table 3**.

Table 3 – Earthworks Considerations

Consideration	Comments	Compliance
(a) the likely disruption of, or any detrimental effect on, existing drainage patterns and soil stability in the locality,	<p>Based on the design of the proposed alteration and additions, it is considered unlikely to have any detrimental impact on drainage patterns and soil stability within the broader locality.</p> <p>Soil stability can be appropriately managed during construction through the implementation of an appropriate erosion and sediment control plan. It is recommended that a condition of consent would be applied to require the submission of an erosion and sediment control plan prior to works commencing.</p> <p>Once constructed, drains and bunds associated with the proposed alterations and additions will ensure that clean surface water is directed around the feedlot, while surface water captured within the feedlot will be directed to the existing sediment and effluent pond.</p> <p>A negligible amount of surface water would be captured with the future holding pond area, which is to be excavated to generate fill for the proposed alterations and additions.</p>	✓
(b) the effect of the proposed development on the likely future use or redevelopment of the land,	<p>Given the nature of the proposed alterations and additions, the site is unlikely to be used for any other purposes in the short, medium or long term.</p> <p>The proposed earthworks are necessary to enable to the proposed use of the land. Further, the area from which the bulk of the required fill will be obtained will be purposively shaped to facilitate its future use as either an effluent holding pond or clean water holding pond if considered necessary.</p>	✓
(c) the quality of the fill or the soil to be excavated, or both,	<p>All fill required for the construction of the proposed alterations and additions will be obtained on site. As noted above the area from which the bulk of the required fill will be obtained will be purposively shaped to facilitate its future use as either an effluent holding pond or clean water holding pond if considered necessary.</p> <p>Given the existing and historic use of the land, it is considered that the quality of all fill be suitable.</p>	✓

Consideration	Comments	Compliance
(d) the effect of the proposed development on the existing and likely amenity of adjoining properties,	The proposed earthworks are necessary to enable the proposed use of the site. As demonstrated throughout the body of this report, the proposed alterations and additions are unlikely to have a detrimental impact the amenity of the adjoining property.	✓
(e) the source of any fill material and the destination of any excavated material,	It is anticipated that excavated soils will be able to be re-used on-site.	✓
(f) the likelihood of disturbing relics,	Aboriginal cultural heritage and historic heritage were considered as part of the original development. Based on the information provided, it is understood that no known aboriginal cultural activity has taken place at the feedlot site and no Aboriginal artefacts have been identified. Further there are no known sites of historic European heritage within the subject property.	✓
(g) the proximity to and potential for adverse impacts on any watercourse, drinking water catchment or environmentally sensitive area.	The site is not mapped as intersecting with any mapped watercourse, nor it is mapped as being located within a mapped drinking water catchment or environmentally sensitive area.	✓

Figure 4 - Zone Context Plan



- Legend**
- Site
 - Proposed Development Footprint
 - Existing Development Footprint
 - Cadastre
 - Road
 - Railway

- Land Zoning (LZN)**
- RU1
 - SP2



FIGURE 4
Zone Context Plan

Sources: © State of NSW, Department of Customer Service, Spatial Services 2022
File: 222230_01_MASTER.aprx Prepared By: zindia.nanver Date: 25/10/2023

Figure 5 - Minimum Subdivision Size

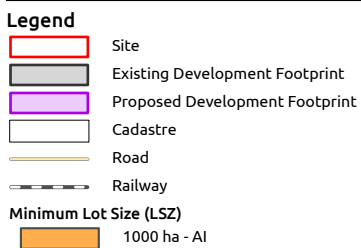
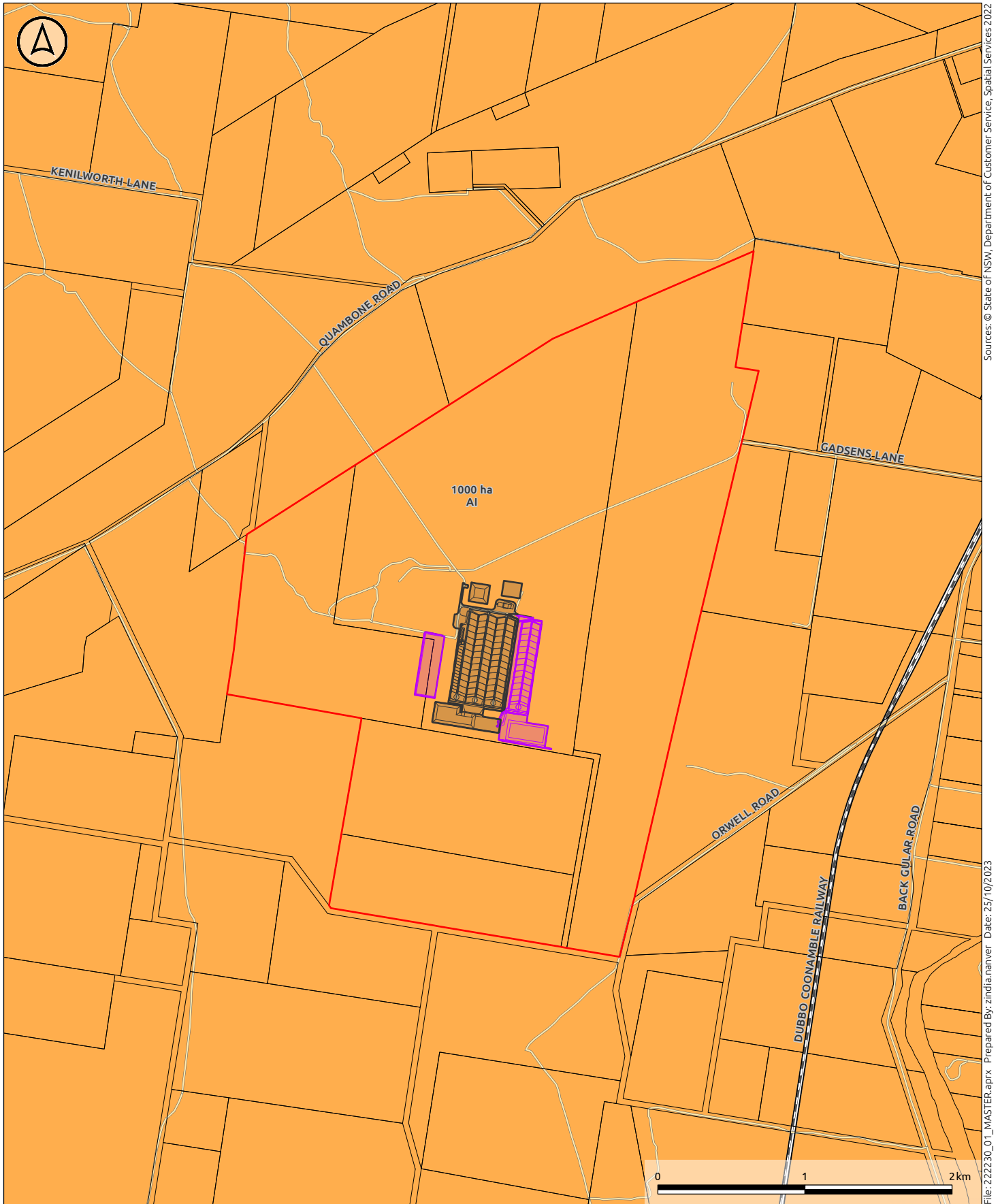
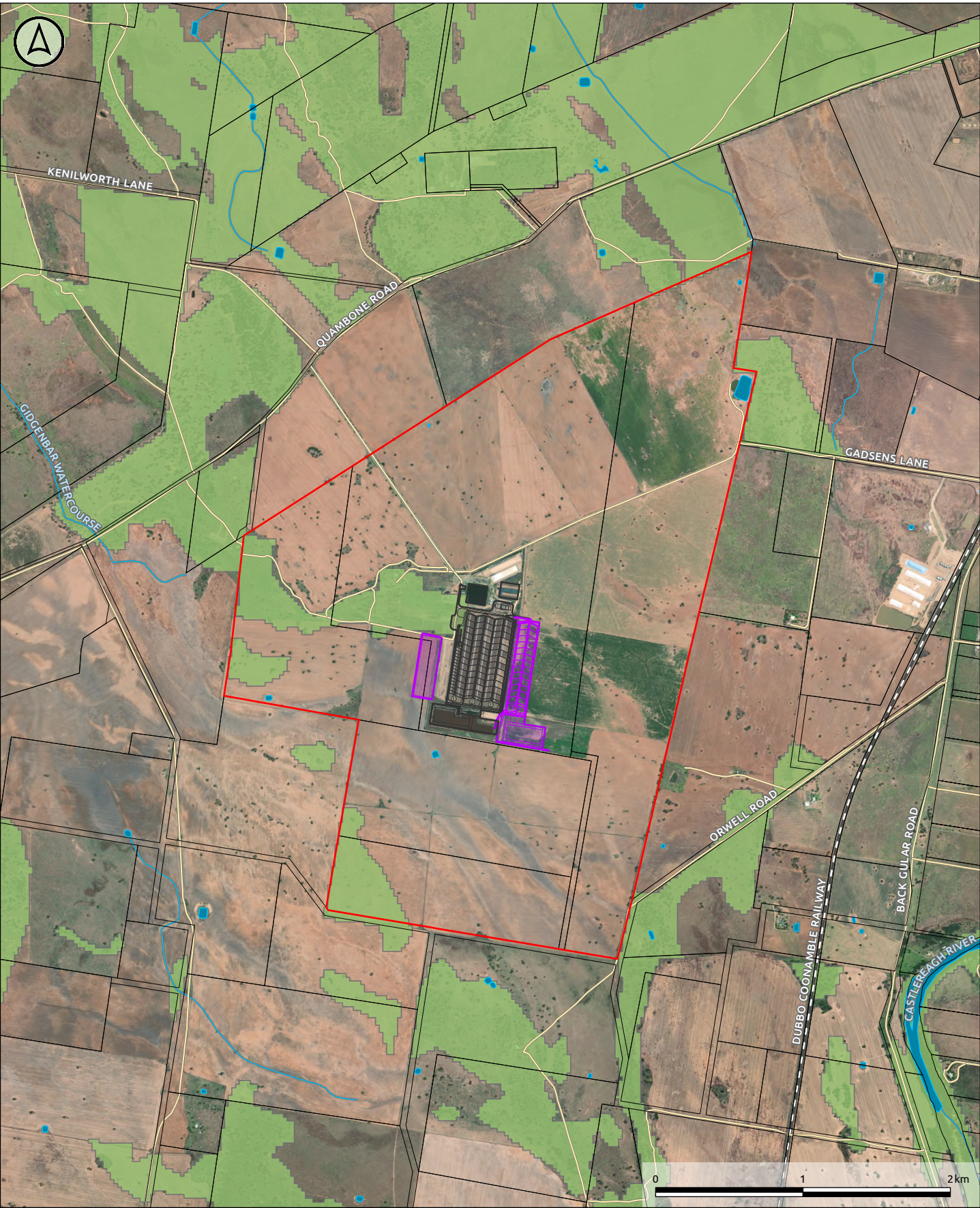


FIGURE 5
Minimum Subdivision Size

Figure 6 - Terrestrial Biodiversity



- Legend**
- Site
 - Existing Development Footprint
 - Proposed Development Footprint
 - Cadastre
 - Road
 - Railway
 - Water Body
 - Watercourse

Terrestrial Biodiversity



FIGURE 6
Terrestrial Biodiversity

Sources: © State of NSW, Department of Customer Service, Spatial Services 2023
ESRI 2023
File: 222230_01_MASTER.aprx Prepared By: zindia.nanver Date: 25/10/2023

STATE ENVIRONMENTAL PLANNING POLICY

4.5.1.9 State Environmental Planning Policy (*Biodiversity and Conservation*) 2021

Chapter 3 of the Biodiversity SEPP relates to koala habitat protection. Under clause 3.3(1) of the Biodiversity SEPP, the SEPP applies to land within the RU1 Primary Production, RU2 Rural Landscape and RU3 Forestry and equivalent zones in an LGA not marked with a '*' in Schedule 2 of the SEPP. A three-step process applies where the SEPP applies and the site (including adjoining land in the same ownership) has an area of more than one hectare.

The site is located within the RU1 Primary Production zone, within the Coonamble LGA (not marked with a '*' in Schedule 2 of the SEPP) and has an area of over one hectare. Accordingly, the proposed development is considered against the three-step process in **Table 4**.

Table 4 – Biodiversity SEPP

Three-Step Process:			Comment:
3.6	Step 1—Is the land potential koala habitat?		
	(1)	Before a council may grant consent to a development application for consent to carry out development on land to which this Part applies, the council must be satisfied as to whether or not the land is a potential koala habitat.	Council may be satisfied that the proposed works will not impact koala habitat as they do not require the removal of any trees and will predominantly occur over existing disturbed areas (refer to Figure 3).
	(2)	The council may be satisfied as to whether or not land is a potential koala habitat only on information obtained by it, or by the applicant, from a person who is qualified and experienced in tree identification.	Refer above.
	(3)	If the council is satisfied—	
	(a)	that the land is not a potential koala habitat, it is not prevented, because of this Policy, from granting consent to the development application, or	Noted.
	(b)	that the land is a potential koala habitat, it must comply with clause 3.7.	The land is not potential koala habitat and therefore clause 3.7 (step 2) need not be considered.

4.5.1.10 State Environmental Planning Policy (*Resilience and Hazard*) 2021

The *State Environmental Planning Policy (Infrastructure) 2007* (ISEPP) aims to facilitate the effective delivery of infrastructure through the state.

Chapter 4 of the Hazards SEPP relates to remediation of land. Clause 4.6(1) of the Hazards SEPP prevents Coonamble Shire Council from granting consent to the carrying out of development unless it has considered whether the land is contaminated.

If the land is contaminated, it must not consent to the carrying out of development unless it is suitable for the proposed use in its contaminated state or will be suitably remediated before the land is used for that purpose.

Coonamble Shire Council may be satisfied that the proposed development is unlikely to disturb contaminated soils as the existing use of the site for the purpose of a feedlot is unlikely to have resulted in any significant contamination of the site and a search of the NSW EPA Contaminated Land Record on 11 July 2023 did not identify any recorded sites in Coonamble and List of Notified Sites does not include the subject site (last updated 7 July 2023).

Accordingly, it is considered the site is suitable for the proposed development.

4.5.1.11 State Environmental Planning Policy (Transport and Infrastructure) 2021

Section 2.48 of the State Environmental Planning Policy (Transport and Infrastructure) 2021 (SEPP Transport and Infrastructure) requires that development carried out within 5m of an exposed overhead electricity powerline must be referred to the electricity supply authority.

While the proposed alterations and additions would impact the alignment of an existing powerline, the landowner is currently in the process of obtaining approval from Essential Energy to relocate the powerline.

It is anticipated that the new alignment of the powerline will be approved prior to Essential Energy receiving a referral via the NSW Planning Portal.

Subject to the approval of Essential Energy, it is considered appropriate that a condition of consent be applied to require that the existing power line be removed prior to construction of the proposed alterations and additions.

The existing alignment and proposed alignment of the powerline are shown on the project drawings at **Appendix A**.

4.5.2 DEVELOPMENT CONTROL PLANS

4.5.2.1 Coonamble Shire Development Control Plan 1996 (Small Cattle Feedlot)

The *Coonamble Shire Development Control Plan 1996* (CDCP 1996) applies to the site. **Table 4** provides a summary of relevant matters raised via the DCP together with an assessment of project specific compliance.

As outlined at **Table 4**, the development is generally compliant with all relevant provisions of the Development Control Plan.

5. IMPACTS, SITE SUITABILITY & THE PUBLIC INTEREST

Pursuant to Schedule 1 of the EP&A Regulation, this section of the report outlines the environmental impacts of the proposed development and any measures required to protect the environment or lessen the harm to the environment.

The impacts have been identified through an assessment of the proposed development against the provisions of section 4.15(1)(b) and the former NSW Department of Urban Affairs and Planning's (nd) Guide to Section 79C.

This section also addresses the consideration at Section 4.15(c) and Section 4.15(e) of the Act that relate to the suitability of the site for the development and the public interest.

5.1 Context and Setting

The proposed alterations and additions involve the construction of a further 26 pens to the immediate east of the existing feedlot facility and an expansion of the existing manure pad to the immediate west of the existing facility.

The proposed alterations and additions are required in order to facilitate ongoing repairs and upgrades to the existing facility without any need to de-stock. The proposed alterations and additions do not seek to make any other change to the operation of the existing facility, including the overall 10,000 head capacity.

Given the nature of the proposed alterations and additions, it is considered that the most likely impact will be ground disturbance associated with site preparation and construction. It is not anticipated that there will be any discernible impacts on the local context and setting outside of the subject site.

5.2 Access, Transport and Traffic

Once operational, the development will not generate increased traffic movements.

5.3 Public Domain

As noted under **Section 5.1**, given the nature of the proposed alterations and additions, it is considered that the most likely impact will be ground disturbance associated with site preparation and construction. It is not anticipated that there will be any discernible impacts on the local context and setting outside of the subject site.

5.4 Servicing

The proposed alterations and additions do not generate demand for additional services. The existing, operational feedlot has adequate capacity to accommodate the development.

5.5 Heritage

The site is not identified as being or adjoining an item of local heritage significance or within a heritage conservation area under the CLEP 2011. The proposed works are unlikely to disturb Aboriginal sites or places due to occurring predominantly over substantially disturbed areas.

5.6 Water

The potential for the pollution of surface water and groundwater was addressed as part of the original Development Application for the existing feedlot.

5.6.1 SURFACE WATER

Potential pollution of surface water is only likely to occur during the construction phase. It is considered that any potential impact can be mitigated by the implementation of safeguards such as sediments and erosion controls.

It is recommended that a condition of consent be applied to require the installation and maintenance of sediment and erosion controls throughout the construction phase.

Following construction, all surface water will be directed to the existing sediment and effluent ponds.

5.6.2 GROUNDWATER

It is understood that the water bearing zones below the feedlot are first encountered at 461m (GW041028, Water NSW Work Summary, 2006). Coupled with low permeability and the silty clay nature of soils, leaching of effluent is restricted.

Given that the proposed alterations and additions do not require any change to the existing effluent ponds, it is considered that the potential for pollution of groundwater is unlikely and that no further mitigation measures are required.

5.7 Soils

The potential for degradation of soils is minor due to the negligible gradients across the property. Existing land use and management practices such as conservative crop rotations and good pasture management result in little soil erosion.

As discussed above, it is recommended that a condition of consent be applied to require the installation and maintenance of sediment and erosion controls throughout the construction phase.

5.8 Air and Microclimate

The potential for odours was addressed as part of the original Development Application for the existing feedlot.

Given that the proposed alterations do not seek to increase the overall capacity of the feedlot it is considered unnecessary to provide a detailed assessment of odour.

The only likely impact on air quality would be windswept dust during construction. Notwithstanding, given the location of the existing feedlot, windswept dust is unlikely to have a detrimental impact outside of the subject property.

5.9 Flora and Fauna

While the proposed alterations and additions require the removal of native vegetation in the form of a planted windbreak, this is not subject to the requirements of the BC Act by reference to Section 6.3 as the affected area meets the definition of Category 1 – exempt land pursuant to Section 60H(1) of the *Local Land Services Act 2013*.

(1) Land is to be designated as category 1-exempt land if the Environment Agency Head reasonably believes that—

(a) the land was cleared of native vegetation as at 1 January 1990, or

(b) the land was lawfully cleared of native vegetation between 1 January 1990 and the commencement of this Part.

It is noted that all native vegetation within the immediate vicinity of the existing feedlot was cleared during site preparation works and construction. The windbreak was subsequently planted to the immediate east of the feedlot around 2000.

5.10 Waste

During construction, waste is to be disposed of at appropriate, licensed facilities.

Once operational, the development will not result in a significant increase in waste generation. Waste is to be continued to be disposed of in accordance with current arrangements.

5.11 Noise & Vibration

The works are substantially separated from the nearest non-associated sensitive receivers such that, once operational, they will not result in a significant increase in noise or vibration impacts from the site.

5.12 Natural Hazards

The existing feedlot and area subject to the proposed alterations and additions is not identified as being bushfire prone land and is not known to be flood affected.

There are no other likely natural hazards that may impact on, or be impacted by, the proposed alterations and additions.

5.13 Technological Hazards

There are no known technological hazards that may impact on, or be impacted by, the proposed alterations and additions.

5.14 Social Impact

As defined by the NSW Government Office on Social Policy, social impacts are significant events experienced by people as changes in one or more of the following are experienced:

- peoples' way of life (how they live, work or play and interact with one another on a day-to-day basis);
- their culture (shared beliefs, customs and values); or
- their community (its cohesion, stability, character, services and facilities).

The proposed alterations and additions will not have any impact on the foregoing matters.

5.15 Economic Impact

The proposed alterations and additions will have a positive economic impact on the local economy insofar as they will allow for the feedlot to remain at full capacity while repairs and maintenance are undertaken.

Further, it is anticipated that the construction of the alterations and additions will also have a positive impact on the local economy with construction works, such as bulk earthworks, likely to be undertaken by a local contractor.

5.16 Construction Impacts

Construction impacts would be short-lived and manageable.

The following standard construction management measures would be implemented to ensure impacts to the locality are minimised:

- Standard construction hours (7 am to 6 pm Monday to Friday and 8 am to 1 pm Saturday and at no times on Public holidays) would be implemented;
- Avoiding dust generating activities during windy and dry conditions; and
- Maintaining all equipment in good working condition such that the construction contractor and site manager ensure the prevention of the release of smoke by construction equipment, which would be in contravention of Section 124 of the *Protection of the Environment Operations Act 1997* and Clause 16 of the *Protection of the Environment Operations (Clean Air) Regulation 2010*.

5.17 Cumulative Impacts

It is not anticipated that the development would result in any cumulative impacts including:

- Individual impacts so close in time that the effects of one are not dissipated before the next (time crowded effects);
- Individual impacts so close in space that the effects overlap (space crowded effects);
- Repetitive, often minor impacts eroding environmental conditions (nibbling effects); or
- Different types of disturbances interacting to produce an effect which is greater or different than the sum of the separate effects (synergistic effects).

6. CONCLUSION

6.1 Suitability of the site

The subject site is suitable for the development on the grounds that the site:

- Is unlikely to be contaminated in the vicinity of the proposed development;
- Is unlikely to contain Aboriginal sites or places in the vicinity of the proposed development;
- Is unlikely to be flood prone in the vicinity of the proposed development;
- Is predominantly disturbed in the vicinity of the proposed development;
- Is not mapped as bushfire prone land;
- Contains an existing, operational feedlot with existing services to accommodate the development; and
- Has adequate access arrangements to accommodate construction and operational traffic due to existing activities occurring on the site.

6.2 The Public Interest

The proposed development is in the public interest on the grounds that it:

- Is permitted with consent in RU1 zone and is consistent with the objectives of the CLEP 2011, as well as compliant with all relevant provisions under the CLEP 2011;
- Is consistent with all relevant SEPPs;
- Is compliant with all relevant controls set out in the CDCP 1996; and
- Will result in minimal impacts on heritage, hydrogeology, flora and fauna, the site's context and setting, access, transport and traffic, noise and vibration and odour.



APPENDIX A

PROJECT DRAWINGS



APPENDIX B

DCP COMPLIANCE TABLE

Table 5 – Development Control Plan Matters and Assessment

Objective/requirement	Assessment	Compliance?
3. MINIMUM REQUIREMENTS		
3.1 Buffer Zone		
The distance between the perimeter of the feedlot and the nearest occupied dwelling shall be one (1) kilometre.	The nearest occupied dwelling not associated with the existing feedlot is in excess of 1km from the feedlot.	Yes
The distance between the perimeter of the feedlot and the nearest urban area shall be a minimum of 3.0 kilometres.	The existing feedlot is located approximately 7.5km southwest of Coonamble.	Yes
The distance between one existing or new feedlot and another shall be no less than five (5) kilometres.	There are no other feedlots within the immediate vicinity.	Yes
Council reserves the right to vary these distances +/- 10%	Noted.	
3.2 Proximity to waterways and underground supplies		
Dry watercourse		
If ground conditions are impervious and site slopes away from watercourse - 100 metres	The Gidgenbar Watercourse is in the order of 300m to the west of the existing feedlot.	Yes
If ground conditions are impervious and site slopes towards watercourse - 200 metres	The Gidgenbar Watercourse is in the order of 300m to the west of the existing feedlot.	Yes
If ground conditions are pervious - 2 kilometres	N/A	
Permanent flowing watercourse		
Under all ground and soil conditions - 2 kilometres Council reserves the right to vary these distances +/- 10%	There are no mapped watercourses within the vicinity of the immediate vicinity of the feedlot.	Yes / Acceptable on merit

Objective/requirement	Assessment	Compliance?
	<p>The closest mapped watercourse, the Gidgenbar Watercourse, is in the order of 300m to the west, however it does not appear to be permanently flowing.</p> <p>As previously discussed, the proposed alterations and additions involve the construction of a further 26 pens to the immediate east of the existing feedlot facility.</p>	
3.3 Topography		
Land must have a minimum slope of 1% and detention ponds for both runoff and silt must be constructed in accordance with The Feedlot Manual 1990 (as amended).	The proposed alterations and additions do not require any change to the existing detention ponds, with the exception of minor upgrades to capture runoff from the proposed rehabilitation pens.	Yes
Feedlots shall be surrounded by a bank to contain any runoff which threatens a watercourse and all waste is to be diverted by this bank to the detention and holding ponds.	The proposed alterations and additions incorporate suitable drainage lines to capture effluent and surface water runoff. The drains have been designed to integrate with the existing feedlot sediment and effluent holding pond. The proposed alterations and additions include bunding to ensure that clean surface water does not enter the feedlot and that surface water runoff from the feedlot is captured within the existing sediment and effluent pond.	Yes
The developer shall provide calculations and plans acceptable by the Environment Protection Authority for the construction of detention and siltation ponds.	<p>The proposed alterations and additions do not require any change to the capacity of the existing ponds. The relevant calculation are included at Appendix C.</p> <p>Notwithstanding, a separate future holding pond will be developed as part of the proposed developed development. The development of an additional holding pond will provide contingency for the ongoing operation of the feedlot.</p>	Yes
3.4 Waste management and feedlot operation		
This shall be carried out in accordance with the abovementioned EPA guidelines and the "Feedlot Advisory Manual" issued by the NSW Department of Agriculture and Fisheries.	The proposed alterations and additions would operate in accordance with the same requirements of the existing Development Consent and applicable EPL.	Yes

Objective/requirement	Assessment	Compliance?
3.5 Other Considerations		
The applicant may be subject to consideration by other State and Federal authorities in respect of air and water pollution, planning, traffic management and any other matter.	Noted.	
Thorough investigation by the developer is advised because of the sensitive nature of the development in relation to the environment	Noted.	
3.6 Statement of environmental effects		
The result of the applicant's investigations, as required in this Development Control Plan, shall be presented to Council, together with the development application in the form of a "Statement of Environmental Effects".	Noted. Investigations have been undertaken relevant to the proposed alterations and additions. The results of those investigations are presented in this SoEE.	



APPENDIX C

EFFLUENT MANAGEMENT REPORT



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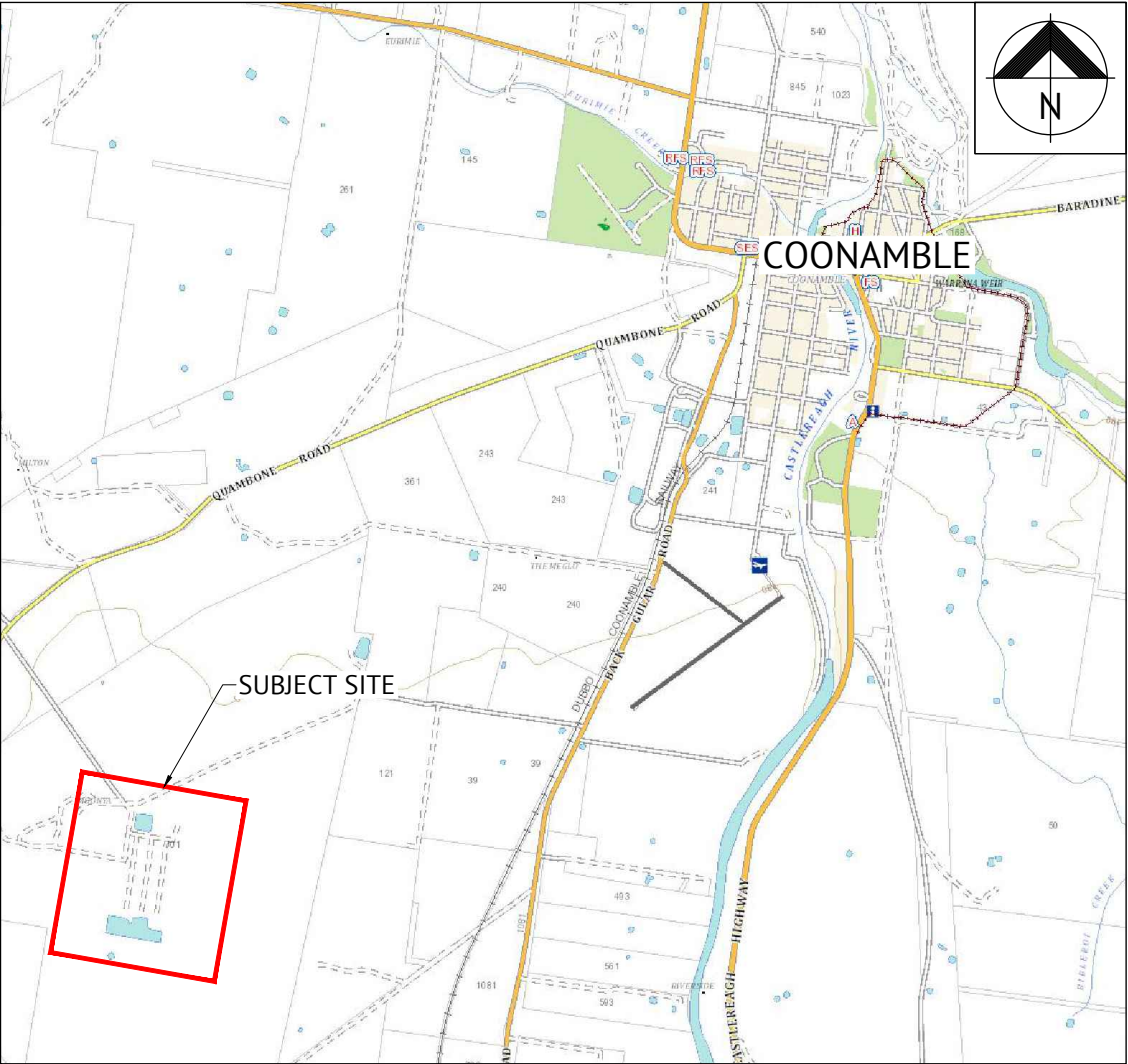
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EXISTING FEEDLOT REHABILITATION PENS & MANURE PAD

"MOONYA" QUAMBONE ROAD COONAMBLE, NSW 2829

RURAL MARKETING AUSTRALIA PTY LIMITED TRADING AS COONABLE FEEDLOT


DEVELOPMENT APPLICATION PLANS

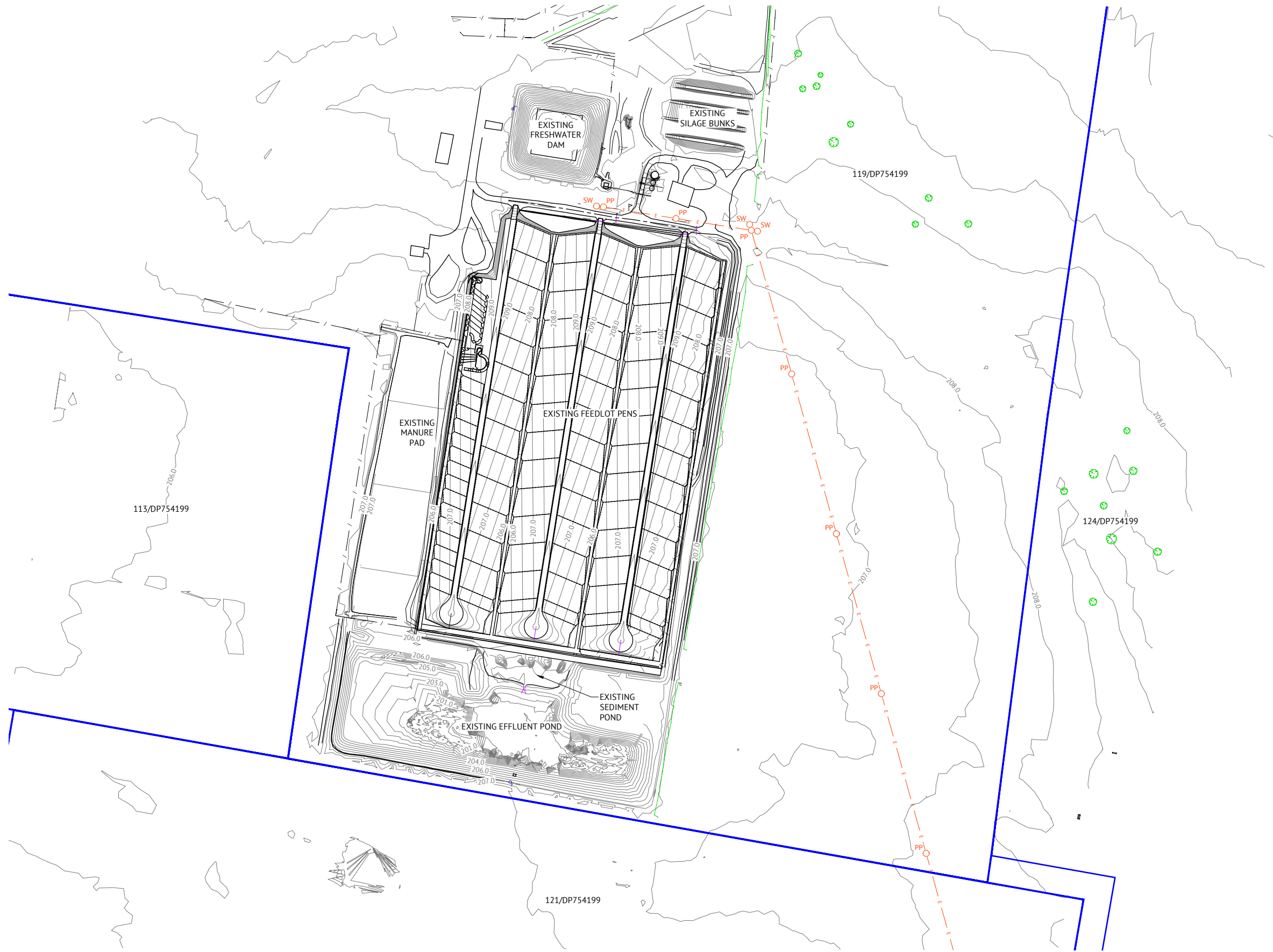
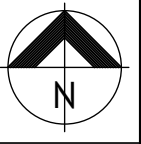


LOCALITY PLAN

NTS

DRAWING SCHEDULE	
DRAWING NO.	DRAWING TITLE
C001	TITLE SHEET & SCHEDULE OF DRAWINGS
C002	EXISTING LAYOUT PLAN
C003	PROPOSED LAYOUT PLAN
C004	BULK EARTHWORKS PROPOSED FEEDLOT PENS LAYOUT PLAN
C005	BULK EARTHWORKS PROPOSED MANURE PAD EXTENSION LAYOUT PLAN
C006	BULK EARTHWORKS CUT-FILL PLAN
C007	BULK EARTHWORKS TYPICAL SECTIONS

ISSUED FOR REVIEW						 ORANGE OFFICE 154 PEISLEY STREET ORANGE, NSW 2800 PH: (02) 6393 5000 WEB: www.premise.com.au	DESIGNED	SCALE	CLIENT	RURAL MARKETING AUSTRALIA PTY LIMITED TRADING AS COONAMBLE FEEDLOT		JOB CODE			
							CHECKED		PROJECT MANAGER	PROJECT	EXISTING FEEDLOT REHABILITATION PENS & MANURE PAD		222230_05		
							PPO			LOCATION	"MOONYA" QUAMBONE ROAD COONAMBLE, NSW 2829		SHEET NUMBER	REV	
01/11/2023	C	MINOR AMENDMENT - NOTE ADDED			RB		PPO			MDH	SHEET TITLE	TITLE SHEET & SCHEDULE OF DRAWINGS			
25/10/2023	B	UPDATED REMEDIATION PENS LOCATION			RB		PPO					ORIGINAL SHEET SIZE A1			
30/08/2023	A	ISSUED FOR REVIEW			RB	PPO					C001	C			
DATE	REV	DESCRIPTION				REC	APP								
REVISIONS															



LEGEND

- 208 — EXISTING CONTOUR (0.5m INTERVAL)
- EXISTING FEEDLOT & INFRASTRUCTURE
- LOT BOUNDARIES
- E — E OVERHEAD POWER LINE
- EXISTING VEGETATION

LOCATION AND EXTENT OF WORKS ARE
CONCEPTUAL ONLY & SUBJECT TO
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01/11/2023	C	MINOR AMENDMENT - NOTE ADDED	RB	PPO
25/10/2023	B	UPDATED REMEDIATION PENS LOCATION	RB	PPO
30/08/2023	A	ISSUED FOR REVIEW	RB	PPO



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MDH

SCALE

0 60 120 180m

SCALE 1:3000 (A1)

ORIGINAL SHEET SIZE A1

CLIENT
RURAL MARKETING AUSTRALIA PTY LIMITED TRADING AS COONAMBLE FEEDLOT

PROJECT
EXISTING FEEDLOT REHABILITATION PENS & MANURE PAD

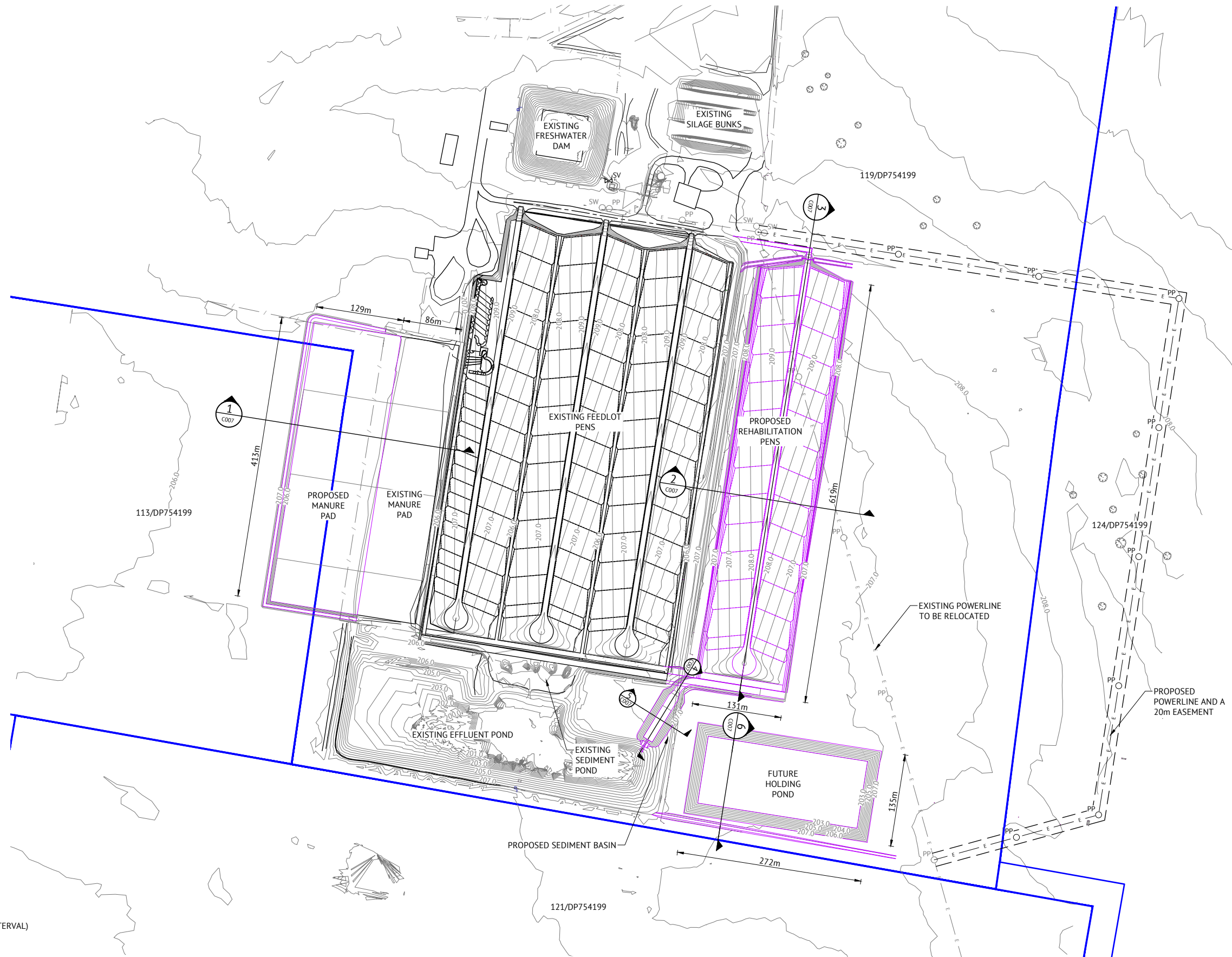
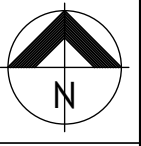
LOCATION
"MOONYA" QUAMBONE ROAD COONAMBLE, NSW 2829

SHEET TITLE
EXISTING LAYOUT PLAN

JOB CODE
222230_05

SHEET NUMBER
C002

REV
C



LEGEND

	EXISTING AND DESIGN CONTOUR (0.5m INTERVAL)
	EXISTING FEEDLOT & INFRASTRUCTURE
	PROPOSED FEEDLOT
	LOT BOUNDARIES
	OVERHEAD POWER LINE
	EXISTING VEGETATION

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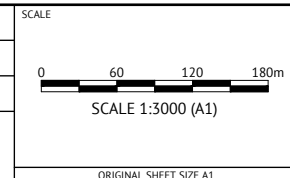
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25/10/2023	B	UPDATED REMEDIATION PENS LOCATION	RB	PPO
30/08/2023	A	ISSUED FOR REVIEW	RB	PPO

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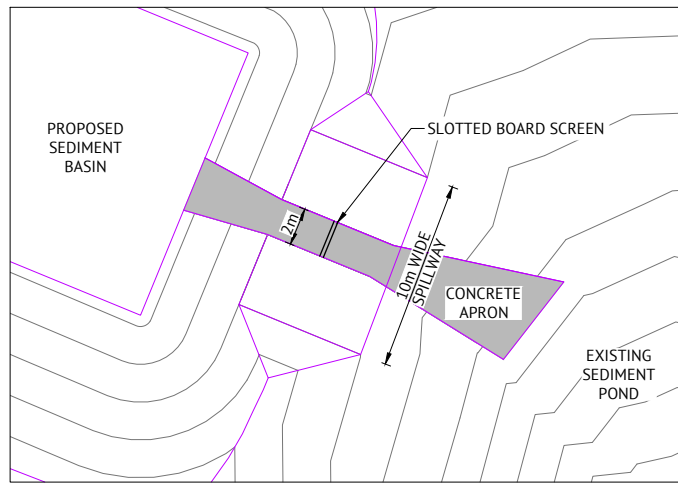
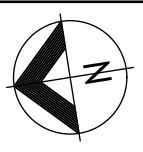
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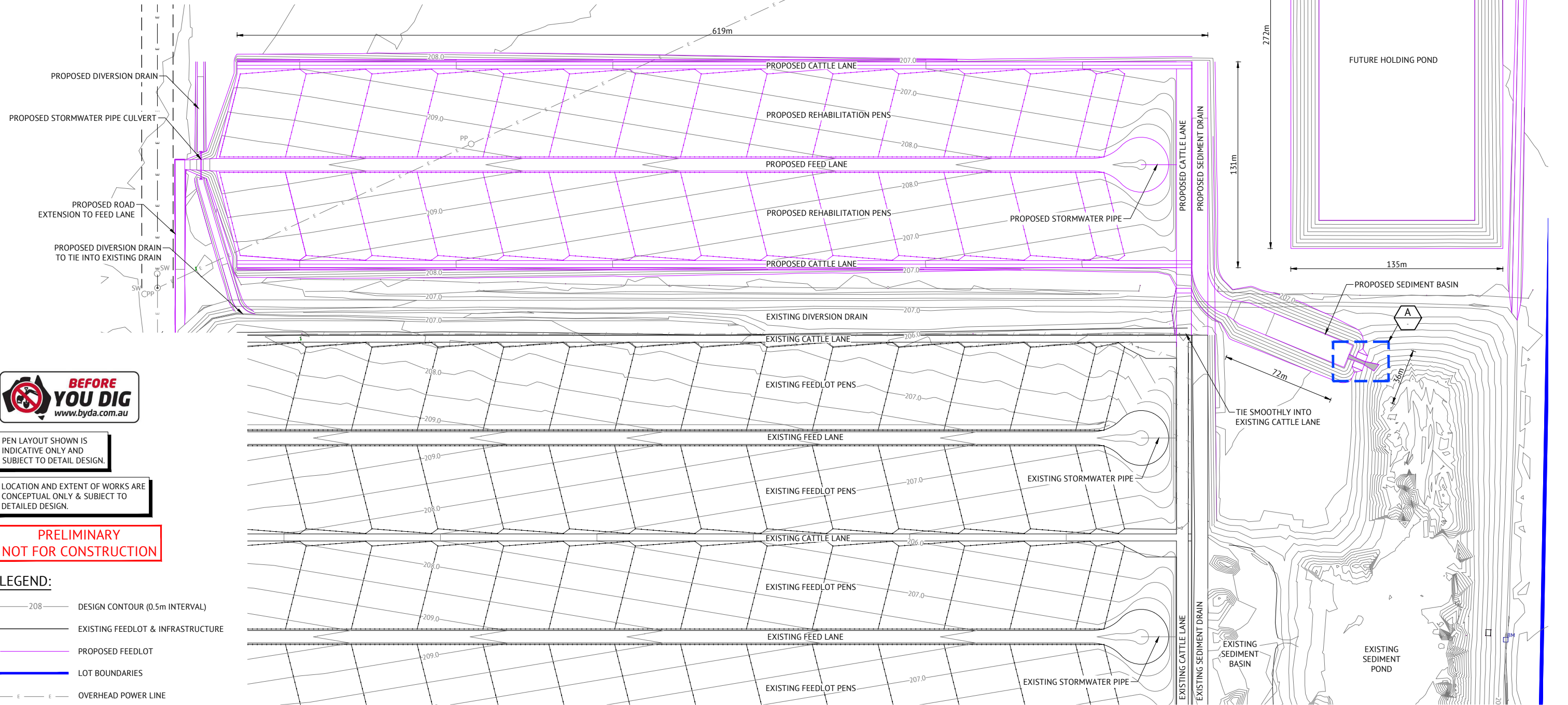


CLIENT	RURAL MARKETING AUSTRALIA PTY LIMITED TRADING AS COONAMBLE FEEDLOT
PROJECT	EXISTING FEEDLOT REHABILITATION PENS & MANURE PAD
LOCATION	"MOONYA" QUAMBONE ROAD COONAMBLE, NSW 2829
SHEET TITLE	PROPOSED LAYOUT PLAN

JOB CODE	222230_05
SHEET NUMBER	C003
REV	C



A
DETAIL
SCALE 1:200



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LEGEND:

- 208 — DESIGN CONTOUR (0.5m INTERVAL)
- EXISTING FEEDLOT & INFRASTRUCTURE
- PROPOSED FEEDLOT
- LOT BOUNDARIES
- E — OVERHEAD POWER LINE

ISSUED FOR REVIEW

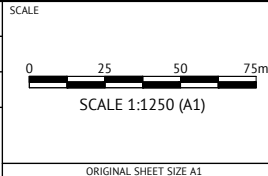
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01/11/2023	C	MINOR AMENDMENT - NOTE ADDED	RB	PPO
25/10/2023	B	UPDATED REMEDIATION PENS LOCATION	RB	PPO
30/08/2023	A	ISSUED FOR REVIEW	RB	PPO

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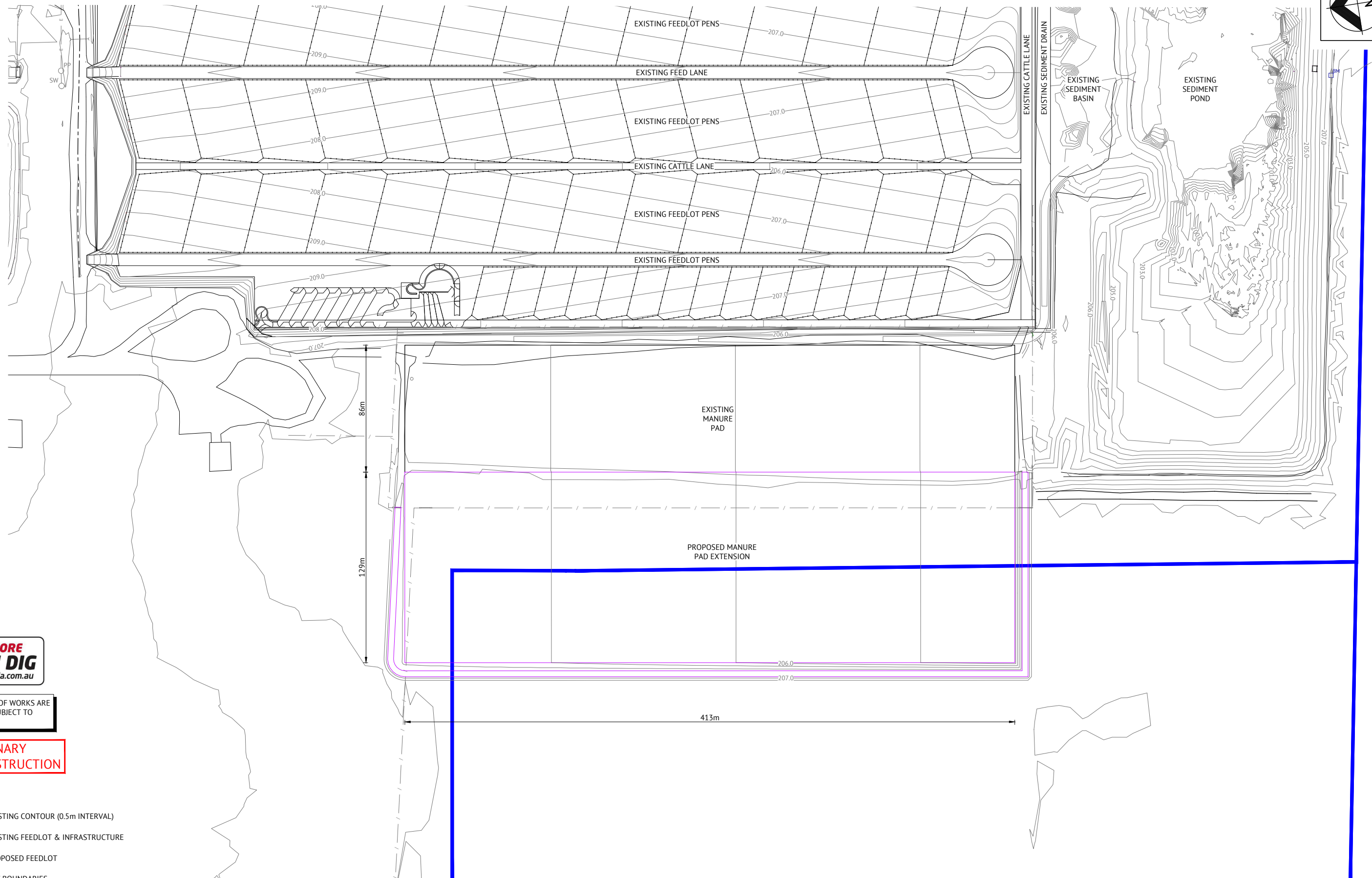
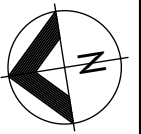
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CLIENT **RURAL MARKETING AUSTRALIA PTY LIMITED TRADING AS COONAMBLE FEEDLOT**
PROJECT **EXISTING FEEDLOT REHABILITATION PENS & MANURE PAD**
LOCATION **"MOONYA" QUAMBONE ROAD COONAMBLE, NSW 2829**
SHEET TITLE **BULK EARTHWORKS PROPOSED FEEDLOT PENS LAYOUT PLAN**

JOB CODE **222230_05**
SHEET NUMBER **C004**
REV **C**



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- LEGEND:**
- 208 — EXISTING CONTOUR (0.5m INTERVAL)
 - EXISTING FEEDLOT & INFRASTRUCTURE
 - PROPOSED FEEDLOT
 - LOT BOUNDARIES
 - E — E — OVERHEAD POWER LINE

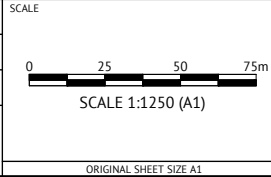
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DATE	REV	DESCRIPTION	REC	APP
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25/10/2023	B	UPDATED REMEDIATION PENS LOCATION	RB	PPO
30/08/2023	A	ISSUED FOR REVIEW	RB	PPO



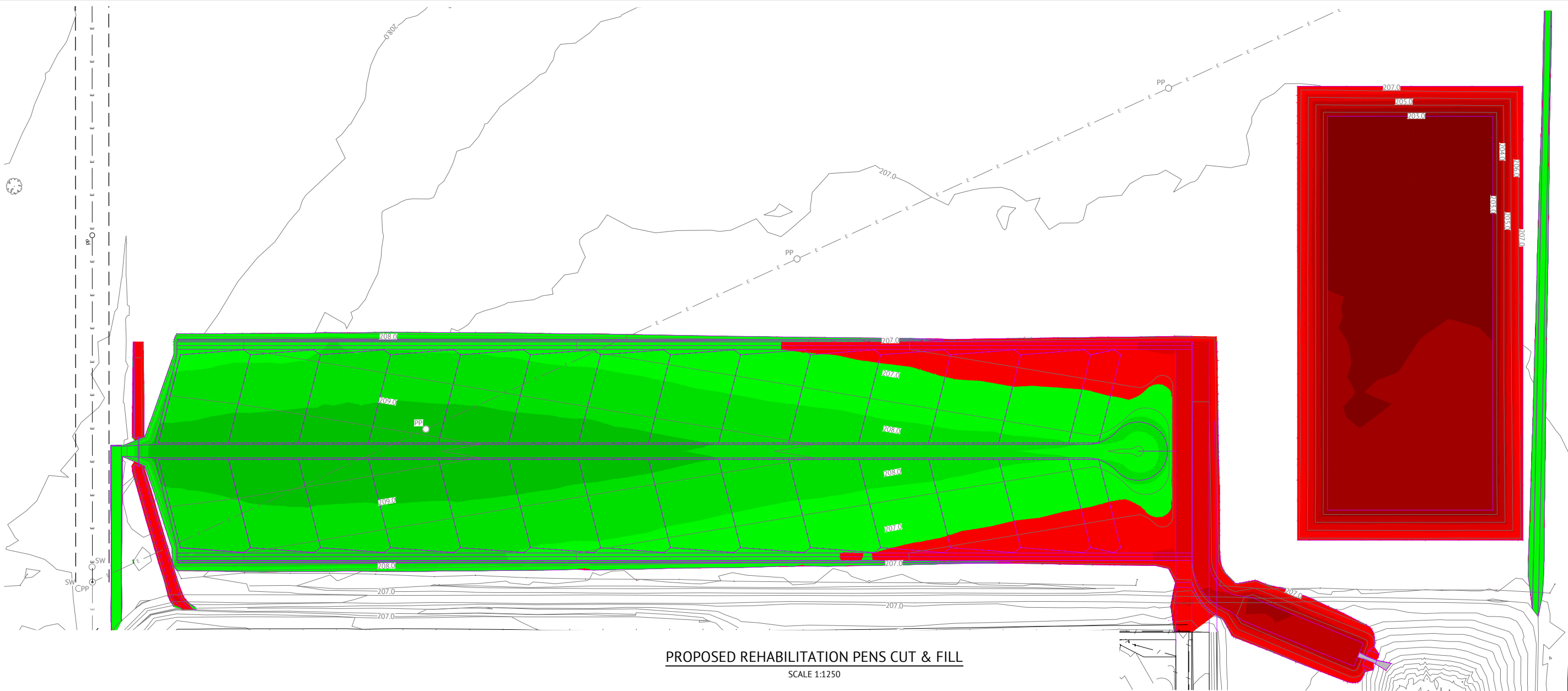
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CHECKED PPO
PROJECT MANAGER MDH

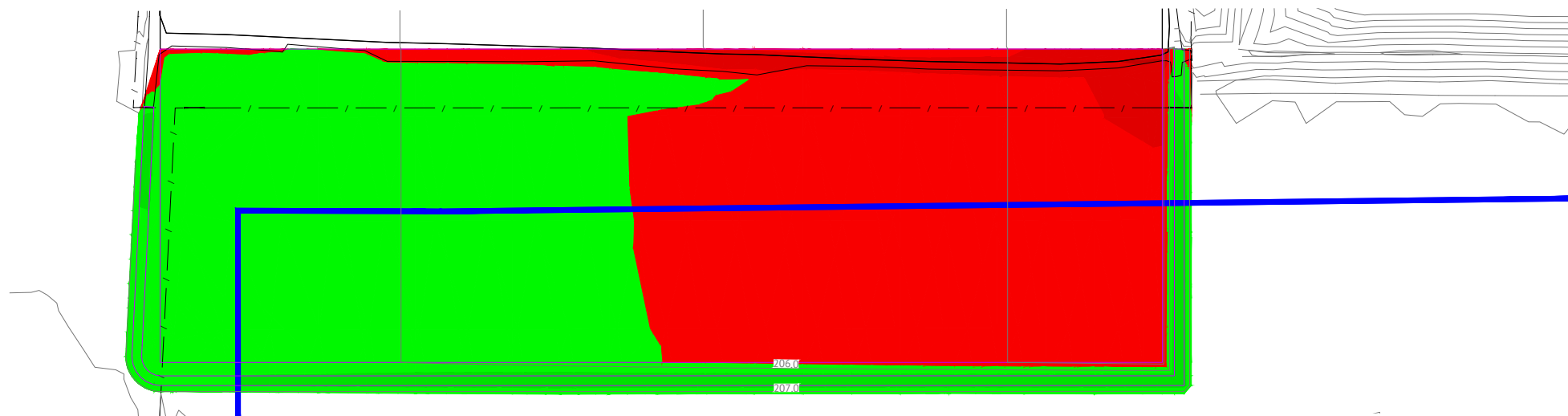


CLIENT	RURAL MARKETING AUSTRALIA PTY LIMITED TRADING AS COONAMBLE FEEDLOT
PROJECT	EXISTING FEEDLOT REHABILITATION PENS & MANURE PAD
LOCATION	"MOONYA" QUAMBONE ROAD COONAMBLE, NSW 2829
SHEET TITLE	BULK EARTHWORKS PROPOSED MENURE PAD EXTENSION LAYOUT PLAN

JOB CODE	222230_05
SHEET NUMBER	C005
REV	C



PROPOSED REHABILITATION PENS CUT & FILL
SCALE 1:1250



PROPOSED MANURE PAD EXTENSION CUT & FILL
SCALE 1:1250

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PRELIMINARY
NOT FOR CONSTRUCTION



LEGEND:

DEPTH POLYGONS ARE CALCULATED FROM THE EXISTING SURFACE TO FINISHED
SURFACE LEVELS (I.E. PAVEMENT FINISHED LEVELS AND FINISHED FLOOR LEVELS)

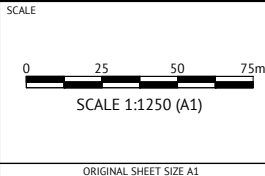
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-4.0m TO -3.0 CUT	1.0m TO 2.0m FILL
-3.0m TO -2.0m CUT	2.0m TO 3.0m FILL
-2.0 TO -1.0m CUT	3.0m TO 4.0m FILL
-1.0 TO -0m CUT	

ISSUED FOR REVIEW

DATE	REV	DESCRIPTION	REC	APP
01/11/2023	C	MINOR AMENDMENT - NOTE ADDED	RB	PPO
25/10/2023	B	UPDATED REMEDIATION PENS LOCATION	RB	PPO
30/08/2023	A	ISSUED FOR REVIEW	RB	PPO

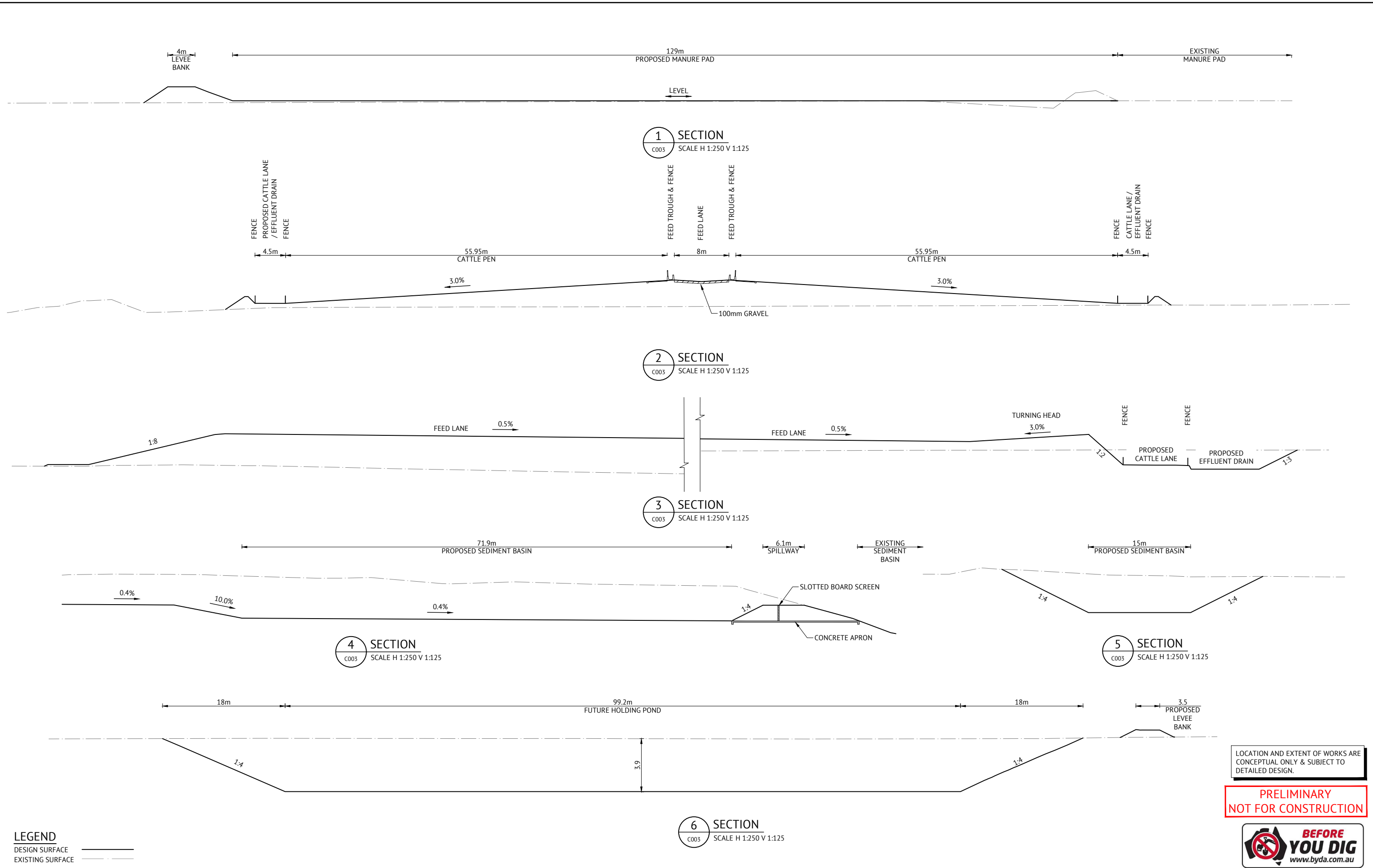
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DESIGNED IW
CHECKED PPO
PROJECT MANAGER MDH



CLIENT	RURAL MARKETING AUSTRALIA PTY LIMITED TRADING AS COONAMBLE FEEDLOT
PROJECT	EXISTING FEEDLOT REHABILITATION PENS & MANURE PAD
LOCATION	"MOONYA" QUAMBONE ROAD COONAMBLE, NSW 2829
SHEET TITLE	BULK EARTHWORKS CUT-FILL PLAN

JOB CODE	222230_05
SHEET NUMBER	C006
REV	C



LEGEND
DESIGN SURFACE
EXISTING SURFACE

LOCATION AND EXTENT OF WORKS ARE
CONCEPTUAL ONLY & SUBJECT TO
DETAILED DESIGN.

PRELIMINARY
NOT FOR CONSTRUCTION



ISSUED FOR REVIEW					
DATE	REV	DESCRIPTION	REC	APP	REVISIONS
01/11/2023	C	MINOR AMENDMENT - NOTE ADDED	RB	PPO	
25/10/2023	B	UPDATED REMEDIATION PENS LOCATION	RB	PPO	
30/08/2023	A	ISSUED FOR REVIEW	RB	PPO	



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SCALE
AS SHOWN
ORIGINAL SHEET SIZE A1

CLIENT	RURAL MARKETING AUSTRALIA PTY LIMITED TRADING AS COONAMBLE FEEDLOT
PROJECT	EXISTING FEEDLOT REHABILITATION PENS & MANURE PAD
LOCATION	"MOONYA" QUAMBONE ROAD COONAMBLE, NSW 2829
SHEET TITLE	BULK EARTHWORKS TYPICAL SECTIONS

JOB CODE	222230_05
SHEET NUMBER	C007
REV	C



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RURAL MARKETING AUSTRALIA PTY LTD

Proposed Rehabilitation Pens

EFFLUENT MANAGEMENT SYSTEM

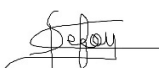


Report No: 222230_MMP_001

Rev: B

2 November 2023

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DOCUMENT AUTHORISATION					
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Stephan Defoy		Martin Haege		Daniel Drum	

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APPENDICES

APPENDIX A PROPOSED FEEDLOT LAYOUT

1. INTRODUCTION

Rural Marketing Australia Pty Ltd are submitting a Development Application (DA) for alterations and additions to the existing Moonya feedlot. The proposed alterations and additions involve the construction of a further 26 pens to the immediate east of the existing feedlot pens, expansion of the existing manure pad to the immediate west of the existing facility and other ancillary works including associated infrastructure and earthworks.

The proposed alterations and additions are required to facilitate ongoing repairs and upgrades to the existing feedlot facility without the need to de-stock. The proposed alterations and additions do not seek to make any other change to the operation of the existing facility, including the overall 10,000 head capacity.

The feedlot is licensed by the NSW Environment Protection Authority (EPA) (Environment Protection Licence (EPL) 12467).

1.1 Scope

The existing 10,000 head feedlot was designed in accordance with the *National Guidelines for Beef Cattle Feedlots in Australia* (MLA, 2012a) (National Guidelines) and *The National Beef Cattle Feedlot Environmental Code of Practice* (MLA, 2012b) (Environmental Code of Practice).

Runoff from the controlled drainage area (CDA) of the existing feedlot is managed through a sediment basin and holding pond and reused for irrigation.

The proposed rehabilitation pens would include a separate sediment basin which would discharge to the existing holding pond. The expanded manure pad would drain directly to the existing holding pond.

This report details the sizing of the proposed sediment basin for the rehabilitation pens and demonstrates how the additional site runoff can be managed by the existing holding pond and reuse area.

2. EFFLUENT MANAGEMENT SYSTEM

2.1 Overview

The proposed rehabilitation pens (Rows F and G) would be located to the east of the existing feedlot pens. A proposed separate sediment basin would collect effluent from this feedlot upgrade and would discharge to the existing holding pond.

Runoff from the proposed manure pad expansion would discharge directly to the existing holding pond, consistent with the existing drainage system.

The layout of the proposed alterations and additions is presented in **Appendix A**.

2.2 Effluent Management System

A controlled drainage area (CDA) has been designed around the proposed rehabilitation pen area to ensure all runoff is captured by the effluent management system.

2.3 Sediment Basins Sizing

2.3.1 EXISTING SEDIMENTATION BASIN

The existing sedimentation has a volume of 4,100 m³. The maximum surface area is 5,516 m² and the average depth is 0.7 m. The existing sediment volume (4,100 m³) is more than the volume required to cater for the peak flow rate from a design storm having an average recurrence interval (ARI) of 20 years (3,300 m³) (Geolyse, 2006).

2.3.2 SEDIMENTATION BASIN FOR REHABILITATION PENS

The proposed sedimentation basin for the rehabilitation pens was sized in accordance with the National Guidelines (MLA, 2012) for a 20 year ARI rainfall event. The required volumetric design capacity of the sedimentation system is determined using the following formula:

$$V_p = Q_p \times \frac{L}{W} \times \frac{\lambda}{v}$$

Where:

- V_p = required sedimentation system volume (m³);
- Q_p = peak flow rate (m³/s) for a 20-years ARI design storm;
- $\frac{L}{W}$ = length to width or aspect ratio of the system (adopted 2);
- λ = a scaling factor (adopted 2.5); and
- v = design flow velocity (m/s) (adopted 0.005 m/s).

The peak flow rate (Q_p) for a 20 year ARI design storm was calculated using the rational method formula:

$$Q_p = \frac{C \times I \times A}{360}$$

Where:

- Q_p = peak flow rate for a 20 year ARI storm event;
- C = runoff coefficient;
- I = rainfall intensity of 20-year ARI design storm (mm/hr); and
- A = catchment area (ha).

The catchment characteristics for sedimentation basin are given in **Table 1**:

Table 1 – CDA catchment areas

System	Catchment type	Catchment area (m ²)	Runoff coefficient	Equivalent runoff area
Sedimentation basin for rehabilitation pens	Pens	63,112	0.8	50,490
	Hard	16,868	0.8	13,494
	Soft	4,148	0.4	1,659
	Total	84,128	0.78	65,643

The catchment time of concentration was estimated using Bransby Williams Formula, which is given by:

$$t_c = \frac{58 \times L}{A^{0.1} \times S_e^{0.2}}$$

Where:

- t_c = time of concentration (min);
- L = mainstream length (km);
- A = area of catchment (km²); and
- S_e = equal area slope (m/km).

The rehabilitation pens characteristics considered to determine the catchment time of concentration are presented in **Table 2**.

Table 2 – Rehabilitation pens parameters

Parameters	Value	Units
Pen slope	3.00	%
Drain Slope	0.50	%
Pen overland flow length	59.0	m
Pen overland flow time	8.2	min
Drain length	780.0	m
Drain flow time*	26	min
Time of concentration (t_c)	34.2	min

*Based of a drain velocity of 0.7m/s

The peak flow for a catchment time of concentration of 34 min for a 20 ARI storm event is, $Q_p = 1.37 \text{ m}^3/\text{s}$.

The minimum sediment basin volume required for the peak flow, with a 10% buffer capacity is, $V_p = 1,512 \text{ m}^3$.

The proposed sedimentation terrace has a maximum volume capacity of $1,620 \text{ m}^3$.

2.4 Holding Pond

The original sizing of the holding pond required a minimum volume of 35 ML to capture run-off of a 1 in 50 years, 24 hours storm (Geolyse, 2006). As the earth excavated from the holding pond was used to build the existing feedlot pens, the final holding pond volume exceeded the minimum design volume required.

Volumes derived from a survey of the holding pond are presented in **Table 3**. The survey data indicates more capacity in the holding pond compared to the minimum required volume.

Table 3 – Surveyed existing pond parameters

Parameter	Value	Unit
Volume to base of slotted board on sediment basin	60,000	m ³
Volume to lower end of feedlot drainage system	120,000	m ³
Surface Area	37,026	m ²
Depth	4.7	m

2.5 Water Balance Modelling

Water balance modelling was undertaken to determine if the existing holding pond would have enough capacity to accommodate the extra runoff from the rehabilitation pens and expanded manure pad. The design objective is to ensure the average spilling frequency less than one in ten years.

It is important to note that the system is constructed in such a way that the holding pond cannot spill, until stored effluent backs up into the bottom third of the existing pens and drains. The nominal design capacity of the holding pond is to the point where it would back-up into the sediment basin. In very wet conditions, stored effluent could continue to back-up through the sediment basin, and in the worst case, it might reach the effluent drain (i.e. the inlet of the sedimentation basin).

Based on survey data, and taking into account the point when the water stored in the holding pond would reach the level of the slotted board weir connecting to the sedimentation basin, and considering that the sedimentation basin is positioned 50mm higher than the level of the slotted board weir in the holding pond, effluent would begin to back up into the sediment basin when holding pond reaches approximately a volume of 60 ML. Stored effluent would back up to the main effluent drain if its holding pond volume shall approach 120 ML.

2.5.1 CONTROLLED DRAINAGE AREA AND HYDROLOGY

The controlled drainage area (CDA) includes the:

- existing feed pens, access laneway, feed lanes and drains;
- proposed rehabilitation pens;
- existing and proposed sedimentations basins;
- existing and proposed manure pad expansion; and
- existing holding pond.

Daily-step hydrological modelling of the CDA, sedimentation basins and holding pond has been used to establish that the sedimentation basins (existing and proposed) and existing holding pond can accommodate effluent from the rehabilitation pens and manure pad expansion.

The model uses 134 years of daily climate data (SILO data) for the location.

Runoff from the CDA was calculated using the United States Department of Agriculture Soil Conservation Service (USDA SCS) rainfall runoff model which is represented by the following equation:

$$R = \frac{P - 5 \times \left[\left(\frac{1000}{K} - 10 \right) \right]^2}{P + 20 \times \left[\frac{1000}{K} - 10 \right]}$$

Where:

- R = runoff (mm);
- P = precipitation (mm); and
- K = catchment index representative of the soil-cover complex in the catchment.

Different values of the catchment index, K1, K2 and K3, are applied to represent respectively very dry, normal, or very wet soil/manure moisture conditions. The K values typically applicable to feedlot catchments are shown in **Table 4**.

Table 4 – Catchment index values

Catchment	K1 (very dry)	K2 (normal)	K3 (very wet)
Pens	92	93	95
Hard	96	96	96
Soft	57	75	88
Rain in preceding 10 days (mm)	0	10	30

2.5.2 WATER BALANCE RESULTS

Water balance model results for the rehabilitation pens and expanded manure pad area are shown on **Figure 1**. This model used:

- The expanded CDA which includes the existing pens, the proposed rehabilitation pens and the expanded manure pad;
- The existing and proposed sediment basins;
- A nominal design volume of 60 ML for the existing holding pond; and
- An irrigation area of 20 ha.

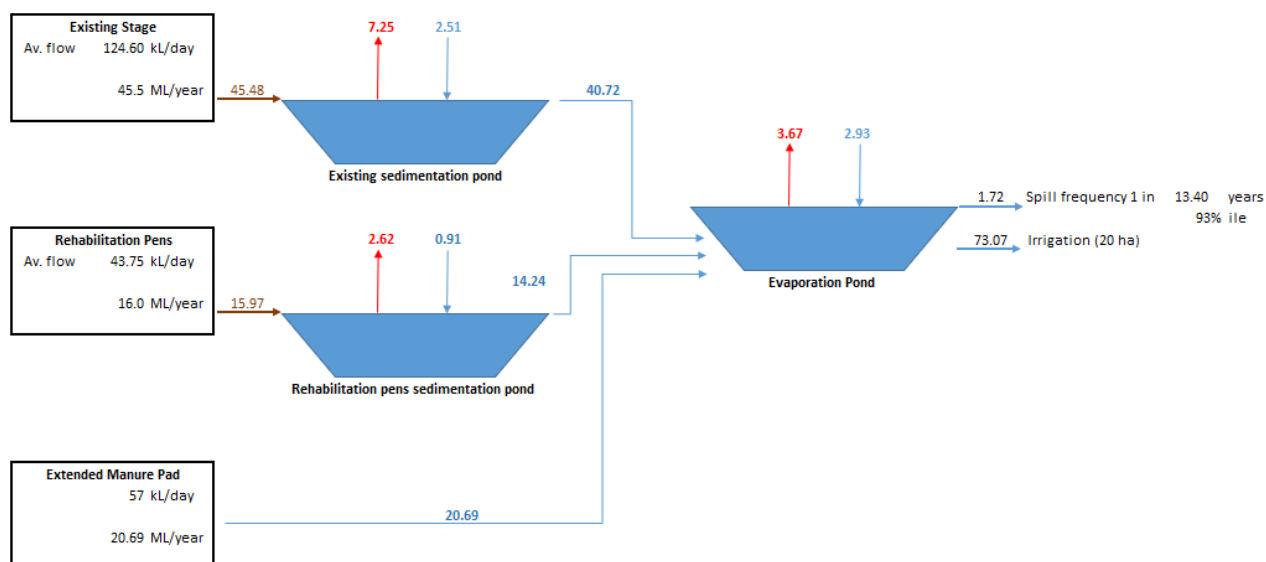
Effluent is removed from the holding pond through evaporation and irrigation. The irrigation area was sized to limit the indicative spill frequency to less than an average of once every ten years (noting that the pond does not actually spill).

Water balance model results show that effluent would:

- Reach the nominal design volume (base of sediment basin) an average of 1 in 13 years (93 percentile); and
- back up to the main effluent drain once in the 134 years modelled (99 percentile).

This shows the existing system can manage the increased flow from the proposed rehabilitation pens and expanded manure pad.

Figure 1 – Water balance diagram (60 ML holding pond and 20 ha irrigation area)



2.6 Pond Liners

The sediment basin for the rehabilitation pens would be constructed with a compacted clay liner. In accordance with the National Guidelines, the minimum depth recommended for the clay liner would be 300 mm after compaction. Clays would be tested and compacted to ensure a maximum permeability of 1×10^{-9} m/s.

3. WASTE UTILISATION

3.1 Liquid Effluent

Liquid effluent would be irrigated across a 20 ha irrigation area. This irrigation area would be used to grow crops that would supply part of the feed requirements for the feedlot.

The water balance model shows that an average of around 73 ML/year would be irrigated which equates to a hydraulic load of 3.65 ML/ha/year across the 20 ha irrigation area.

A typical cropping program would include rotations of lucerne and double cropping with winter and summer crops. The following nutrient balances are based on lucerne as this would have a lower combined nutrient uptake compared to a double crop.

3.2 Hydraulic, Organic and Nutrient Loading

3.2.1 HYDRAULIC LOADING

The feedlot runoff modelling indicates an average runoff volume of 73.1 ML/year, which would be irrigated after pond losses.

This equates to an average irrigation application of 3.65 ML/ha/year over 20 ha. This is a low annual irrigation which would not fully meet crop water requirements. Smaller areas could be irrigated each year and rotated to help maintain crop yield.

3.2.2 NUTRIENT LOADING

The principal objective of using effluent irrigation is to use or immobilise the added nutrients quickly to prevent potential contamination of surface and groundwaters. To achieve this, the amount of each nutrient applied in the effluent must be less than or similar to the amount removed from the site as well as the fixing of phosphorus by the soil. The nutrients of greatest environmental concern are nitrogen and phosphorus.

The typical concentration of total nitrogen and total phosphorus in the effluent is (Geolyse, 2006):

- 150 (mg/L) of total nitrogen; and
- 40 (mg/L) of total phosphorus.

Lucerne nutrient uptake is provided in **Table 5**:

Table 5 – Lucerne yield and nutrient removal

Crop	Dry matter yield (t/ha/year)	Nitrogen % (kg/ha/year)	Phosphorus % (kg/ha/year)
Lucerne	15	3.5%	0.4%
		525	60

Table 6 shows the nutrient balances for lucerne considering:

- An irrigation area of 20 ha;
- An average effluent application of 3.65 ML/ha/year of effluent;
- A nitrogen volatilisation loss of 10% during irrigation; and
- Nutrient removal rates listed in **Table 5**.

The nutrient balance for a 20 ha irrigation area indicates a small deficit of nitrogen and a slight surplus of phosphorus. This phosphorus excess would be retained in the soil profile. A typical phosphorus sorption capacity for the soil type is around 200 mgP/kg and equates to a safe phosphorus storage capacity of 3,600 kg/ha for a 1.5 m deep root zone. The slight phosphorus excess for lucerne could accumulate in the soil profile for around 42 years before some phosphorus movement through the soil profile may occur. Nitrogen deficit could be compensated by manure and/or fertiliser application.

Table 6 – Effluent utilisation area nutrient balance – lucerne – 25 ha

Parameter	Units	Nitrogen	Phosphorus
Effluent applied	ML/ha/year	3.65	3.65
Nutrient content	mg/L	150	40
Irrigated effluent available for plant uptake	kg/ha/year	493	146
Total crop removal	kg/ha/year	525	60
Balance	kg/ha/year	-32	86

3.3 Solid Wastes

Solid waste from the feedlot operation include:

- Manure regularly removed from the pens;
- Settled solids collected in the sediment basins; and
- Carcasses.

All solid wastes removed from the pens and sediment basins are temporarily stored in the manure stockpile area until they can be spread onsite to support the cropping program or removed offsite.

The proposed rehabilitation pens would be used in rotation with the existing pens to allow pen remediation work on the existing pens to occur. The number of head housed in the feedlot will remain unchanged. As such, the amount of solid waste generated from the pens and sediment basins will also remain unchanged.

Therefore, there would be no change to the existing approved solids waste management practices.

3.4 Monitoring

Management of the effluent reuse scheme needs to be adaptive in response to monitoring data. While the assessment indicates the system can handle the expected hydraulic and nutrient load, monitoring is used to identify any departure from the plan and would be used as the basis to adjust aspects of the waste management plan if required.

Monitoring will continue to be undertaken as per requirement of EPL 12467.

4. CONCLUSION

Rural Marketing Australia Pty Ltd are proposing alterations and additions to the existing Moonya Feedlot including the development of rehabilitation pens and an expanded manure pad. The rehabilitation pens would be used in rotation with the existing pens to allow pen remediation work on the existing pens to occur. The number of head housed in the feedlot will remain unchanged.

The proposed rehabilitation pens would include a separate sediment basin which would discharge to the existing holding pond. The expanded manure pad would drain directly to the existing holding pond.

This report details the sizing of the proposed sediment basin for the rehabilitation pens and demonstrates how the additional site runoff can be managed by the existing holding pond and reuse area. It is concluded that:

- The sediment basin for the rehabilitation pens requires a minimum volume of 1,512 m³;
- The existing holding pond and effluent reuse system can manage the increased hydraulic and nutrient load from the proposed rehabilitation pens and expanded manure pad; and
- There would be no change to the current solid waste management practices as the amount of solid waste generated would not change.

REFERENCES

NSW Agriculture - Lucerne for pasture and fodder – 2003

MLA (2012a) *National Guidelines for Beef Cattle Feedlots in Australia*, 3rd edition. Sydney, NSW: Meat and Livestock Australia.

Geolyse (2006) *Environment Protection Licence Moonya Feedlot – Licence Variation Supporting Information* – September 2006



APPENDIX A

PROPOSED FEEDLOT LAYOUT



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